REVISED EDITION

STARS
WITHOUT NUMBER

A SCIENCE FICTION ROLE-PLAYING GAME
BY KEVIN CRAWFORD

STARS
WITHOUT NUMBER

BY KEVIN CRAWFORD

TABLE OF CONTENTS

INTO THE WAITING NIGHT

Welcome, reader, to *Stars Without Number*, a science fiction role-playing game. Within the pages of this book you will find all that you require to forge mighty tales both of victory and bitter defeat amid the silent stars above. You will fashion heroes fit for this new age of exploration and rediscovery, men and women capable of unearthing the lost wonders of humanity's fallen empire. The scattered sectors of the old Terran Mandate have been out of communication for centuries, and no one living can know all the strange wonders that have been born in the Silence. Every fresh world is a new marvel to discover, and the brave souls willing to repair the broken web of contact can expect rich rewards for their efforts.

Stars Without Number is not only a game of discovery, however. There are adventures to be had in more familiar places as well. New polities and young empires have sprung up in the centuries since the collapse of the Terran Mandate, and they struggle with each other as hotly as their technology and resources allow. The right hero at the right time can shift the fate of worlds, and heroes willing to fight for their beliefs can be the greatest resources a struggling star nation possesses. There are adventures to be had in dealing with the powers of a stellar sector, where men and women are needed to foil the sinister plans of enemies and bring victory.

Not every hero has a mind for high goals, however. Many desire nothing more than freedom and the credits to enjoy it. Whether hauling cargo to backwater worlds or selling their lasers to the highest bidder, these mercenary adventurers go where the pay is good and the danger is acceptable. Some have greater ideals than their next patron's pay, while others have no devotion to anything but their own interest. *Stars Without Number* has room for both kinds of heroes, and tools to help a game master provide the adventures they require.

A Word to Newbies

If *Stars Without Number* is your first tabletop role-playing game, you're a rare soul. Most of the readers of this book will already be familiar with the hobby, but fear not; tabletop RPGs aren't hard to understand. Just think of them as a pencil-and-paper equivalent of a computer RPG, with a "game master" or "GM" in place of the computer, and 2-5 players playing "player character" avatars.

You'll need paper, pencils, and a set of polyhedral dice or a dice app to play the game. You can get gaming dice online easily. When the book tells you to roll "2d10+1", for example, it means to roll two ten-sided dice and add them together, then add one to the result. "d100" means to roll two 10-sided dice and read them as ones and tens.

Stars Without Number is above all a set of tools for players and game masters bent on sci-fi adventure. While the setting is built to provide a wide scope for daring deeds, the game is fundamentally meant to be reshaped and refocused to suit your particular interests and desires. Whether a gritty game of desperate mercenary gunmen in an interstellar war zone or a dashing campaign of star-faring adventurers in a space-operatic sector, the game is meant to fit the needs and tone of your desired play.

Stars Without Number belongs to the "old-school renaissance" trend in gaming, and draws much of its mechanical inspiration from the classic games of the seventies and the work of such authors as Gary Gygax, Tom Moldvay, Zeb Cook, Marc Miller, and other luminaries of those days. While many people now prefer different mechanical frameworks for their play, these "old-school" rules are understood by a tremendous number of gamers and form a convenient *lingua franca* between many different OSR games. These games are usually broadly compatible with each other, and allow players to loot material from many different authors and time periods with limited effort at conversion.

This game is also designed to be a "sandbox game", one built to ease the creation of active, living campaign worlds where the PCs aren't the only important figures, and where a hero doesn't necessarily have any narrative armor against failure and death. While it can certainly be played in a more conventional adventure path or story-arc manner, *Stars Without Number* is stocked with a wide range of tools, techniques, and guidelines for easing sandbox play. The surprise and freshness inherent in a good sandbox game can be a refreshing change of pace for many groups, and in this book you'll find what you need to play in that style.

The book you hold in hand right now is the revised edition of the original 2010 version of the game. In compiling the revision, I have been careful to keep it compatible with the existing material for the game, so you should be able to use original edition supplements with minimal fuss. Rather than changing the bones of the system, I have instead added additional material to help GMs and entertain players, expanding the scope of the game. If you are reading the free PDF version of this game, you will find everything you need for a full campaign in these pages. If you have the deluxe version in hand, you will find almost a hundred pages of bonus content to supply you with tools for transhuman sci-fi campaigns, space-operatic heroes, stellar wizardry, mechs, artificial intelligences, and tools for building sci-fi societies.

Above all, *Stars Without Number* is *your* game now. There is no one "correct" way to play it. There is only your way to play it, and you should feel free to make it the game you want to play.

CHARACTER CREATION

Before you can begin playing *Stars Without Number*, you need to roll up a character. While the game can theoretically work with just a single player and a GM, things work best with 2–5 friends in addition to the GM. A lone adventurer can get in a lot of trouble out there, and a small group can find it hard to include all the different skills and talents that are often required to survive a sticky situation.

With that in mind, you and the others in your gaming group should give a little thought to making characters that work well together. Grim loners make good book protagonists, but they don't survive well when there's no author around to bail them out.

When making a character, some players like to simply throw the dice and see where they lead. Others prefer to know a little more about the game world and like to have more detail provided beforehand about the worlds and themes of the game. For those who'd prefer a more detailed discussion of the world of *Stars Without Number*, you can skip ahead to page 120 and read up on it there. For the rest of you…

What Players Need To Know

Your character is an adventurer in the year 3200, a dweller among the scattered worlds of a great human diaspora. For whatever reason, he or she has decided to leave their old life behind and take up a starfaring existence, daring perils and seeking new frontiers in search of glory, riches, or their own personal ambitions.

Many worlds have recovered from the desperation of the centuries-long Silence, and can once again manufacture spacecraft and other advanced technology. Other worlds are "lost worlds", still cut off from interstellar trade and forced to make do with the resources of their own planet. Lostworlders are often considered barbaric by technologically advanced worlds.

Tramp freighters, small merchant ships, and scout craft serve most worlds, even the most backward. If your character comes from a primitive or isolated culture, it's probable that he or she hitched a ride aboard such a ship to travel to a more cosmopolitan life. It may or may not have been a voluntary choice.

In actual play, your character should be motivated to *act*, and to act as part of a group. The game does not deal well with hostile loners, apathetic brooders, or other characters that have to be coaxed into engaging with the world and cooperating with the rest of the group. The world of *Stars Without Number* is dangerous, and characters who cringe from peril or insist on facing it alone will find only boredom or an early grave.

Every character should have a goal from the very start. This might be something as simple as "become wealthy beyond my fondest dreams of avarice" or "be known as the greatest pilot in the sector". It might be as elaborate as "engineer the downfall of the interstellar empire that conquered my world". Whatever it is, it should give your character an immediate reason to go out and do something.

This will to act is especially crucial in *Stars Without Number*, because this game is designed to support a "sandbox" style of gaming. Unlike many other games that encourage the development of a particular story or the playing out of a specific plot line, *Stars Without Number* presents an entire interstellar sector to your characters and invites you to choose for yourself how to experience it. Stories will arise based on what your characters do and how they respond to the adventure situations provided by the GM.

As a player, you need to cooperate with your GM. This doesn't necessarily mean following every lead and hook you're given without demurral, but it does mean that you need to respond to the situations and possibilities that are given to you.

You also need to keep in mind that your adventurers exist in a very large world that is not scaled to your characters' abilities. If you insist on throwing your characters into situations or challenges that seem overwhelming, the odds are that they will overwhelm you. Scouting, reconnaissance, and careful intelligence gathering will help you recognize no-win situations before you push ahead into them. By the same token, don't hesitate to flee if your party appears to be facing certain doom. A keen sense of when to decamp the field is often an experienced adventurer's most valuable asset.

Rolling a Character

Stars Without Number belongs to a somewhat older tradition in tabletop RPGs, one where characters aren't so much "built" as they are "rolled". Players often don't know who exactly they're going to be playing in a campaign, and rely on random rolls to determine a hero's aptitudes and skills. Part of the pleasure of the game is throwing these new-rolled cyphers into play and exploring their personalities and motivations directly through the events of the adventures they undertake.

In most modern games, however, a player expects to be able to create exactly the kind of PC they've envisioned before the campaign begins. They don't want to rely on random rolls to give them the character they're going to be playing.

This is a perfectly valid preference, and players who want to have full control over creating their hero can do so with an attribute array and skills picked from a selected background. Even so, players without strong feelings on the matter might find it refreshing to let their hero's past be discovered by the unpredictable chance of the dice.

A SUMMARY OF CHARACTER CREATION

For your convenience, here's a quick summary of the character creation process. Experienced players can simply go down the list to generate their next interstellar freebooter, while those new to the game can use it as a guide reference as they go through the steps detailed on the following pages. A blank character sheet can be found at the end of the book.

Note that some steps indicate that you should roll or pick skills, as described on page 7. The first time you roll or pick a skill, it starts at level-0. The second time, it becomes level-1. The third time, you can instead pick any other non-psychic skill of your choice that's less than level-1. No novice hero's skills can exceed level-1 during character creation.

1. Roll your six *attributes* or assign them from an array, using Strength, Dexterity, Constitution, Intelligence, Wisdom, and Charisma. Attributes reflect the basic potential of your hero. Roll 3d6 six times and assign them in order, or use an array of 14, 12, 11, 10, 9, 7 assigned as you wish. If you randomly roll your scores you may then pick one attribute to change to a score of 14.

2. Mark down your *attribute modifiers* for each score. When rolling dice that are affected by an attribute, you don't apply the whole score; instead, you apply the attribute modifier. A score of 3 is a -2, 4—7 is a -1, 8—13 is no modifier, 14—17 is +1, and 18 is +2.

3. Pick a *background* from the list on page 9, one that most closely reflects your hero's past experiences. You gain the skill listed under the background name at level-0, which equates to an ordinary working knowledge of it.

4. Decide whether to roll for additional skills or pick them. *If you pick skills*, you can choose two more skills from the Learning table for your background, with the exception of entries that say "Any Skill", which you may not pick. You cannot pick entries from the Growth table. If you're not sure what to pick, just take the "Quick Skills" listed for your background at level-0, which include your background's beginning skill.

5. *If you choose to roll for your skills*, you can roll up to three times, dividing up your rolls between the Growth and Learning tables as you wish. When you roll on the Growth table, some results may say "+2 Physical" or "+2 Mental". In the former case, you can add two points to either Strength, Dexterity, or Constitution, or one point to two different stats. In the latter case,

you can add two points to either Intelligence, Wisdom, or Charisma, or divide the bonus between two of them.

6. Choose your *class*, representing those talents you have that are most relevant to an adventurer's lifestyle. If your hero isn't well-described by Warrior, Expert, or Psychic, you can choose Adventurer and mix your class abilities.

7. Choose your *foci*, representing the side talents or particular specializations of your hero. You can pick one level of a focus of your choice. Characters with the Expert class or the Partial Expert feature of the Adventurer class get one level of a non-combat, non-psychic focus for free in addition to this. They can spend both levels on the same focus, starting with level 2 in it if they wish. Characters with the Warrior class or Partial Warrior feature of the Adventurer class can do the same in choosing one level of a combat focus.

8. Optionally, if your GM is allowing alien PCs or VI or True AI PCs, you can make your character into one such creature by spending your focus level on the appropriate origin focus. Aliens and VIs are described in the Xenobestiary chapter, starting on page 192, while True AIs are part of the deluxe *Stars Without Number* core book, starting on page 280.

9. *Now pick one non-psychic skill* of your choice to reflect your hero's outside interests, natural talents, hobby expertise, or other personal focus.

10. *If you've chosen the Psychic class* or chosen to be an Adventurer with the Partial Psychic ability, you are a psychic PC, with powers described in the following section, starting on page 28. Psychics can pick two psychic skills from those listed on page 8, while Partial Psychics can pick one. If a Psychic picks the same skill twice, they get it at level-1 expertise, and can pick a free level-1 technique from those listed for that discipline. Both Psychics and Partial Psychics get the level-0 abilities associated with their skills, as described under each discipline they possess. Both also have a maximum *Effort* score equal to 1 plus their highest psychic skill plus the better of their Wisdom or Constitution modifiers.

11. Roll your maximum *hit points* on 1d6, adding your Constitution modifier. Even a penalty can't reduce your hit points below 1. Warrior PCs

Stars Without Number — **Character Sheet**

Name **18**

Background **3**

Class **6**

Level   XP

Administer	Pilot	Work
Connect	Program	Biopsionics
Exert	Punch	Metapsionics
Fix		Precognition
Heal	**4, 5, 9**	Telekinesis
Know	Stab	Telepathy
Lead	Survive	Teleportation
Notice	Talk	
Perform	Trade	

+3sp per lvl (Experts: +1 bonus non-combat)   Cost: new value +1   Max: +2 at lvl 3 | +3 at lvl 6 | +4 at lvl 9

Base Atk Bonus + Warrior : = +(Lvl + 2) Partial W lvl 1 & lvl 5   **12**   Skill Points

Foci   +1 Focus at lvl 2, lvl 5, lvl 7 & lvl 10

7,8   Lvl

Homeworld
Employer
Species

Lvl 2 = 3xp	Lvl 7 = 39xp
Lvl 3 = 6xp	Lvl 8 = 54xp
Lvl 4 = 12xp	Lvl 9 = 72xp
Lvl 5 = 18xp	Lvl 10 = 93xp
Lvl 6 = 27xp	Lvl 11+ = +24

Weapons   Range and Ammo   Total Atk Bonus

Name		/
Mods		+
Name		
Mods	**14, 15**	+
Name		/
Mods		+
Name		/
Mods		+
Name		/
Mods		+

Armor

Name		AC
Mods		
Name		AC
Mods	**16**	
Name		AC
Mods		

Readied Items   Max Enc = STR + 2

13

Credits   Debts

Hitpoints / Conditions   Max:

11

(1D6 + Con) x Level   Warriors: Additional +2 per level

System Strain   Permanent:

Max = CON

Saves

Physical   Evasion   Mental

17

16 - lvl - [Str | Con]   16 - lvl - [Dex | Int]   16 - lvl - [Wis | Cha]

Cybernetics / Innate Abilities

Psionic Techniques   +1 on new Psychic Skill Lvl

10

Psionic Effort   Effort: 1 + Highest Psychic Skill + Highest of Wis or Con   Max:

Attributes

3 (-2) | 4-7 (-1) | 8-13 (+0) | 14-17 (+1) | 18 (+2)

1, 2

DEX
CON
INT
WIS
CHA

Boosts: 1st: 1sp (lvl 1) | 2nd: 2sp (lvl 1)
3rd: 3sp (lvl 3) | 4th: 4sp (lvl 6) | 5th: 5sp (lvl 9)

---

and Adventurers with the Partial Warrior class option add 2 points to this total. Hit points indicate how close your hero is to being defeated.

12. Note down any base *attack bonus* you may have. The higher the attack bonus, the easier it is for your hero to land a telling blow or shot on a hostile opponent. For most PCs, this bonus is +0. If you are a Warrior or an Adventurer with the Partial Warrior class option, it's +1.

13. *Choose one of the equipment packages* on page 25 or roll 2d6 x 100 to find out how many starting credits you have with which to buy gear.

14. *Mark down your total hit bonus* with your weaponry. This is equal to your base attack bonus, plus either your Punch, Stab, or Shoot skill depending on the kind of weapon it is, plus your relevant attribute modifier. The weapon tables starting on page 66 will tell you what attribute is used for a particular weapon. If two attributes are listed, use the best one for your hero. If you haven't even got level-0 skill, take a -2 penalty.

15. *Note down the damage done* by your weapons. This is equal to its base damage dice plus its attribute modifier. If it's a Punch weapon, you can add your Punch skill as well.

16. Record your *Armor Class*, the measure of how hard it is to hurt your hero in a fight. Different suits of armor grant different Armor Classes; if you aren't wearing any armor at all, your base AC is 10. Add your Dexterity modifier to this. In order to hurt your PC, an enemy has to roll an attack roll on a d20, adding their attack bonus and equaling or exceeding your Armor Class.

17. Note down your beginning *saving throw* scores for your Physical, Evasion, and Mental saving throws. Physical saves against poison, disease, or exhaustion are 15 minus the best of your Strength or Constitution modifiers. Evasion saves to dodge sudden perils or dive away from explosives are 15 minus the best of your Intelligence and Dexterity modifiers. Mental saves to resist psychic influence or mind-bending technology are 15 minus the best of your Wisdom or Charisma modifiers. To resist these perils, you need to equal or beat the save on a d20.

18. Lastly, wrap up your PC with a *name and a goal*. Every hero needs to have a goal when they set out adventuring. This goal might change, but your PC should always have *some* reason to go out and interact with the world before them. Stay-at-home PCs and those unwilling to dare greatly for their aims are rarely fun to play.

ATTRIBUTES

The first step in creating a character is to determine the character's six attributes. Attributes describe how strong, quick, clever, perceptive, hardy, or charming your hero might be. Attributes are measured by scores ranging from 3 to 18, with 3 reflecting an attribute so weak that the PC is barely fit for adventuring and an 18 marking the maximum possible aptitude for an ordinary human.

To generate a character's attributes, roll 3d6 six times and assign the results in order to Strength, Dexterity, Constitution, Intelligence, Wisdom, and Charisma. You may then change one attribute of your choice to 14 if you wish to ensure that your new adventurer is gifted in at least one way.

If you prefer not to roll, you may instead assign the following scores to your attributes in any order you wish: 14, 12, 11, 10, 9, and 7. If you assign your scores, you cannot replace one of them with a 14.

Once you've assigned your attributes, record the modifier for each of them. This modifier is applied to relevant skill checks or other rolls related to the attribute. If your attribute score changes during play, either from some crippling injury or from improvements granted by your background or experience, you should make sure to update any changed modifier.

Attribute	Affects....
Strength	Physical prowess, melee combat, carrying gear, brute force
Dexterity	Speed, evasion, manual dexterity, reaction time, combat initiative
Constitution	Hardiness, enduring injury, resisting toxins, going without food or sleep
Intelligence	Memory, reasoning, technical skills, general education
Wisdom	Noticing things, making judgments, reading situations, intuition
Charisma	Commanding, charming, attracting attention, being taken seriously

Attribute Score	Modifier
3	-2
4—7	-1
8—13	+0
14—17	+1
18	+2

Rolling a PC's Attributes

Simon's rolling up a character for a new campaign. The first step is to figure out what kind of hero he's going to be playing in the upcoming game, and that means determining attributes.

If Simon had a particular concept he knew he wanted to play, choosing to use the array might be a good idea. It provides a predictable set of numbers he can put in whatever order he wishes, and unless his concept requires that his PC be particularly gifted in more than one attribute, the 14 that's part of the array would ensure that he was capable in whatever natural aptitude was most important to the concept.

On the other hand, even if he rolls the dice, he knows his hero is going to be good at something. He can put that free 14 in any attribute he wishes, so if all he cares about is making sure his PC is quick, he can rest assured that random rolling will still produce a quick PC.

Simon, however, really doesn't have any particular concept he knows he wants to play for this campaign. He decides he's going to let the dice determine what kind of hero he's going to play. Letting the dice make the decision helps him break out of any ruts he might be in when it comes to character concepts, and it can make him consider ideas that might be fresher in play than his usual fare.

Simon takes three six-sided dice in hand and rolls them six times, assigning each number in order to his Strength, Dexterity, Constitution, Intelligence, Wisdom, and Charisma scores. His results are 10, 4, 13, 16, 8, and 7.

Since 10 or 11 is an average human score, Simon can see that this PC has a very considerable intellect counterbalanced by pronounced clumsiness and poor social skills. Because he rolled his statistics, he can replace one of the rolls with a score of 14. After some consideration, Simon decides that swapping out his bad Dexterity score makes the most sense.

Now Simon notes down the attribute modifiers for each of his scores: a Strength of 10 is +0, a Dexterity of 14 is +1, a Constitution of 13 is +0, an Intelligence of 16 is +1, a Wisdom of 8 is +0, and a Charisma of 7 is -1.

When rolling skill checks, attack rolls, or other things modified by an attribute, Simon will be using the modifier rather than the full attribute score. The scores themselves might change a little due to his hero's background or future personal training, but mostly they'll serve as cues for playing the PC. With a Wisdom of 8, for example, Simon's hero might not have a penalty to rolls, but he probably makes the occasional decision he lives to regret.

Skills

Your hero's learned capabilities are *skills*, and every star-faring adventurer has their share of them. A hero can usually attempt to do anything, whether it's to climb a sun-scorched cliff on an alien world, talk down an enraged lostworlder warlord, or fire a mag rifle at a charging xenomorph, but having the right skill can make a vast difference in results.

Skills are measured in a rating from level-0 for competent practitioners to level-4 for the best in the sector. Novice heroes start with level-0 or level-1 in their skills. You'll choose or roll skills in the next section, when you select a background for your character.

Skill Level

Level-0	Basic competence in the skill, such as an ordinary practitioner would have
Level-1	An experienced professional in the skill, clearly better than most
Level-2	Veteran expert, one respected even by those with considerable experience
Level-3	Master of the skill, likely one of the best on the planet
Level-4	Superlative expertise, one of the best in the entire stellar sector.

Skill Checks

Your hero is assumed to be competent at all the ordinary functions of their role and background. If he's a moisture farmer from a back-of-nowhere desert world, he's going to know how to keep a dew still running and how to put on a coolsuit. If she's a corporate magnate's succession-groomed daughter from a megacorp-dominated hiveworld, she's going to know how to read a balance sheet and speak during a meeting with C-level executives. They will never fail at these basic tasks unless some situation makes them much harder than usual.

Sometimes, however, the hero will be faced with a situation outside their usual experience, or will try to accomplish a normal task while under considerable strain or disadvantage. In those cases, you'll need to roll a *skill check*.

To roll a skill check, roll 2d6 and add the most applicable attribute modifier and skill level. If the total is equal or greater than the difficulty of the check, you succeed. If less, something goes wrong, or you fail outright in the attempt, or something unexpected happens.

If you haven't even got level-0 in the relevant skill you take a -1 penalty to the roll. Some particularly technical or difficult feats might not be achievable at all without some grounding in the skill.

The Skill List

The following skills are standard choices for most campaigns. Games set in unusual reaches of space or unique settings might alter this list.

Skills are general, and some of them may overlap in some situations. A hero trying to clear a jammed disruptor cannon before the aliens break through the door might plausibly check either Fix to repair it or Shoot to represent their familiarity with weapons maintenance. Assuming the GM agrees, you can roll whichever skill is better for you.

Administer: Manage an organization, handle paperwork, analyze records, and keep an institution functioning on a daily basis. Roll it for bureaucratic expertise, organizational management, legal knowledge, dealing with government agencies, and understanding how institutions really work.

Connect: Find people who can be helpful to your purposes and get them to cooperate with you. Roll it to make useful connections with others, find people you know, know where to get illicit goods and services, and be familiar with foreign cultures and languages. You can use it in place of Talk for persuading people you find via this skill.

Exert: Apply trained speed, strength, or stamina in some feat of physical exertion. Roll it to run, jump, lift, swim, climb, throw, and so forth. You can use it as a combat skill when throwing things, though it doesn't qualify as a combat skill for other ends.

Fix: Create and repair devices both simple and complex. How complex will depend on your character's background; a lostworlder blacksmith is going to need some study time before he's ready to fix that broken fusion reactor, though he can do it eventually. Roll it to fix things, build things, and identify what something is supposed to do.

Heal: Employ medical and psychological treatment for the injured or disturbed. Roll it to cure diseases, stabilize the critically injured, treat psychological disorders, or diagnose illnesses.

Know: Know facts about academic or scientific fields. Roll it to understand planetary ecologies, remember relevant history, solve science mysteries, and know the basic facts about rare or esoteric topics.

Lead: Convince others to also do whatever it is you're trying to do. Talk might persuade them that following you is smart, but Lead can make them do it even when they think it's a bad idea. Roll it to lead troops in combat, convince others to follow you, or maintain morale and discipline.

Notice: Spot anomalies or interesting facts about your environment. Roll it for searching places, detecting ambushes, spotting things, and reading the emotional state of other people.

Perform: Exhibit some performative skill. Roll it to dance, sing, orate, act, or otherwise put on a convincing or emotionally moving performance.

Pilot: Use this skill to pilot vehicles or ride beasts. Roll it to fly spaceships, drive vehicles, ride animals, or tend to basic vehicle repair. This skill doesn't help you with things entirely outside the scope of your background or experience, though with some practice a PC can expand their expertise.

Program: Operating or hacking computing and communications hardware. Roll it to program or hack computers, control computer-operated hardware, operate communications tech, or decrypt things.

Punch: Use it as a combat skill when fighting unarmed. If your PC means to make a habit of this rather than as a recourse of desperation, you should take the *Unarmed Combatant* focus described later.

Shoot: Use it as a combat skill when using ranged weaponry, whether hurled rocks, bows, laser pistols, combat rifles, or ship's gunnery.

Sneak: Move without drawing notice. Roll it for stealth, disguise, infiltration, manual legerdemain, pickpocketing, and the defeat of security measures.

Stab: Use it as a combat skill when wielding melee weapons, whether primitive or complex.

Survive: Obtain the basics of food, water, and shelter in hostile environments, along with avoiding their natural perils. Roll it to handle animals, navigate difficult terrain, scrounge urban resources, make basic tools, and avoid wild beasts or gangs.

Talk: Convince other people of the facts you want them to believe. What they do with that conviction may not be completely predictable. Roll it to persuade, charm, or deceive others in conversation.

Trade: Find what you need on the market and sell what you have. Roll it to sell or buy things, figure out where to purchase hard-to-get or illicit goods, deal with customs agents, or run a business.

Work: This is a catch-all skill for professions not represented by other skills. Roll it to work at a particular profession, art, or trade.

Psychic Skills

Unlike other skills, psychic skills are restricted to characters with the Psychic class or the Partial Psychic class option for Adventurers. You cannot choose or roll these skills in character creation unless specifically told to pick a psychic skill.

Biopsionics: Master powers of physical repair, body augmentation, and shapeshifting.

Metapsionics: Master powers that nullify, boost, and shape the use of other psychic abilities.

Precognition: Master the ability to sense future events and control probability.

Telekinesis: Master the remote control of kinetic energy to move objects and fabricate force constructs.

Telepathy: Master the reading and influencing of other sapient minds.

Teleportation: Master the arts of physical translocation of yourself and allies.

Choosing a Background

It's unlikely that your character sprang forth full-grown from the endless depths of space, so it's probable that he or she had some sort of background before adventuring and some kind of training in a field suitable for the life of an interstellar wayfarer. Of course, the call of adventure is somewhat indiscriminate, and some people from very unlikely walks of life might find themselves hurled into the potentially-lethal excitement of deep space. To determine your hero's past training, you need to choose or roll a ***background***.

A background is simply a thumbnail description of the kind of life your hero lived before they took up adventuring. It may not have been the *only* thing they did with their life, but it's the thing that taught them most of their existing skills.

When you've chosen or rolled your background, take a moment to think about your character's past. Decide how your character came to take up that profession, and what made them put it down to follow a more adventurous lifestyle. Did they do it for excitement? Friendship? Money? Or were they just running from a situation they couldn't handle?

You will also want to pick a homeworld for your PC. Your GM can give you some suggestions for worlds in their campaign that would fit your character concept, or you might simply make up your own homeworld or native space habitat with the GM's permission, as you might be from some far-distant sector of space.

Twenty backgrounds are provided on the following pages. You may roll randomly to see where your hero comes from, or pick one that suits you. If none of the backgrounds appeal to you, you can simply describe your hero's prior life to the GM and pick any three skills that fit that past.

Backgrounds, Skills, and Growth

Once you pick a background, your hero gains several skills associated with their past.

First, you get the free skill associated with the background. Every member of that role or profession needs this skill to function competently, so your hero gets it as well.

Next, you may either pick two other skills from the Learning table for your background, or make three random rolls divided between the Growth and Learning tables. If you pick skills, you can select exactly the talents you want for your hero, while going with random rolls allows your character a little wider range of competence and the option of attribute improvements at the cost of perfect control over their development. If you pick skills, you may pick the same skill twice if you wish, to improve its starting proficiency.

If you're not sure what to pick, just take the three skills listed under "Quick Skills" for your background. They're the ones most critical to the profession.

Training Skills and Attributes

When your character is allowed to pick or roll a skill, you learn it at level-0 expertise the first time you receive it. If you receive it a second time, it becomes level-1. If some mechanic or skill choice allows or obliges you to pick it a third time, you can instead choose any non-psychic skill in its place. The only way to raise psychic skills during character creation is via special abilities or foci that specifically boost them. No starting character can begin with a skill level higher than level-1.

Sometimes you're allowed to pick "Any Skill". This means you can choose any non-psychic skill to improve. Other entries that read "Any Combat" mean that you can pick either Stab, Shoot, or Punch as you choose. You cannot raise psychic skills with "Any Skill" picks.

Rolls on the Growth table that improve your basic attributes can boost them up to a maximum of 18. A bonus that applies to "Any Stat" can be applied to any attribute. If the roll says to add the bonus to Physical attributes, you can add the bonus to either Strength, Dexterity, or Constitution. If the roll says to add a bonus to your Mental attributes, you can apply the points to either Intelligence, Wisdom, or Charisma. If the bonus is +2, you may split the points between two different attributes of the appropriate type if you wish.

d20	Background
1	**Barbarian**, born of a primitive world
2	**Clergy**, a consecrated man or woman
3	**Courtesan**, trading on pleasurable company
4	**Criminal**. thief, rogue, liar, or worse
5	**Dilettante**, with money if not purpose
6	**Entertainer**, artful and beguiling
7	**Merchant**, whether peddler or far trader
8	**Noble**, by blood or by social capital
9	**Official**, a functionary of some greater state
10	**Peasant**, whether primitive or high-tech
11	**Physician**, a healer of the sick and maimed
12	**Pilot**, or rider, or sailor, or vehicle-driver
13	**Politician**, aspiring to leadership and control
14	**Scholar**, a scientist or academic
15	**Soldier**, whether mercenary or conscript
16	**Spacer**, dwelling in the deep-space habs
17	**Technician**, artisan, engineer, or builder
18	**Thug**, ruffian, or strong arm of the people
19	**Vagabond**, roaming without a home
20	**Worker**, a cube drone or day laborer

Barbarian

Standards of barbarism vary when many worlds are capable of interstellar spaceflight, but your hero comes from a savage world of low technology and high violence. Their planet may have survived an all-consuming war, or been deprived of critical materials or energy resources, or simply have been colonized by confirmed Luddites. Other barbarians might be drawn from the impoverished underclass of advanced worlds or the technologically-degenerate inheritors of some high-tech space station or planetary hab.

Free Skill	d6	Growth	d8	Learning
Survive-0	1	+1 Any Stat	1	Any Combat
	2	+2 Physical	2	Connect
Quick Skills	3	+2 Physical	3	Exert
Survive-0	4	+2 Mental	4	Lead
Notice-0	5	Exert	5	Notice
Any Combat-0	6	Any Skill	6	Punch
			7	Sneak
			8	Survive

Clergy

Faith is nigh-universal among human civilizations, and your hero is dedicated to one such belief. Some clergy are conventional priests or priestesses, while others might be cloistered monastics or nuns, or more martial warrior-monks. Modern-day faiths such as Christianity, Islam, Judaism, Hinduism, Buddhism, and other creeds all exist in various sectors, often in altered form, while some worlds have developed entirely new deities or faiths. If you'd like to create your own religion, you can work with the GM to define its characteristic beliefs.

Free Skill	d6	Growth	d8	Learning
Talk-0	1	+1 Any Stat	1	Administer
	2	+2 Mental	2	Connect
Quick Skills	3	+2 Physical	3	Know
Talk-0	4	+2 Mental	4	Lead
Perform-0	5	Connect	5	Notice
Know-0	6	Any Skill	6	Perform
			7	Talk
			8	Talk

Building a Background for a PC

Simon's got his hero's attributes set, but those are just part of making a character. He also needs to figure out where this hero came from, and what kind of life they've led before they took up the mantle of an adventuring existence.

If he had a particular preference for a background, he could simply pick one of the list on page 9. If none of those fit, he could just write down a few sentences about the background he did want and pick three skills that fit it, assuming the GM agreed it made sense, or rolled on the existing background tables that best fit their custom past. But Simon is still uncertain about the nature of his hero, so he decides to roll randomly for a background.

He gets a 15, so his hero is a scholar. As a scholar, he automatically gets the Know skill at level-0, and needs to decide what kind of scholar he is. Simon considers his options and decides to go with something he knows; his PC is a literature post-doc by the name of Basil Hayes.

Simon decides that Basil should continue with his random rolling rather than just choosing two more skills from the Learning table for a scholar. Because he chooses to randomly roll, he can make three rolls, splitting them as he wishes between the Learning or the Growth table.

His first roll is on the Growth table, and it comes up "+2 Mental". He immediately puts it into Intelligence, raising the score to 18 and giving it a +2 modifier instead of +1. Basil is a brilliant man.

His second roll he makes on the Learning table, and it comes up "Know". He already has Know at level-0, so now he gets Know-1. His third roll comes up "Talk", giving him Talk-0.

A brief view of Basil's history shows him as a brilliant young scholar with a keenly refined mind, an excellent grasp of intellectual topics, and enough glibness to get through a thesis defense. Simon decides that Basil's occasional fits of social ineptitude have torpedoed his career in academia, however, and have forced him out into the world to make a living as an interstellar freebooter.

Simon also needs to pick a homeworld for Basil. While he could ask the GM for a list of likely places, he decides that Basil hails from the cold and inhospitable world of Karelia, a planet that relies mostly on trading the long-duty service contracts of its citizens to other, wealthier worlds in exchange for vital tech. The GM thinks that Karelia sounds like the sort of world that would fit in the campaign, and so allows it. Simon can make up any other details of the world that are needed as the campaign plays out.

Courtesan

Your hero's career was one of proffered pleasure.
Simple prostitution is one form of this background,
perhaps as an ordinary streetwalker, a part-time
amateur with bills to pay, or an expensive com-
panion to the wealthy, but other forms of satisfac-
tion exist among the many worlds. Refined artists
of conversation and grace command high fees in
some societies, while others pay well for the sim-
ple company of certain men and women with the
right bloodlines, special appearance, or auspicious
personal qualities esteemed by their culture.

Free Skill	d6	Growth	d8	Learning
Perform-0	1	+1 Any Stat	1	Any Combat
	2	+2 Mental	2	Connect
Quick Skills	3	+2 Mental	3	Exert
Perform-0	4	+2 Physical	4	Notice
Notice-0	5	Connect	5	Perform
Connect-0	6	Any Skill	6	Survive
			7	Talk
			8	Trade

Criminal

Whether thief, murderer, forger, smuggler, spy, or
some other variety of malefactor, your hero was a
criminal. Some such rogues are guilty only of cross-
ing some oppressive government or offending a
planetary lord, while others have done things that
no civilized society could tolerate. Still, their ability
to deal with the most desperate and dangerous of
contacts and navigate the perils of a less-than-legal
adventure can make them attractive associates for a
party of freebooters bent on profit and glory more
than strict legality.

Free Skill	d6	Growth	d8	Learning
Sneak-0	1	+1 Any Stat	1	Administer
	2	+2 Mental	2	Any Combat
Quick Skills	3	+2 Physical	3	Connect
Sneak-0	4	+2 Mental	4	Notice
Connect-0	5	Connect	5	Program
Talk-0	6	Any Skill	6	Sneak
			7	Talk
			8	Trade

Dilettante

Your hero never had a profession, strictly speaking,
but spent their formative years in travel, socializing,
and a series of engaging hobbies. They might have
been the scion of a wealthy industrialist, a planetary
noble's younger offspring, or a hanger-on to some-
one with the money and influence they lacked. By
the time your hero's adventures start, they've run
through the money that once fueled their lifestyle.
Extreme measures may be necessary to acquire fur-
ther funding.

Free Skill	d6	Growth	d8	Learning
Connect-0	1	+1 Any Stat	1	Any Skill
	2	+1 Any Stat	2	Any Skill
Quick Skills	3	+1 Any Stat	3	Connect
Connect-0	4	+1 Any Stat	4	Know
Know-0	5	Connect	5	Perform
Talk-0	6	Any Skill	6	Pilot
			7	Talk
			8	Trade

Entertainer

Singers, dancers, actors, poets, writers… the inter-
stellar reaches teem with artists of unnumbered
styles and mediums, some of which are only physi-
cally possible with advanced technological support.
Your hero was a dedicated entertainer, one likely
focused in a particular form of art. Patrons and
talent scouts can be temperamental, however, and
sometimes a budding artist needs to take steps to
find their audience. Or at least, to find their audi-
ence's money.

Free Skill	d6	Growth	d8	Learning
Perform-0	1	+1 Any Stat	1	Any Combat
	2	+2 Mental	2	Connect
Quick Skills	3	+2 Mental	3	Exert
Perform-0	4	+2 Physical	4	Notice
Talk-0	5	Connect	5	Perform
Connect-0	6	Any Skill	6	Perform
			7	Sneak
			8	Talk

Merchant

Your hero was or is a trader. Some merchants are mere peddlers and shopkeepers on primitive, low-tech worlds, while others are daring far traders who venture to distant worlds to bring home their alien treasures. The nature of trade varies widely among worlds. On some of them, it's a business of soberly-dressed men and women ticking off trades on virtual terminals, while on others it is a more… *active* pursuit, requiring the judicious application of monoblades and deniable gunfire against competitors. Sometimes a deal goes bad or capital needs to be raised, and a merchant's natural talents are turned toward the perils of adventure.

Free Skill	d6	Growth	d8	Learning
Trade-0	1	+1 Any Stat	1	Administer
	2	+2 Mental	2	Any Combat
Quick Skills	3	+2 Mental	3	Connect
Trade-0	4	+2 Mental	4	Fix
Talk-0	5	Connect	5	Know
Connect-0	6	Any Skill	6	Notice
			7	Trade
			8	Talk

Noble

Many planets are ruled by a class of nobles, and your hero was a member of one such exalted group. Such planets are often worlds of exquisite courtesy alloyed with utterly remorseless violence, and a misplaced word at the morning levee can result in an executioner's monoblade at noon. Your hero has done something or been the victim of something to dislodge them from their comfortable place at court. Without their familiar allies, wealth, or influence, they must take a new place in the world, however distasteful that claiming might be.

Free Skill	d6	Growth	d8	Learning
Lead-0	1	+1 Any Stat	1	Administer
	2	+2 Mental	2	Any Combat
Quick Skills	3	+2 Mental	3	Connect
Lead-0	4	+2 Mental	4	Know
Connect-0	5	Connect	5	Lead
Administer-0	6	Any Skill	6	Notice
			7	Pilot
			8	Talk

Official

Most advanced worlds run on their bureaucracies, the legions of faceless men and women who fill unnumbered roles in keeping the government running as it should. Your hero was one such official. Some were law enforcement officers, others government office clerks or tax officials or trade inspectors. However necessary the work may be, it is often of unendurably tedious nature, and any man or woman with an adventurous spark to their blood will soon find themselves desperate for more exciting use of their talents.

Free Skill	d6	Growth	d8	Learning
Administer-0	1	+1 Any Stat	1	Administer
	2	+2 Mental	2	Any Skill
Quick Skills	3	+2 Mental	3	Connect
Administer-0	4	+2 Mental	4	Know
Talk-0	5	Connect	5	Lead
Connect-0	6	Any Skill	6	Notice
			7	Talk
			8	Trade

Peasant

A technologically-advanced world can usually produce all its necessary foodstuffs and basic resources with a handful of workers, the bulk of the labor being performed by agricultural bots. On more primitive worlds, or those with a natural environment that requires close personal attention to crops, a class of peasants will emerge. These men and women often become chattel, part and parcel of the land they occupy and traded among their betters like the farm equipment of richer worlds. Your hero was not satisfied with that life, and has done something to break free from their muddy and toilsome past.

Free Skill	d6	Growth	d8	Learning
Exert-0	1	+1 Any Stat	1	Connect
	2	+2 Physical	2	Exert
Quick Skills	3	+2 Physical	3	Fix
Exert-0	4	+2 Physical	4	Notice
Sneak-0	5	Exert	5	Sneak
Survive-0	6	Any Skill	6	Survive
			7	Trade
			8	Work

Physician

Bodies wear and break, even on worlds that possess the full resources of advanced postech medicine. Your hero was a physician, one trained to cure the maladies of the body or the afflictions of the mind. Some physicians are conventional health workers, while others are ship's surgeons, military medics, missionary healers of an expanding faith, or dubious slum doctors who'll graft over laser burns with no awkward questions asked. Wherever men and women go into danger, however, the skills of a physician are eagerly sought.

Free Skill	d6	Growth	d8	Learning
Heal-0	1	+1 Any Stat	1	Administer
	2	+2 Physical	2	Connect
Quick Skills	3	+2 Mental	3	Fix
Heal-0	4	+2 Mental	4	Heal
Know-0	5	Connect	5	Know
Notice-0	6	Any Skill	6	Notice
			7	Talk
			8	Trade

Pilot

A pilot's role is a broad one in the far future. The most glamorous and talented navigate starships through the metadimensional storms of interstellar space, while less admired figures fly the innumerable intra-system shuttles and atmosphere craft that serve in most advanced systems. On other worlds, this career might reflect a long-haul trucker, or a horse-riding messenger, or an intrepid sailor on an alien sea. As the Pilot skill covers all these modes of transport, any character whose role revolves around vehicles or riding beasts might justify their selection of this career.

Free Skill	d6	Growth	d8	Learning
Pilot-0	1	+1 Any Stat	1	Connect
	2	+2 Physical	2	Exert
Quick Skills	3	+2 Physical	3	Fix
Pilot-0	4	+2 Mental	4	Notice
Fix-0	5	Connect	5	Pilot
Shoot or Trade-0	6	Any Skill	6	Pilot
			7	Shoot
			8	Trade

Politician

The nature of a political career varies from world to world. On some, it's much like one we'd recognize, with glad-handing voters, loud rallies, and quiet back room deals with supposed rivals in government. On others, it might involve a great deal more ceremonial combat, appeals to councils of elders, and success at ritual trials. Whatever the details, your hero was a politician in their home culture. Something went wrong, though, and the only way to fix it is to get clear of your constituents for a while and seek some alternative means of advancement.

Free Skill	d6	Growth	d8	Learning
Talk-0	1	+1 Any Stat	1	Administer
	2	+2 Mental	2	Connect
Quick Skills	3	+2 Mental	3	Connect
Talk-0	4	+2 Mental	4	Lead
Lead-0	5	Connect	5	Notice
Connect-0	6	Any Skill	6	Perform
			7	Talk
			8	Talk

Scholar

Scientists, sages, and professors all qualify under this career. Your hero was one such, a man or woman with a life dedicated to knowledge and understanding. It might have involved the technical expertise of a metadimensional structures engineer or the sacred memorization of the chronicles of some lostworlder sage-order, but your hero's life was in learning. Sometimes that learning cannot be found in familiar surroundings, however, and for one reason or another, willing or not, your hero must venture out into the wider world.

Free Skill	d6	Growth	d8	Learning
Know-0	1	+1 Any Stat	1	Administer
	2	+2 Mental	2	Connect
Quick Skills	3	+2 Mental	3	Fix
Know-0	4	+2 Mental	4	Know
Connect-0	5	Connect	5	Notice
Administer-0	6	Any Skill	6	Perform
			7	Program
			8	Talk

Soldier

Whatever the technology or structure of their parent world, a soldier's work is universal. Your hero was a professional fighter, whether that took the form of a barbarian noble's thegn, a faceless conscript in a planetary army, or an elite soldier in the service of a megacorp's private military. Whether it was because they were on the losing side, choosing to leave the service, or being forced to flee a cause they couldn't fight for, they now find themselves navigating a world where their most salable skill is one that can cause them a great deal of trouble.

Free Skill	d6	Growth	d8	Learning
Any Combat-0	1	+1 Any Stat	1	Administer
	2	+2 Physical	2	Any Combat
Quick Skills	3	+2 Physical	3	Exert
Any Combat-0	4	+2 Physical	4	Fix
Exert-0	5	Exert	5	Lead
Survive-0	6	Any Skill	6	Notice
			7	Sneak
			8	Survive

Spacer

Almost every advanced world is highly dependent upon the resources that space flight brings them. Some of this work can be automated, but every really important task needs a flexible human operator to oversee the work. Your hero is one such spacer, either a worker who toils in the sky or a native voidborn man or woman who has spent their entire life outside of natural gravity. It's not uncommon for such workers to find better prospects in places where they can breathe without a vacc suit.

Free Skill	d6	Growth	d8	Learning
Fix-0	1	+1 Any Stat	1	Administer
	2	+2 Physical	2	Connect
Quick Skills	3	+2 Physical	3	Exert
Fix-0	4	+2 Mental	4	Fix
Pilot-0	5	Exert	5	Know
Program-0	6	Any Skill	6	Pilot
			7	Program
			8	Talk

Technician

Old things break and new things need to be made. Whether a humble lostworlder blacksmith or an erudite astronautic engineer, your hero made a career out of building and mending the fruits of technology. While almost every society has a need for such services, not all of them treat their providers as generously as a technician might wish. Sometimes, these same talents can be turned toward less licit ends, and a skilled technician's expertise is always useful to an adventuring group that plans to rely on anything more sophisticated than a sharpened stick.

Free Skill	d6	Growth	d8	Learning
Fix-0	1	+1 Any Stat	1	Administer
	2	+2 Physical	2	Connect
Quick Skills	3	+2 Mental	3	Exert
Fix-0	4	+2 Mental	4	Fix
Exert-0	5	Connect	5	Fix
Notice-0	6	Any Skill	6	Know
			7	Notice
			8	Pilot

Thug

Your hero was a bruiser. They might have had a notional allegiance to some so-called "army", or have been part of some crime boss' strong-arm crew, or simply been a private contractor of misfortune for those who failed to pay up. They might have even been a fist in a righteous cause, defending their neighborhood from hostile outsiders or serving as informal muscle for a local leader in need of protection. Whatever the details, they've had to move on from their old life, and their new one is likely to involve a similar application of directed force.

Free Skill	d6	Growth	d8	Learning
Any Combat-0	1	+1 Any Stat	1	Any Combat
	2	+2 Mental	2	Connect
Quick Skills	3	+2 Physical	3	Exert
Any Combat-0	4	+2 Physical	4	Notice
Talk-0	5	Connect	5	Sneak
Connect-0	6	Any Skill	6	Stab or Shoot
			7	Survive
			8	Talk

Vagabond

A dilettante has money and friends; your hero simply has the road. Whether they were knocked loose from polite society at a young age or have recently found themselves cast out of a familiar life, they now roam the ways of the world and the spaces between. Some heroes find this life satisfying, with its constant novelty and the regular excitement of bare survival. Others long for a more stable arrangement, and are willing to lend their pragmatic talents to a group that offers some prospect of profit.

Free Skill	d6	Growth	d8	Learning
Survive-0	1	+1 Any Stat	1	Any Combat
	2	+2 Physical	2	Connect
Quick Skills	3	+2 Physical	3	Notice
Survive-0	4	+2 Mental	4	Perform
Sneak-0	5	Exert	5	Pilot
Notice-0	6	Any Skill	6	Sneak
			7	Survive
			8	Work

Worker

Countless in number, every industrialized world has swarms of workers to operate the machines and perform the labor that keeps society functioning. Cooks, factory laborers, mine workers, personal servants, lawyers, clerks, and innumerable other roles are covered under this career. If your hero rolls or picks Work as a skill but has a career that would better fit another existing skill, they may substitute it accordingly. Thus, a wage-slave programmer might take Program instead of Work, while a lawyer would use Administer instead as a reflection of their litigious talent.

Free Skill	d6	Growth	d8	Learning
Work-0	1	+1 Any Stat	1	Administer
	2	+1 Any Stat	2	Any Skill
Quick Skills	3	+1 Any Stat	3	Connect
Connect-0	4	+1 Any Stat	4	Exert
Exert-0	5	Exert	5	Fix
Work-0	6	Any Skill	6	Pilot
			7	Program
			8	Work

CHARACTER CLASSES

In one way or another, your character is cut out for adventure. Your hero might be a veteran combatant, skilled with blade or laser, or they might be a psychic gifted with uncanny abilities. It's just as possible that they could have remarkable talents as a pilot, or be the smoothest grifter in the hive-slum they grew up in. Whatever their particular background, your hero's primary focus is their *class*.

Your class represents your hero's best set of tools for dealing with their problems. They're the skills and capabilities that they're most likely to turn to to resolve a problem, but not their only tools. A Psychic can still shoot a gun and a Warrior can try to fast-talk a mark.

Choosing a class helps ensure that your hero is good at *something* that might contribute to a bold party of interstellar adventurers. Experts always have a knack at exercising non-combat skills, Warriors are always good in a scrap, and Psychics always have a unique power or two to employ at need. Your hero might have led a quiet life as a starport customs clerk until recently, but their natural talents will ensure that they can do something that the rest of the group will find useful.

In the same vein, you don't have to choose a class that "naturally" fits with your background. That starport customs clerk might have led a peaceful life un-troubled by anything worse than portside brawls, but inside her burns a seething, latent fury that is ready to explode at the first opportunity. She's a Warrior, even though she might not realize her talents until the first time she snatches up a dropped laser rifle and unleashes a barrage of death on a pack of alien warbeasts. You should pick whatever class for your hero that matches the kind of play you want to have with them.

There are four possible classes you can choose for your hero: Adventurer, Expert, Psychic, and Warrior. Experts are PCs that rely on non-combat skills such as stealth, persuasion, technical expertise, piloting skills, vast learning, or personal connections. Psychics are those rare men and women affected by Metadimensional Extroversion Syndrome, ones capable of channeling these metadimensional energies to perform feats of telekinesis, precognition, telepathy, and other psionic disciplines. Warriors are hardened combatants, skilled in the arts of war and violent conflict, and Adventurers include those with a mix of talents and abilities, ones who don't fit well into one of the other classes.

Choose a class that best fits your character's concept. If Expert, Psychic, or Warrior don't fit your image of your hero, or if you want to customize their abilities, you can choose the Adventurer class.

EXPERT

Your hero is exceptionally good at a useful skill. Doctors, cat burglars, starship pilots, grifters, technicians, or any other concept that focuses on expertise in a non-combat skill should pick the Expert class. Experts are the best at such skills and gain more of them than other classes do.

Just as a Warrior can be relied upon to make a shot when the chips are down, an Expert has a knack for succeeding at the moments of greatest importance. Once per scene, an Expert can reroll a failed skill check, taking the new result if it's better. This benefit can be applied to any skill check, even those that the Expert isn't specially focused in. Their natural talent bleeds over into everything they do.

In their chosen field, however, the Expert is exceptionally gifted. Aside from the free focus level that all PCs get at the start of the game, an Expert can choose an additional level in a non-combat focus related to their background. They can spend both of these levels on the same focus if they wish, thus starting the game with level 2 in that particular knack.

Class Abilities

Every Expert PC has certain special abilities.

- You gain a free level in a non-combat focus related to your background. Most concepts will take *Specialist* in their main skill, though *Diplomat*, *Starfarer*, *Healer*, or some other focus might suit better. You may not take a combat-oriented focus with this perk. In case of uncertainty, the GM decides whether or not a focus is permitted.

- Once per scene, you can reroll a failed skill check, taking the new roll if it's better.

- When you advance an experience level, you gain a bonus skill point that can be spent on any non-combat, non-psychic skill. You can save this point to spend later if you wish.

Hit Points and Attack Bonus

To get your starting maximum hit points, roll 1d6 and add your Constitution modifier, to a minimum of 1 hit point. Your attack bonus is equal to half your character level, rounded down, so it's +0 at first level.

PSYCHIC

Your hero has received training in controlling their natural Metadimensional Extroversion Syndrome, and can wield the psychic powers that come from that strange affliction. Controlling and developing psychic abilities is an extremely demanding process but allows for feats wholly impossible to ordinary men and women.

Psychics are extremely rare in the general population. Averages vary with worlds, but most range from one in ten thousand to one in a hundred thousand who have the MES condition that make them amenable to psychic training. Some of these go their entire lives without realizing their capabilities. Others end up exploiting their native abilities without training, almost inevitably ending up seriously brain-damaged or crazed by the effects of unmediated metadimensional energy.

Your hero has been fortunate enough to find a psychic academy or other training institution capable of molding and directing these abilities. They may have come to this later in life, or been recruited young by a society that carefully watches for MES symptoms.

Some societies deal with their psychics more generously than others. On some worlds, psychic powers are accepted and their possessors can look forward to lucrative and respected employment. On others, fear of these uncanny powers and memories of the horrors of the Scream lead to less welcoming treatment.

Class Abilities

Every Psychic PC has certain special abilities.

- Unlike Warriors or Experts, you are capable of learning psychic disciplines and their associated techniques, as described starting on page 28.

- When you pick this class, choose any two psychic skills as bonus skills. You can pick the same one twice to obtain level-1 proficiency in it and a free level-1 technique from that discipline.

- You have an Effort score, which can be used to fuel psychic abilities. Your maximum Effort is equal to 1 plus your highest psychic skill plus the better of your Wisdom or Constitution modifiers. Even with a penalty, your maximum Effort cannot be lower than 1.

Hit Points and Attack Bonus

To get your starting maximum hit points, roll 1d6 and add your Constitution modifier, to a minimum of 1 hit point. Your attack bonus is equal to half your character level, rounded down, so it's +0 at first level.

Warrior

Whether a hiveworld thug, barbarian lostworlder, gengineered combat hominid, or a natural-born killer wasting their potential in a desk job, your hero has a real talent for inflicting mayhem. Combat in *Stars Without Number* is extremely dangerous, but your hero has the talents to survive situations that would kill a less martial adventurer.

As a gifted purveyor of violence, you get to pick an extra combat-related focus associated with your special brand of havoc. While a character of any class can take these special combat talents, you get this additional pick and a better natural hit bonus than heroes of other classes.

Most importantly, however, Warriors have an uncanny gift for making a shot when a hit is desperately needed, or dodging a bullet when their life is on the line. Once per scene, a Warrior can either automatically negate a successful combat hit they just received, taking no damage from it, or else they can turn one of their own missed attack rolls into an automatic hit. This versatility makes Warriors exceptionally dangerous enemies in a one-on-one fight, and significantly more likely to survive the gory chaos of a general melee.

Class Abilities
Every Warrior PC has certain special abilities.

- You gain a free level in a combat-related focus associated with your background. The GM decides if a focus qualifies if it's an ambiguous case.

- Warriors are lucky in combat. Once per scene, as an Instant ability, you can either choose to negate a successful attack roll against you or turn a missed attack roll you made into a successful hit. You can use this ability after the dice are rolled, but it cannot be used against environmental damage, effects without an attack roll, or hits on a vehicle you're occupying.

- You gain two extra maximum hit points at each character level.

Hit Points and Attack Bonus
To get your starting maximum hit points, roll 1d6+2 and add your Constitution modifier, to a minimum of 1 hit point. Your attack bonus is equal to your character level so it is +1 at first level.

Adventurer

The Adventurer class is the catch-all for heroes who don't fit so neatly into the other three categories. Perhaps your mercenary spent her girlhood at a psychic academy, or maybe your combat medic knows more about using a laser rifle than most physicians do. You can use the Adventurer class to customize your hero's abilities, trading focus for wider versatility.

Adventurers split their focus between different spheres, gaining weaker versions of each class' benefits. For example, an Adventurer who is a psionic warrior-adept might have considerable powers of telekinetic force and a brutal expertise at bare-handed combat, but they won't have access to the wider psionic potential of an unrestricted Psychic or the death-defying combat luck of a hardened Warrior.

To define your Adventurer's abilities, pick two of the following three partial classes.

Partial Expert
You gain a free level in a non-combat focus related to your background. Most concepts will take *Specialist*, though *Diplomat*, *Starfarer*, *Healer*, or some other focus might suit better. Gain an extra skill point every time you gain a character level which can be spent on any non-psychic, non-combat skill.

Partial Psychic
You are a restricted psychic. Pick one psychic discipline as a bonus skill at level-0. You can improve this skill with foci or skill points gained from advancing a level, but you cannot learn or improve any other psychic skill. Your maximum Effort equals 1 plus this psychic skill's level plus the best of your Wisdom or Constitution modifiers, down to a minimum of 1.

Partial Warrior
You gain a free level in a combat focus related to your background. Gain +1 to your attack bonus at first and fifth levels. Gain 2 extra maximum hit points each level. Thus, at first level, you'd roll 1d6+2 for your maximum hit points. At second, you'd roll 2d6+4, and so forth.

Hit Points and Attack Bonus
To get your starting maximum hit points, roll 1d6 and add your Constitution modifier, to a minimum of 1 hit point. Adventurers who've taken the Partial Warrior option add 2 hit points to their maximum.

The base attack bonus for Adventurers is equal to half their character level, rounded down, so +0 at first level. If the PC has taken the Partial Warrior option their class bonus increases this to +1 at first level.

Choosing a Focus

Every member of a class has certain baseline abilities that let them do well at their role. Warriors are always good combatants, Experts are always gifted with their skills, and Psychics always have a few pertinent psionic abilities. Aside from these baseline abilities, characters also have a *focus*.

A focus is an additional knack, perk, or aptitude that a hero has, one that grants them certain benefits in play. Each focus has one or more levels of increasingly-strong effect. For example, someone with level 1 in the *Die Hard* focus gains two extra maximum hit points each level and automatically stabilizes after a mortal wound, while someone with level 2 can negate the first injury they suffer each day that would incapacitate or kill them. The benefits of a focus stack, so if you take level 2 in one, you get all the benefits from level 1 as well.

Any character can pick any focus, and it doesn't have to "match" the class you selected. A Psychic can choose the *Unarmed Combatant* focus for fistic prowess, while a Warrior might have enough experience with battlefield trauma to qualify as a *Healer*. The only obligation is that you explain how your hero picked up the training or exhibited their natural aptitude for the focus.

Many foci give a bonus level in a skill as part of their level 1 benefits. These bonus levels work like any other skill pick; they either give you the skill at level-0, raise an existing level-0 skill to level-1, or let you pick any other non-psychic skill if the skill is already at level-1.

Unless indicated otherwise a focus can be taken only once. Once you've taken level 1 of *Die Hard*, you can't pick it again to get an additional two hit points per level. Some skill-oriented foci allow you to pick them more than once to apply to different skills.

Beginning PCs can pick one level of focus. PCs with the Expert class or the Partial Expert Adventurer class option can choose an additional level in any non-combat focus related to their background, including level 2 in their initial choice. Most will choose *Specialist*, *Healer*, *Diplomat*, or some other similar focus, but the GM can allow other non-combat foci. PCs with the Warrior class or the Partial Warrior Adventurer class option can do the same in choosing an additional combat-related focus.

As your hero advances in experience, you'll get the opportunity to pick up new foci or improve existing ones as you refine your talents or learn new tricks. In some cases, you might work with the GM to come up with a custom focus reflecting your PC's specific special talent or a perk that makes sense given their recent adventures. Foci are an important part of a hero's character, and they should always reflect something basic about how they tend to interact with the world.

Origin Foci

If you include aliens or robots in your campaign, you can represent them with *origin foci*. Origin foci are taken the same way as any other foci, and may be purchased with a beginning character's focus level.

If a GM is feeling generous, they can allow a PC to take a level in an origin focus as well as their usual free focus level, in order to allow a hero to start as an alien with some additional knack. A PC who takes this option doesn't get their usual bonus focus at level 2; they've already spent it on being unusual.

Origin foci for robotic VIs are on page 199. Available alien races will vary with the campaign setting, but details on making these race are on page 209.

Choosing A Class and Focus

Basil Hayes needs a class. While an obvious pick would be Expert to match his background, Simon decides it would be more amusing to make him a soldier; specifically, the sniper "Basilisk" Hayes, the dire-eyed wraith of the cold Karelian forest. Given the complete lack of a market for his PhD and his own natural poor judgment, Basil signed up with a Karelian mercenary outfit. He's just gotten out of his tour of duty, but at least now his skills are significantly more marketable.

While Simon could go with the Adventurer class for Basil and make him a Partial Warrior/Partial Expert, he decides to make Basil a full-fledged Warrior. His intellectual talents can be useful, but Basil's main utility to the group is his ability to deal with combat situations.

Every PC gets to pick one focus of any kind, and a Warrior gets to pick one combat-related focus. Basil's first choice is easy, as clearly he's a Sniper, so he writes that down as a level 1 focus. Rather than taking a second level in that with his other pick, Simon decides to have Basil pick up a level of the Gunslinger focus. Basil will get the chance to pick more foci as he gains experience.

Each of these foci grant a bonus level in Shoot, so they stack together to give the young sniper a Shoot-1 skill. Basil's now as deft with a rifle as he is with 19th century Terran Victorian poetry.

Lastly, Basil gets to pick any single non-psychic skill of his choice as a hobby or natural talent. He decides that a sniper isn't much of a sniper without being hard to spot, so picks Sneak-0 as his skill. This free skill pick is often useful for filling in the necessary talents of a concept that aren't supplied by the Learning table or bonus skills granted by a hero's foci.

The Focus List

Alert

You are keenly aware of your surroundings and virtually impossible to take unaware. You have an instinctive alacrity of response that helps you act before less wary persons can think to move.

Level 1: Gain Notice as a bonus skill. You cannot be surprised, nor can others use the Execution Attack option on you. When you roll initiative, roll twice and take the best result.

Level 2: You always act first in a combat round unless someone else involved is also this *Alert*.

Armsman

You have an unusual competence with thrown weapons and melee attacks. This focus' benefits do not apply to unarmed attacks or projectile weapons. For thrown weapons, you can't use the benefits of the *Armsman* focus at the same time as *Gunslinger*.

Level 1: Gain Stab as a bonus skill. You can draw or sheath a Stowed melee or thrown weapon as an Instant action. You may add your Stab skill level to a melee or thrown weapon's damage roll or Shock damage, assuming it has any to begin with.

Level 2: Your primitive melee and thrown weapons count as TL4 weapons for the purpose of overcoming advanced armors. Even on a miss with a melee weapon, you do an unmodified 1d4 damage to the target, plus any Shock damage. This bonus damage doesn't apply to thrown weapons or attacks that use the Punch skill.

Assassin

You are practiced at sudden murder, and have certain advantages in carrying out an Execution Attack as described in the rules on page 52.

Level 1: Gain Sneak as a bonus skill. You can conceal an object no larger than a knife or pistol from anything less invasive than a strip search, including normal TL4 weapon detection devices. You can draw or produce this object as an On Turn action, and your point-blank ranged attacks made from surprise with it cannot miss the target.

Level 2: You can take a Move action on the same round as you make an Execution Attack, closing rapidly with a target before you attack. You may split this Move action when making an Execution Attack, taking part of it before you murder your target and part of it afterwards. This movement happens too quickly to alert a victim or to be hindered by bodyguards, barring an actual physical wall of meat between you and your prey.

Authority

You have an uncanny kind of charisma about you, one that makes others instinctively follow your instructions and further your causes. At level 1, this is a knack of charm and personal magnetism, while level 2 might suggest latent telepathic influence or transhuman memetic hacking augmentations. Where this focus refers to followers, it means NPCs who have voluntarily chosen to be in your service. PCs never count as followers.

Level 1: Gain Lead as a bonus skill. Once per day, you can make a request from an NPC who is not openly hostile to you, rolling a Cha/Lead skill check at a difficulty of the NPC's Morale score. If you succeed, they will comply with the request, provided it is not harmful or extremely uncharacteristic.

Level 2: Those who follow you are fired with confidence. Any NPC being directly led by you gains a Morale and hit roll bonus equal to your Lead skill and a +1 bonus on all skill checks. Your followers will not act against your interests unless under extreme pressure.

Close Combatant

You've had all too much practice at close-in fighting and desperate struggles with pistol or blade. You're extremely skilled at avoiding injury in melee combat, and at level 2 you can dodge through a melee scrum without fear of being knifed in passing.

Level 1: Gain any combat skill as a bonus skill. You can use pistol-sized ranged weapons in melee without suffering penalties for the proximity of melee attackers. You ignore Shock damage from melee assailants, even if you're unarmored at the time.

Level 2: The Shock damage from your melee attacks treats all targets as if they were AC 10. The *Fighting Withdrawal* combat action is treated as an On Turn action for you and can be performed freely.

Connected

You're remarkably gifted at making friends and forging ties with the people around you. Wherever you go, you always seem to know somebody useful to your ends.

Level 1: Gain Connect as a bonus skill. If you've spent at least a week in a not-entirely-hostile location, you'll have built a web of contacts willing to do favors for you that are no more than mildly illegal. You can call on one favor per game day and the GM decides how far they'll go for you.

Level 2: Once per game session, if it's not entirely implausible, you meet someone you know who is willing to do modest favors for you. You can decide when and where you want to meet this person, but the GM decides who they are and what they can do for you.

Die Hard

You are surprisingly hard to kill. You can survive injuries or bear up under stresses that would incapacitate a less determined hero.

Level 1: You gain an extra 2 maximum hit points per level. This bonus applies retroactively if you take this focus after first level. You automatically stabilize if mortally wounded by anything smaller than a Heavy weapon.

Level 2: The first time each day that you are reduced to zero hit points by an injury, you instead survive with one hit point remaining. This ability can't save you from Heavy weapons or similar trauma.

Diplomat

You know how to get your way in personal negotiations, and can manipulate the attitudes of those around you. Even so, while smooth words are versatile, they'll only work if your interlocutor is actually willing to listen to you.

Level 1: Gain Talk as a bonus skill. You speak all the languages common to the sector and can learn new ones to a workable level in a week, becoming fluent in a month. Reroll 1s on any skill check dice related to negotiation or diplomacy.

Level 2: Once per game session, shift an intelligent NPC's reaction roll one step closer to friendly if you can talk to them for at least thirty seconds.

Gunslinger

You have a gift with a gun. While this talent most commonly applies to slugthrowers or energy weapons, it is also applicable to thrown weapons, bows, or other ranged weapons that can be used with the Shoot skill. For thrown weapons, you can't use the benefits of the *Armsman* focus at the same time as *Gunslinger*.

Level 1: Gain Shoot as a bonus skill. You can draw or holster a Stowed ranged weapon as an On Turn action. You may add your Shoot skill level to a ranged weapon's damage roll.

Level 2: Once per round, you can reload a ranged weapon as an On Turn action if it takes no more than one round to reload. Even on a miss with a Shoot attack, you do an unmodified 1d4 damage.

Hacker

You have a considerable fluency with digital security measures and standard encryption methods. You know how to make computerized systems obey you until their automatic failsafes come down on your control.

Level 1: Gain Program as a bonus skill. When attempting to hack a database or computerized system, roll 3d6 on the skill check and drop the lowest die.

Level 2: Your hack duration increases to 1d4+Program skill x 10 minutes. You have an instinctive understanding of the tech; you never need to learn the data protocols for a strange system and are always treated as familiar with it.

Healer

Healing comes naturally to you, and you're particularly gifted at preventing the quick bleed-out of wounded allies and comrades.

Level 1: Gain Heal as a bonus skill. You may attempt to stabilize one mortally-wounded adjacent person per round as an On Turn action. When rolling Heal skill checks, roll 3d6 and drop the lowest die.

Level 2: Stims or other technological healing devices applied by you heal twice as many hit points as normal. Using only basic medical supplies, you can heal 1d6+Heal skill hit points of damage to every injured or wounded person in your group with ten minutes of first aid spread among them. Such healing can be applied to a given target only once per day.

Henchkeeper

You have an distinct knack for picking up lost souls who willingly do your bidding. You might induce them with promises of money, power, excitement, sex, or some other prize that you may or may not eventually grant. A henchman obtained with this focus will serve in loyal fashion until clearly betrayed or placed in unacceptable danger. Henchmen are not "important" people in their society, and are usually marginal sorts, outcasts, the desperate, or other persons with few options.

You can use more conventional pay or inducements to acquire additional henchmen, but these extra hirelings are no more loyal or competent than your pay and treatment can purchase.

Level 1: Gain Lead as a bonus skill. You can acquire henchmen within 24 hours of arriving in a community, assuming anyone is suitable hench material. These henchmen will not fight except to save their own lives, but will escort you on adventures and risk great danger to help you. Most henchmen will be treated as Peaceful Humans from the Xenobestiary section of the book. You can have one henchmen at a time for every three character levels you have, rounded up. You can release henchmen with no hard feelings at any plausible time and pick them back up later should you be without a current henchman.

Level 2: Your henchmen are remarkably loyal and determined, and will fight for you against anything but clearly overwhelming odds. Whether through natural competence or their devotion to you, they're treated as Martial Humans from the Xenobestiary section. You can make faithful henchmen out of skilled and highly-capable NPCs, but this requires that you actually have done them some favor or help that would reasonably earn such fierce loyalty.

Ironhide

Whether through uncanny reflexes, remarkable luck, gengineered skin fibers, or subtle telekinetic shielding, you have natural defenses equivalent to high-quality combat armor. The benefits of this focus don't stack with armor, though Dexterity or shield modifiers apply.

Level 1: You have an innate Armor Class of 15 plus half your character level, rounded up.

Level 2: Your abilities are so effective that they render you immune to unarmed attacks or primitive weaponry as if you wore powered armor.

Psychic Training

You've had special training in a particular psychic discipline. You must be a Psychic or have taken the Partial Psychic class option as an Adventurer to pick this focus. In the latter case, you can only take training in the discipline you initially chose as a Partial Psychic. As with most foci, this focus can be taken only once.

Level 1: Gain any psychic skill as a bonus. If this improves it to level-1 proficiency, choose a free level-1 technique from that discipline. Your maximum Effort increases by one.

Level 2: When you advance a level, the bonus psychic skill you chose for the first level of the focus automatically gets one skill point put toward increasing it or purchasing a technique from it. You may save these points for later, if more are required to raise the skill or buy a particular technique. These points are awarded retroactively if you take this focus level later in the game.

Savage Fray

You are a whirlwind of bloody havoc in melee combat, and can survive being surrounded far better than most combatants.

Level 1: Gain Stab as a bonus skill. All enemies adjacent to you at the end of your turn whom you have not attacked suffer the Shock damage of your weapon if their Armor Class is not too high to be affected.

Level 2: After suffering your first melee hit in a round, any further melee attacks from other assailants automatically miss you. If the attacker who hits you has multiple attacks, they may attempt all of them, but other foes around you simply miss.

Shocking Assault

You're extremely dangerous to enemies around you. The ferocity of your melee attacks stresses and distracts enemies even when your blows don't draw blood.

Level 1: Gain Punch or Stab as a bonus skill. The Shock damage of your weapon treats all targets as if they were AC 10, assuming your weapon is capable of harming the target in the first place.

Level 2: In addition, you gain a +2 bonus to the Shock damage rating of all melee weapons and unarmed attacks. Regular hits never do less damage than this Shock would do on a miss.

Sniper

You are an expert at placing a bullet or beam on an unsuspecting target. These special benefits only apply when making an Execution Attack with a firearm or bow, as described on page 52.

Level 1: Gain Shoot as a bonus skill. When making a skill check for an Execution Attack or target shooting, roll 3d6 and drop the lowest die.

Level 2: A target hit by your Execution Attack takes a -4 penalty on the Physical saving throw to avoid immediate mortal injury. Even if the save is successful, the target takes double the normal damage inflicted by the attack.

Specialist

You are remarkably talented at a particular skill. Whether a marvelous cat burglar, a world-famous athlete, a brilliant engineer, or some other savant, your expertise is extremely reliable. You may take this focus more than once for different skills.

Level 1: Gain a non-combat, non-psychic skill as a bonus. Roll 3d6 and drop the lowest die for all skill checks in this skill.

Level 2: Roll 4d6 and drop the two lowest dice for all skill checks in this skill.

Star Captain

You have a tremendous natural talent for ship combat, and can make any starship you captain a significantly more fearsome opponent. You must take the captain's role during a fight as described on page 117 of the Ship Combat rules in order to benefit from this focus.

Level 1: Gain Lead as a bonus skill. Your ship gains 2 extra Command Points at the start of each turn.

Level 2: A ship you captain gains bonus hit points equal to 20% of its maximum at the start of each combat. Damage is taken from these bonus points first, and they vanish at the end of the fight and do not require repairs to replenish before the next. In addition, once per engagement, you may resolve a Crisis as an Instant action by explaining how your leadership resolves the problem.

Starfarer

You are an expert in the plotting and execution of interstellar spike drills. While most experienced pilots can manage conventional drills along well-charted spike routes, you have the knack for forging new drill paths and cutting courses too dangerous for lesser navigators.

Level 1: Gain Pilot as a bonus skill. You automatically succeed at all spike drill-related skill checks of difficulty 10 or less.

Level 2: Double your Pilot skill for all spike drill-related skill checks. Spike drives of ships you navigate are treated as one level higher; thus, a drive-1 is treated as a drive-2, up to a maximum of drive-7. Spike drills you personally oversee take only half the time they would otherwise require.

Tinker

You have a natural knack for modifying and improving equipment, as given in the rules on page 90.

Level 1: Gain Fix as a bonus skill. Your Maintenance score is doubled, allowing you to maintain twice as many mods. Both ship and gear mods cost only half their usual price in credits, though pretech salvage requirements remain the same.

Level 2: Your Fix skill is treated as one level higher for purposes of building and maintaining mods and calculating your Maintenance score. Advanced mods require one fewer pretech salvage part to make, down to a minimum of zero.

Unarmed Combatant

Your empty hands are more dangerous than knives and guns in the grip of the less gifted. Your unarmed attacks are counted as melee weapons when it comes to binding up opponents wielding rifles and similar long arms, though you need at least one hand free to do so.

Level 1: Gain Punch as a bonus skill. Your unarmed attacks become more dangerous as your Punch skill increases. At level-0, they do 1d6 damage. At level-1, they do 1d8 damage. At level-2 they do 1d10, level-3 does 1d12, and level-4 does 1d12+1. At Punch-1 or better, they have the Shock quality equal to your Punch skill against AC 15 or less. While you normally add your Punch skill level to any unarmed damage, don't add it twice to this Shock damage.

Level 2: You know locks and twists that use powered servos against their wearer. Your unarmed attacks count as TL4 weapons for the purpose of overcoming advanced armors. Even on a miss with a Punch attack, you do an unmodified 1d6 damage.

Unique Gift

Whether due to exotic technological augmentation, a unique transhuman background, or a remarkable human talent, you have the ability to do something that's simply impossible for a normal human.

This is a special focus which serves as a catch-all for some novel power or background perk that doesn't have a convenient fit in the existing rules. A transhuman who can function normally in lethal environments, a nanotech-laden experimental subject with a head full of exotic sensors, or a brilliant gravitic scientist who can fly thanks to their personal tech might all take this focus to cover their special abilities.

It's up to the GM to decide what's reasonable and fair to be covered under this gift. If an ability is particularly powerful, it might require the user to take System Strain to use it, as described on page 32.

As a general rule this ability should be better than a piece of gear the PC could buy for credits. The player is spending a very limited resource when they make this focus pick, so what they get should be good enough that they can't just duplicate it with a fat bank account.

Wanderer

Your hero gets around. As part of a life on the road, they've mastered a number of tricks for ensuring their mobility and surviving the inevitable difficulties of a vagabond existence.

Level 1: Gain Survive as a bonus skill. You can convey basic ideas in all the common languages of the sector. You can always find free transport to a desired destination for yourself and a small group of your friends provided any traffic goes to the place. Finding this transport takes no more than an hour, but it may not be a strictly legitimate means of travel and may require working passage.

Level 2: You can forge, scrounge, or snag travel papers and identification for the party with 1d6 hours of work. These papers and permits will stand up to ordinary scrutiny, but require an opposed Int/Administer versus Wis/Notice check if examined by an official while the PC is actually wanted by the state for some crime. When finding transport for the party, the transportation always makes the trip at least as fast as a dedicated charter would.

Wild Psychic Talent

Some men and women are born with a very limited form of MES, the mental condition that allows for the use of psychic powers. While these people are not true psychics, these "wild talents" can create one limited psychic effect. Training is not always required to develop this ability, and their MES is so mild that they don't suffer the risk of madness or brain damage that more developed psychics risk should they use their powers without proper training.

Wild talents are not treated as psychics for general purposes and cannot "torch" their powers. When relevant, they are treated as having one point of Effort. Psychics and Partial Psychics cannot take this focus.

Level 1: Pick a psychic discipline. You gain an ability equivalent to the level-0 core power of that discipline. Optionally, you may instead pick a level-1 technique from that discipline, but that technique must stand alone; you can't pick one that augments another technique or core ability. For example, you could pick the *Telekinetic Armory* technique from Telekinesis, because that ability does not require the use of any other Telekinesis power. You could not pick the *Mastered Succor* ability from Biopsionics, because that technique is meant to augment another power you don't have.

Level 2: You now have a maximum Effort of two points. You may pick a second ability according to the guidelines above. This second does not need to be a stand-alone technique if it augments the power you chose for level 1 of this focus. Thus, if your first pick was gaining the level-0 power of *Psychic Succor*, your second could be *Mastered Succor*. You still could not get the level-1 core power of *Psychic Succor*, however, as you're still restricted to level-0.

FINAL TOUCHES

You're almost finished. Just a few more things to note down, and you'll have an adventurer ready for play.

First, pick one more non-psychic skill of your choice. This pick represents your hobbies, your side interests, or some well of natural talent. You gain it at level-0 if you don't already have it. Otherwise, it stacks to increase the skill to level-1. You can't pick a skill you already have at level-1.

Next, determine your maximum *hit points*. Your hit points are a measure of how close you are to death or defeat; when you run out of them, your character is dead or unable to continue fighting. You can regain lost hit points by rest and biopsionic healing, but they cannot exceed their maximum. Your maximum hit points are equal to 1d6 plus your Constitution modifier, down to a minimum of 1 hit point. Warriors and Adventurers with the Partial Warrior class option can add a +2 bonus to this total.

Now note down your *base attack bonus*. For most PCs, this is equal to half your character level, rounded down, so it's +0 for most characters. If your hero is a Warrior or an Adventurer with the Partial Warrior class option, your beginning base attack bonus is +1.

Record your Physical, Mental, and Evasion *saving throws*. Your Physical saving throw is 15 minus the better of your Strength or Constitution attribute modifiers. Your Mental saving throw is 15 minus the better of your Wisdom or Charisma attribute modifiers. Your Evasion saving throw is 15 minus the better of your Dexterity or Intelligence attribute modifiers. If you have a penalty in both modifiers, it's possible to have a saving throw of 16 or more.

Lastly, either choose an equipment package from the list on the opposite page or roll 2d6 x 100 to find out how many credits you have to buy your beginning gear.

PCs and Languages

The standard language of the late Terran Mandate was a highly hybridized version of English. All PCs are assumed to speak "Mandate" unless they've got a very good reason not to, and will rapidly pick up enough to get by otherwise.

PCs also speak all the languages appropriate to their background and history. A native of a French-speaking world will naturally speak French, or whatever French is in 3200 AD.

Linguist PCs with the Know skill know additional languages; one more at level-0, three more at level-1, six more at level-2, ten more at level-3, and all sector-known languages at level-4. PCs who are far-traveled or versed in dealing with other cultures may substitute Connect instead of Know to determine their bonus languages.

EQUIPMENT PACKAGES

Rather than choosing gear from the Equipment chapter, you can just take a premade package from this page instead of taking your starting credits.

Once you've chosen your equipment, make sure to note down the damage and hit bonus of your weapons, and the Armor Class of any armor you have.

For weapons, your hit bonus is your base attack bonus plus your applicable skill, plus the attribute modifier used by the weapon. For ranged weapons, this is usually Dexterity, while most melee weapons are Strength or Dexterity. Ranged energy weapons add +1 to this, as they lack recoil or windage. Damage is equal to the weapon's damage die plus the attribute modifier.

For armor, your total Armor Class is that of your armor plus your Dexterity modifier. Multiple suits of armor do not stack together.

Barbarian

Spear (1d6+1 damage)	Backpack (TL0)
Primitive hide armor (AC 13)	7 days rations
Primitive shield (+1 AC)	20m rope
Knife (1d4 damage)	500 credits

Blade

Monoblade sword (1d8+1 dmg)	Backpack (TL0)
Woven Body Armor (AC 15)	Compad
Secure Clothing (AC 13)	Lazarus patch
Thermal knife (1d6 damage)	50 credits

Thief

Laser Pistol (1d6 damage)	2 type A cells
Armored Undersuit (AC 13)	Backpack (TL0)
Monoblade knife (1d6 damage)	Compad
Climbing harness	Metatool
Low-light goggles	25 credits

Hacker

Laser Pistol (1d6 damage)	2 type A cells
Secure Clothing (AC 13)	Dataslab
Postech toolkit	Metatool
3 units of spare parts	2 line shunts
	100 credits

Gunslinger

Laser Pistol (1d6 damage)	8 type A Cells
Armored Undersuit (AC 13)	Backpack (TL0)
Monoblade Knife (1d6 damage)	Compad
	100 credits

Soldier

Combat Rifle (1d12 damage)	80 rounds ammo
Woven Body Armor (AC 15)	Backpack (TL0)
Knife (1d4 damage)	Compad
	100 credits

Scout

Laser Rifle (1d10 damage)	8 type A cells
Armored vacc suit (AC 13)	Backpack (TL0)
Knife (1d4 damage)	Compad
Survey scanner	25 credits
Survival kit	
Binoculars (TL 3)	

Medic

Laser Pistol (1d6 damage)	Backpack (TL0)
Secure Clothing (AC 13)	Medkit
4 Lazarus patches	Compad
2 doses of Lift	Bioscanner
	25 credits

Civilian

Secure Clothing (AC 13)	Compad
	700 credits

Technician

Laser Pistol (1d6 damage)	4 type A cells
Armored Undersuit (AC 13)	Backpack (TL0)
Monoblade knife (1d6 damage)	Dataslab
Postech toolkit	Metatool
6 units of spare parts	200 credits

QUICK CHARACTER CREATION

If you don't have the time or inclination to do things the leisurely way, you can use these pages to quickly roll up a hero. You can either pick or roll from any of the tables to get a character that suits.

The first step is to roll on the class table below. This will give you your class, your attributes, the hit point die to roll, and your attack bonus. Each class "style" hints at the kind of PC those attributes might describe.

d8	Class and Style	Str	Dex	Con	Int	Wis	Cha	HP	Atk. Bon.
1	Expert (Smart)	10 (+0)	12 (+0)	11 (+0)	14 (+1)	7 (-1)	9 (+0)	1d6	+0
2	Expert (Smooth)	7 (-1)	9 (+0)	10 (+0)	12 (+0)	11 (+0)	14 (+1)	1d6	+0
3	Expert (Nimble)	10 (+0)	14 (+1)	12 (+0)	11 (+0)	9 (+0)	7 (-1)	1d6	+0
4	Warrior (Melee)	14 (+1)	9 (+0)	12 (+0)	7 (-1)	10 (+0)	11 (+0)	1d6+2	+1
5	Warrior (Ranged)	9 (+0)	14 (+1)	12 (+0)	10 (+0)	7 (-1)	11 (+0)	1d6+2	+1
6	Warrior (Leader)	7 (-1)	10 (+0)	9 (+0)	11 (+0)	12 (+0)	14 (+1)	1d6+2	+1
7	Psychic (Seer)	9 (+0)	11 (+0)	12 (+0)	10 (+0)	14 (+1)	7 (-1)	1d6	+0
8	Psychic (Adept)	12 (+0)	10 (+0)	14 (+1)	9 (+0)	11 (+0)	7 (-1)	1d6+1	+0

Next, it's time to pick or roll from the background table to the right. Don't worry if it doesn't seem to fit your class; if your Melee Warrior happens to roll a past as a Scholar, just take a moment to decide why it is that an erudite scientist might also have a savage left hook. You can switch around your attributes if you want to make things fit more closely, such as swapping your Intelligence and Charisma in the case above.

The background options are general concepts as described starting on page 10. Your hero might be a model example of their type, or you might shuffle around their details a little, deciding your Ranged Warrior Official is an ex-cop bounced out of the force after investigating an alien smuggling ring a little too closely.

Once you've rolled or chosen your background, note down the three skills listed with it. If one of the skills says "Any Combat", choose either Punch, Shoot, or Stab depending on what fits best for your hero.

You'll want to decide on your homeworld at this point too. If you're not familiar with the campaign setting, describe your hero's background and ask the GM which planet they're most likely from. The GM can then fill you in on any important cultural or social details that might've influenced your hero's history.

d20	Background	Skills
1	Barbarian	Survive-0, Notice-0, Any Combat-0
2	Clergy	Talk-0, Perform-0, Know-0
3	Courtesan	Perform-0, Notice-0, Connect-0
4	Criminal	Connect-0, Sneak-0, Talk-0
5	Dilettante	Connect-0. Know-0, Talk-0
6	Entertainer	Perform-0, Talk-0, Connect-0
7	Merchant	Trade-0, Talk-0, Connect-0
8	Noble	Lead-0, Connect-0, Administer-0
9	Official	Administer-0, Talk-0, Connect-0
10	Peasant	Exert-0, Sneak-0, Survive-0
11	Physician	Heal-0, Know-0, Notice-0
12	Pilot	Pilot-0, Fix-0, Shoot or Trade-0
13	Politician	Talk-0, Lead-0, Connect-0
14	Scholar	Know-0, Administer-0, Connect-0
15	Soldier	Any Combat-0, Exert-0, Survive-0
16	Spacer	Fix-0, Pilot-0, Program-0
17	Technician	Fix-0, Notice-0, Exert-0
18	Thug	Any Combat-0, Talk-0, Connect-0
19	Vagabond	Notice-0, Sneak-0, Survive-0
20	Worker	Connect-0, Exert-0, Work-0

If you picked or rolled the Psychic class, roll twice on the table to the left to find out what psychic disciplines you've trained to level-0. If you roll or pick the same one twice, it's level-1, and you should pick a free level-1 technique from the Psionics chapter on page 28.

Take a minute to decide where you were trained to safely use your innate powers. If you're not sure, ask the GM which psychic academy makes the most sense.

d6	Psychic Skill
1	Biopsionics-0, the art of healing and metamorphosis
2	Metapsionics-0, the art of manipulating psychic power
3	Precognition-0, the art of sensing the future
4	Telekinesis-0, the art of controlling kinetic energy
5	Telepathy-0, the art of reading and influencing thought
6	Teleportation-0, the art of instant translocation

Now roll 1d6 or pick from the table below to get appropriate foci for your hero, assuming you'd rather not pick freely. All the foci listed below are gained at level 1 proficiency and are described starting on page 20. Psychics can pick one focus. The other classes get one free pick, plus one more combat focus for Warriors and one more non-combat focus for Experts.

When you choose a focus, you might get a bonus skill from it. If you don't have that skill, you gain it at level-0. If you have it at level-0, it becomes level-1. And if you already have it at level-1, pick any other non-psychic skill instead that isn't already level-1.

The focus you pick or roll tells you a lot about your hero's past. A smooth Expert who's a Connected Diplomat might have been an underworld fixer, while a Healer with Specialization in Talk could have been a psychiatrist or therapist. Take a moment to figure out how your hero's foci reflect their past experience.

Class	1	2	3	4	5	6
Expert (Smart)	Specialist/Fix Die Hard	Hacker Tinker	Specialist/Know Healer	Specialist/Fix Tinker	Healer Ironhide	Specialist/Fix Hacker
Expert (Smooth)	Diplomat Connected	Specialist/Talk Die Hard	Diplomat Alert	Specialist/Lead Authority	Healer Specialist/Talk	Specialist/Notice Specialist/Talk
Expert (Nimble)	Specialist/Pilot Starfarer	Healer Die Hard	Tinker Gunslinger	Specialist/Sneak Assassin	Specialist/Sneak Specialist/Exert	Specialist/Entertain Specialist/Sneak
Warrior (Melee)	Savage Fray Shocking Assault	Assassin Specialist/Sneak	Armsman Close Combatant	Close Combatant Savage Fray	Ironhide Die Hard	Unarmed Combatant Close Combatant
Warrior (Ranged)	Gunslinger Close Combatant	Sniper Specialist/Sneak	Assassin Specialist/Sneak	Ironhide Die Hard	Gunslinger Tinker	Close Combat Alert
Warrior (Leader)	Gunslinger Authority	Ironhide Connected	Armsman Specialist/Lead	Gunslinger Specialist/Talk	Assassin Die Hard	Close Combatant Henchkeeper
Psychic (Seer)	Alert	Healer	Specialist/Notice	Psychic Training	Savage Fray	Hacker
Psychic (Adept)	Armsman	Ironhide	Die Hard	Psychic Training	Healer	Unarmed Combatant

Now it's time for a few final touches.

Pick or roll a bonus skill. You can use the table to the right or just choose any non-psychic skill to add at level-0 to your hero. You can pick a skill you already have at level-0 to make it level-1 instead.

If you're playing a Psychic, note down your beginning maximum Effort, which is equal to 1 plus your highest psychic skill plus the better of your Wisdom or Constitution modifiers.

Write down your saving throws. Your Physical saving throw is equal to 15 minus your Strength or Constitution modifiers, whichever is better. Your Evasion saving throw is equal to 15 minus the better of your Dexterity or Intelligence modifiers, and your Mental saving throw is 15 minus the better of your Wisdom or Charisma modifiers.

Pick your starting equipment, either rolling 2d6 x 100 to find your beginning credit total or picking a package from page 25. Note down your beginning hit bonus totals and damage for any weapons you have, and the Armor Class total for any armor you wear.

Finally, put a name on this budding hero and choose their initial goal. What are they trying to accomplish right now? Get rich? Get off their tedious homeworld? Take revenge on a local tyrant? Whatever you pick should be something that motivates your hero from the very start, and it should also be something that complements the interests of the rest of the players. Nobody's going to thank you if you roll up a PC that none of the other party members would want to associate with, or one that can't be expected to play nicely with the rest of the group.

d20	Bonus Skill
1	Administer: bureaucracy and management
2	Connect: knowing people and cultures
3	Exert: climbing, running, throwing, and such
4	Fix: repairing and building things
5	Heal: curing harm in mind and body
6	Know: scientific and academic knowledge
7	Lead: persuade others to do as you are doing
8	Notice: spot things and detect the unusual
9	Perform: sing, dance, act, and the like
10	Pilot: fly ships, ride beasts, sail boats
11	Program: hack computers, run comms
12	Punch: fight unarmed
13	Shoot: fight at range
14	Sneak: defeat security and avoid notice
15	Stab: fight with melee weapons
16	Survive: avoid natural peril, find food
17	Talk: persuade others to believe things
18	Trade: buy, sell, and find vendors of things
19	Work: a job or talent not covered above
20	Change a level-0 skill you have to level-1

PSIONICS

Psionic powers first manifested centuries ago in the wake of the first interstellar flights. Later paraphysicists speculated that something about the exposure to metadimensional energies incurred in spike drive travel changed these spacers, altering genomes or warping their energy shadows in a way that changed their eventual offspring. While this theory was never completely proven, it was demonstrated that psionic powers were far more prevalent on the frontier, in people who were descended of starfaring ancestors, than they were on Old Terra. On most frontier worlds about one in ten thousand children are born with psychic aptitude, while Old Terra displayed only a tenth of that incidence.

Psychic abilities initially seemed to be a congenital curse, one known as "Metadimensional Extroversion Syndrome", or MES. Children manifested MES in puberty or early adulthood, after certain critical stages of brain development opened a channel between their minds and the churning maelstrom of energies that boiled in metadimensional space. By a conscious or unconscious act of will, they could release these energies in various forms. Even so, the passage of unmediated metadimensional force through unprotected neural tissue almost invariably caused brain damage. Repeated use of these abilities caused crippling disability, death, or madness. Most psychics were dead within a few years after manifesting. A few were able to control their powers sufficiently to prevent accidental discharges, but safe, controlled use of these abilities was unknown.

In response, the Terran Mandate initiated the Psionic Authority, basing it on a terraformed Mars. Children from throughout Mandate space were carefully selected by the Authority and brought to the institute in order to study and hopefully cure this tragic condition. Persistent legends speak of horrible experiments and ruthless sacrifices of "test subjects", but no proof of such evil ever emerged, and after decades of study, the Psionic Authority was actually able to produce protocols that allowed controlled, safe employment of psionic powers.

The bloom of psitech development that followed and the wonders of jump gates and the Second Wave of human expansion are a matter of history. So too is the Scream that erupted six centuries ago and granted every living psychic in human space either violent madness or instant death. The interstellar societal collapse that followed and the centuries-long Silence between the stars has been a matter of living memory for many ill-connected frontier worlds.

With the Scream and the death or madness of every potential psychic tutor, psionics became the horror it once was generations ago. Untrained psychics suffer under the lash of their own abilities, doomed to early death if they aren't fortunate enough to fumble into a means of damping their own powers. Men and women of some worlds now fear psychics, not only for the ancestral memory of the Scream and the chaos that followed, but also because their only experience with these unfortunates has been one of uncontrolled power, madness, and death.

In the past few centuries, however, a few worlds have managed to resuscitate the ancient psychic protocols and develop metapsionic tutors skilled enough to train new psychics. For some, it was the fruit of some discovered pretech wonder that damped psychic energies enough to safely experiment. For others, it was the product of coldly ruthless experimentation on disposable psychic test victims. A few worlds even retained some shreds of psychic mastery from the ancient days, the result of a Scream victim who was lucid enough to teach pupils, though usually for some demented or horrible end. Whatever the source, these institutions provide desperately-desired training for those few afflicted with MES.

These "psychic academies" are scattered widely throughout the sectors of space, usually based out of some amenable planetary polity or defensible deep-space habitat. Some academies are exclusively for the use of a particular nation or planet, while others will accept anyone who can pay the tuition or satisfy the interests of their patrons. Most are powerful players in the local political scene, offering services that mean life and death to MES sufferers and producing graduates who are extremely useful to local rulers. Others need to operate in secret, avoiding the fearful attention of populations that neither accept nor trust their powers.

Psychic Characters and Training

All Psychic PCs are assumed to have had some sort of training. They may have received their education at a world-famous psychic academy on their homeworld, or been taught in secret by a peripatetic psychic mentor, but only one in a million psychics has the blind luck and natural aptitude to develop an intuitive control of their MES. Of course, it may be that your PC was that one in a million, but you'll want to discuss it with your GM.

Psychic training requires from one to four years to complete, depending on the aptitude of the pupil and the amount of training support they get from other psychics. Most academies have one or more "deans" who actually have the metapsionic abilities to dampen and buffer novice minds. Regular application of their abilities to the pupils allows the students to safely practice and train with their powers until they've mastered the channeling of the energies. Aside from these deans, additional psychic tutors can speed the learning process by demonstrations, technical critique, and "encouragement" of various kinds.

On worlds where psionics are outlawed or feared, most MES sufferers learn to either conceal their pow-

ers or accept swift euthanasia or exile from a society that dreads their abilities. Most are unable to do this; their innate abilities boil out at some inopportune time, and their true nature is revealed to their grieving family and neighbors. Those who do learn to contain their abilities can go their whole lives unsuspected. A few receive secret teachings from wandering adepts, ones who can quickly show them how to suppress their powers. The best and most promising might be taken as full students by these adepts, shown how to master their own abilities and eventually teach others as well.

On planets where psionic powers are less terrifying there is always at least one psychic academy in the solar system that invites pupils. Some charge exorbitant tuition, but most are supported by governments, private organizations, or successful graduates. Students are expected to pay for their training one way or another, however; if not in credits, then in service to the patron on completion of the training. Many psychics with decidedly non-academic Backgrounds acquired their experience in the mandatory service period after their graduation. Most psychic PCs will have left such duties behind by the time they start adventuring, though a few of them may have departed considerably in advance of their expected release date.

Psionic Skills

Psionic powers are divided up into *disciplines*, each of which has a corresponding skill. Someone with a basic, functioning expertise in the skill has level-0, while a true master of the art would have level-4. Only psychics can learn psionic skills, and they are most often taught at rigidly-disciplined psychic academies. Attempting to develop these skills without such formalized training is almost invariably lethal to the experimenter, though an exceedingly few natural prodigies sometimes intuitively grasp their principles. Even fewer of these gifted naturals are able to express their understanding in a coherent, teachable form.

Some psychics are "unrestricted". While they usually have a distinct aptitude for one or two disciplines, they can theoretically learn any of them, and may raise any psionic skill they choose. Any character with the Psychic class is an unrestricted psychic. Others demonstrate gifts in only one discipline. While they can eventually master all aspects of that power, they can't raise any other psychic skill. Adventurers with the Partial Psychic class option are such "restricted" psychics.

Attempting to wield a natural psionic aptitude without proper precautions will almost inevitably cause death or madness, as the uncontrolled cascade of MES energies will cause varying forms of permanent brain damage. Untrained psychics can sometimes get away with using their powers very rarely, but these natural prodigies rarely have any ability beyond level-1 in a discipline. Those who use their powers often enough to gain more practical field experience can expect to end up dead, crippled, or insane.

Psionic Powers and Techniques

Every psychic who obtains level-0 proficiency in a discipline gains access to its core *technique*. This technique varies depending on the discipline, whether it's physical translocation with Teleportation or tissue repair with Biopsionics. The strength of the ability varies with the practitioner's skill level; the *Psychic Succor* provided by a biopsionicist with level-0 proficiency is much weaker than that provided by someone with level-4 expertise. Core techniques improve naturally as the psychic improves their skill level. They do not need to be purchased with skill points or otherwise specially trained.

As a psychic improves their skill level in a discipline, they may also learn other techniques, special tricks and abilities they've refined through practice. Each time they improve a skill level, they can pick a new technique from that discipline. Most techniques have a minimum skill level associated with them, and the PC can't pick a technique which requires a higher skill level than they've mastered. They also cannot "save" technique picks for later, either. They must be chosen immediately after improving the skill.

The techniques listed under the disciplines here are commonly-known arts that are part of the basic curriculum of most competent psychic academies. No special training is required to choose them when a PC is able to pick a new technique, as the principles were taught as part of their basic education. Other techniques exist that are more esoteric in nature, and may require a trainer to educate the PC in their principles before they can be learned.

Even so, some of the standard techniques might be selectively restricted by an academy, taught only to certain pupils. In some cases, this may be due to a sponsor's restrictions on what kind of abilities they want the local psychics to possess, while other academies might consider them fundamentally immoral abilities. Control over the metapsionic technique of psychic tutoring is particularly strict, as any pupil who has its rudiments included in their curriculum may eventually be able to train other psychics in turn. A PC may have to go to significant lengths in order to patch the holes in a government-controlled psychic curriculum.

PCs who want to learn additional techniques beyond those acquired by improving their skills may buy them separately with skill points, paying one point per level of the technique. PCs who want to retrain techniques may do so at the GM's discretion, usually only when they encounter some new esoteric technique they'd like to learn in place of an existing art. Techniques can only be retrained into others of equal or lower required skill level.

It may be possible for a psychic to create entirely new techniques to reflect their personal aptitudes and special inclinations. Any such novelty is strictly at the GM's discretion, and unlikely to be done more than once or twice over the lifetime of even the most skilled psychic experimenter.

Effort and Psychic Abilities

Psionic powers are fueled by *Effort*, a measure of the psychic's mental focus, energy, and neural responsiveness. A psychic's maximum Effort total is equal to one plus the higher of their Wisdom or Constitution attribute modifiers, plus their highest psychic skill score. Thus, a psychic with a Wisdom modifier of -1, a Constitution modifier of +2, and psionic skills of Metapsionics-0 and Biopsionics-0 would have a maximum Effort score of 3. If he were to then improve his Biopsionics skill to level-1, his Effort would become 4.

Effort is "Committed" to fuel a psionic power. Some Commitment is relatively short-term, lasting only as long as the power is in effect. Other powers require that the Effort be Committed for the full scene, while the most powerful might require it be Committed for the rest of the day. Once the Commitment period is over, the Effort returns to the psychic. All Effort is refreshed after a good night's rest.

Whenever a power requires you to Commit Effort, you commit only one point, though additional effects or triggerings may require separate Commitments.

Torching

Psychics can push past their limits by "torching", intentionally ignoring safety protocols and neural refractory periods to channel MES energy beyond their normal capacity. For untrained MES subjects, *all* their power use qualifies as torching, as they lack the training necessary to develop safe reserves of Effort.

Torching is an Instant action that can be performed once per round. It provides a free point of Effort that lasts for the rest of the scene, even if this point puts a psychic over the maximum allowed. Every time the psychic torches, however, they have to roll on the torching result table below.

d6	Torching Result
1-2	Lose 1 point from your Wisdom score
3-4	Lose 1 point from your Constitution score
5	Lose 1 point from an attribute you choose
6	No harm is done by the torching

Psychics reduced below a Wisdom score of 3 go violently insane and become "feral psychics"; those reduced below scores of 3 in other attributes likewise become dead or nonviable as player characters. There is no available cure for brain damage caused by torching, and even advanced pretech technology has no generally-known remedy.

Feral psychics are exceptionally dangerous, as their form of brain damage invariably results in violent, psychotic behavior and terrifying hallucinations. Worse still, they can torch with impunity thereafter, as the MES energies have already burnt a clear path through what remains of their sanity. Feral psychics have effectively unlimited Effort with what powers they have obtained. There is no known cure for a feral psychic.

Attitudes Toward Psychics

Most worlds have a warily accepting attitude toward psionic abilities. Provided they've received appropriate training, a psychic can live and work in relative peace. They are not normally required to wear any sort of external badge or marking, and they are entitled to keep their own abilities private from anyone but the government if they so wish. They may be subject to mandatory "national service", depending on the polity, and their special abilities might be impressed by the government in cases of extreme need, but they are able to live a relatively normal, if very well-remunerated life. Ordinary men and women have only a vague understanding of psychic powers, but they understand enough to know the basic types of disciplines and the sort of effects each can produce.

Other worlds have a warmer attitude towards psychics. Those gifted with MES are elevated above the ordinary rabble, their abilities celebrated and directed toward the advantage of their communities. Such societies often have psychic ability as a prerequisite for substantial authority, and have worked precognitive visions or telepathic scans into the ordinary fabric of life. Offworld psychics tend to be treated with considerable respect on these worlds, though sometimes they're also expected to provide services or guidance they may not be equipped to give. Citizens of these worlds usually have an excellent understanding of how psychic disciplines work, in addition to understanding ways to counter them.

A few worlds have outright hostility towards psychics and their abilities. MES sufferers might be viewed as pitiable victims of a lethal affliction they can't control, but trained and capable psychics are threats to be wiped out. Their telepathic probings, cheating foresight, and impossibly elusive teleportation makes them a menace to normal human beings, and society cannot tolerate their existence. Some worlds forbid psionics out of fear of another Scream, while others do so out of misunderstandings, a desire for social stability, or local conditions that make psionic powers exceptionally dangerous. A few of these worlds have private psychic academies to train psionic myrmidons for the ruling class or deniable agents of private intrigue.

On almost all worlds, however, psychics can expect to suffer considerably harsher legal penalties than conventional criminals. Some worlds simply have no resources to jail an unwilling teleporter or mind-reading telepath, while others expect those of great gifts to have correspondingly great virtue. It's not unknown for psychics to face summary execution for crimes that would earn other malefactors a simple jail sentence.

A few worlds have ancient pretech artifacts or technologies that are capable of defeating or suppressing psychic powers. Such resources are always extremely rare, and normally only deployed to protect heads of state and similar top-level figures, along with government sites of planetary importance.

BIOPSIONICS

Biopsionic powers repair, augment, debilitate, or damage living creatures. Unless otherwise specified the biopsionicist must be able to touch a target, though clothing and armor do not interfere with the use of these abilities. Touching a willing or unsuspecting target is automatic, whereas touching a resisting target requires a normal Punch hit roll with a bonus equal to the practitioner's Biopsionics skill. Such touch effects do not inflict the normal damage of a Punch attack.

Unsurprisingly, biopsionic powers are among the most accepted psychic abilities. Even a modestly-experienced biopsion can perform miracles of healing for a community lucky enough to have their services.

System Strain

Many curative biopsionic powers add to the target's *System Strain*. System Strain is a measure of the amount of system stress, intrusive modification, and general biological distress an organism might be suffering. Psionic healing, cybernetic implants, and powerful drugs all add to a target's System Strain.

If using a power or drug on a target would make their System Strain exceed their Constitution score, the effect fails to function; their body simply cannot adapt to the changes and cannot benefit from them.

System Strain decreases automatically by one point after each night of rest, provided the organism is well-fed and not compromised by sickness or privation.

Core Technique- Psychic Succor

The adept's touch stabilizes critically-wounded organisms. More sophisticated practitioners can heal tissue injuries, though curing diseases, detoxifying poisons, and fixing congenital deformities require additional techniques. Each use of *Psychic Succor* adds one point of System Strain to the target, or two points if they were mortally wounded at the time.

Activating *Psychic Succor* requires the biopsion to Commit Effort for the day. Once used, they can continue to use it for the rest of that scene without Committing Effort again.

Level-0: The psychic's touch can automatically stabilize a mortally-wounded target as a Main Action. This power must be used on a target within six rounds of their collapse, and does not function on targets that have been decapitated or killed by Heavy weapons. It's the GM's decision as to whether a target is intact enough for this power to work.

Level-1: As level-0, and heal 1d6+1 hit points of damage. If used on a mortally-wounded target, they revive with the rolled hit points and can act normally on the next round.

Level-2: As level-1, but healing 2d6+2 hit points instead.

Level-3: As level-2, but healing 2d6+6 hit points instead.

Level-4: As level-3, but healing 3d6+8 hit points instead.

Mastered Succor	Level-1

The biopsion has developed a sophisticated mastery of their core ability, and they no longer need to Commit Effort to activate it, and may use it whenever they wish. The use of additional techniques that augment *Psychic Succor* might still require Effort to be Committed.

Organic Purification Protocols	Level-1

The biopsion's *Psychic Succor* now cures any poisons or diseases the subject may be suffering, albeit it requires Committing Effort for the day as an additional surcharge. Biowarfare organisms, exceptionally virulent diseases, or TL5 toxins may resist this curing, requiring a Wis/Biopsionics skill check at a difficulty of at least 10. Failure means that the adept cannot cure the target's disease. This technique cannot cure congenital illnesses.

Remote Repair	Level-1

Psychic Succor and other biopsionic techniques that normally require touch contact can now be applied at a distance up to 100 meters, provided the biopsion can see the target with their unaided vision. Hostile powers that normally require a hit roll will hit automatically. Each time this technique is used, Effort must be Committed for the scene.

Invincible Stand	Level-2

The biopsion has mastered techniques of emergency tissue reinforcement and system stabilization. As an Instant action, they can Commit Effort for the scene to keep themself or a target they can touch active even at zero hit points. This technique must be used once every round on the target or they collapse at the end of the round. If the target suffers hit point damage, the biopsion must Instantly Commit Effort for the scene or the target goes down immediately with a mortal wound. A Heavy weapon hit on a subject of this power or similar physical dismemberment will always kill a target, regardless of this technique.

Major Organ Restoration	Level-2

The biopsion's *Psychic Succor* can now cure congenital birth defects and regrow missing limbs and organs. It can even be used to stabilize targets that have been dropped by Heavy weapons, decapitated, or otherwise dramatically dismembered, provided it's used within one round per level of Biopsionic skill. The best that can be done for such badly-mangled targets is stabilization, after which they must rest for 24 hours before any further hit points can be healed by Biopsionics, stims, or natural rest.

Tissue Integrity Field   Level-2

The biopsion's *Psychic Succor* may now also affect all allies within ten meters of the target. Allies can decline the healing if they don't require it or don't want to take the additional System Strain. Each use of this technique requires that the biopsion Commit Effort for the day in addition to the cost of the *Psychic Succor.*

Accelerated Succor   Level-3

The biopsion's *Psychic Succor* now can be used as an On Turn power, albeit only once per round. By Committing an additional Effort for the day with each use, it can even be used as an Instant power, though it still can only be used once per round. Any surcharges for augmenting the succor apply normally, such as with *Tissue Integrity Field.*

Metamorph   Level-3

The biopsion can now shape their own or another willing target's physical form as a Main Action, transforming a touched target into any humanoid form within 50% of their own mass. Claws and other body armaments can be fashioned equivalent to Light or Medium melee weapons and innate armor equivalent to AC 13. Gills and other environmental-survival alterations are also viable at the GM's discretion, but flight is a bridge too far for this power.

A person can be impersonated down to the DNA level, provided a blood or hair sample is available. The use of this adds one System Strain point to the target that does not recover so long as the change is in effect. Applying *Metamorph* requires that the biopsion Commit Effort for as long as the change is to be maintained. If applied to a target other than the psychic, the power automatically ends if the psychic gets more than one hundred kilometers away.

Teratic Overload   Level-3

This use of biopsionics inflicts potentially-lethal damage on a touched target as a Main Action, and requires that the biopsion Commit Effort for the scene. The target suffers 1d6 damage per level of the psychic's Biopsionics skill and must make a Physical saving throw. On a failure, the damage is tripled and the target is now affected by an obvious, lethal cancer that will kill them in 1d6 months. The cancer can be treated by a TL4 hospital or ship's sick bay if managed within a month's time. If the biopsion Commits Effort for the day instead of the scene, they can control the power sufficiently to do no hit point damage and create very subtle tumors, leaving the cancer undetectable without a TL4 medical examination. Such victims probably won't even know they've been attacked by this power. Whether a success or failure, this power cannot be used on the same target more than once per scene.

Holistic Optimization Patterning   Level-4

The biopsion gains the ability to drastically augment their own or a touched ally's physical abilities as an On Turn action. This boost lasts for the rest of the scene, adds two points of System Strain to the target and gives them a +2 bonus to all Strength or Dexterity skill checks, hit rolls, and damage rolls along with 20 extra hit points. Any damage is taken off these temporary hit points first, and both the bonuses and any hit points in excess of the target's maximum are lost at the end of the scene. Each invocation of this technique requires the biopsion to Commit Effort for the day, and this power cannot be used on a given target more than once per scene.

Quintessential Reconstruction   Level-4

The biopsion becomes extremely difficult to kill, encoding their mind in a coherent pattern of MES energy coterminous with their realspace coordinates. If killed, the psychic will regenerate from the largest remaining fragment of their body over 24 hours. This process maximizes their System Strain for one week. If brought to zero hit points during this week, they die instantly and permanently. The psychic retains a vague awareness of their surroundings while "dead" and can postpone their regeneration for up to a week in order to avoid notice, but burial or entombment may result in a very short second life. Each use of this power inflicts one point of permanent attribute loss in an attribute of the biopsion's choice.

Biopsionics and Hospitals

Biopsionics is a spectacularly effective discipline for curing physical injuries and sicknesses, but its use for the latter is capped by the biopsion's available Effort. Hospitals on worlds with access to psychic academies often have several biopsions on staff, proficient with the requisite techniques and capable of quickly healing tremendous amounts of trauma injuries on short notice.

Assuming one proficient and available biopsion for every 100,000 citizens, however, the total amount of sickness-curing ability is going to be very limited, and likely reserved for the powerful and wealthy. The vanishingly few psychics who are master metapsions capable of the *Flawless Mastery* of *Organic Purification Protocols* can easily command as much as two thousand credits a day just for temporary work at a grateful hospital.

Ordinary PC biopsions who want to pick up some extra work curing sicknesses can usually find temp employment with a local medical facility for 50 credits per day per Effort point they have. Note that some patients may be *very upset* if the hospital fails to assign them the PC's limited Effort.

METAPSIONICS

Metapsionics is the rarest and most esoteric of the psychic disciplines, with few psychics having the necessary temperament or interest in developing these complex abilities. A metapsion controls psychic energy itself, molding and shaping the flows of energy that spill through the brains of those marked by MES.

Taken in isolation, metapsionics allows a psychic to increase the raw Effort available to them and become more flexible in how this Effort is used. Expert metapsions can even teach other potential psychics how to control and channel their new abilities, and the services of a trained psychic mentor command considerable sums in most systems.

Beyond this, in most stellar sectors a competent metapsion is the only practical way to protect a target from undetectable psychic assault. Without a vigilant brainguard, a head of state, interstellar celebrity, or planetary oligarch might find their minds rifled effortlessly by some undetected psychic intruder.

As a consequence, many metapsions become much more physically competent and better-trained in combat than the average psychic. The high prices they can command as brainguards attract some, though others find their clients too aggravating to endure for long.

Core Technique– Psychic Refinement

The metapsion gains improved mastery over their own powers and an innate sensitivity to the use of psionic abilities in their presence.

Level-0: The adept can visually and audibly detect the use of psychic powers. If both the source and target are visible to the metapsion, they can tell who's using the power, even if it's normally imperceptible. They gain a +2 bonus on any saving throw versus a psionic power.

Level-1: The metapsion's maximum Effort increases by an additional point.

Level-2: The adept can determine whether or not a person is a psychic or has latent psionic abilities through one round of visual inspection. Their saving throw bonus against psionic powers increases to +3.

Level-3: The metapsion's maximum Effort increases by an additional point.

Level-4: The metapsion can perform a slightly safer version of torching. Instead of rolling the torching damage die, they simply suffer 10 hit points of damage after torching is used. The damage occurs after the fueled power activates, allowing a psychic at low hit points to trigger a power before falling unconscious. This damage cannot be healed by anything but natural bed rest, though a psychic can be stabilized if this technique drops her to zero hit points.

Cloak Powers   Level-1

The metapsion can conceal their own psychic abilities from metapsionic senses. They must Commit Effort for as long as they wish to cloak their powers. While hidden, only a metapsion with equal or higher skill in Metapsionics can detect their abilities with their level-0 or level-2 *Psychic Refinement* abilities. In such cases, an opposed Wis/Metapsionics roll is made between the metapsion and the investigator. If the investigator wins, the cloak is pierced, while if the metapsion wins, the investigator's *Psychic Refinement* remains oblivious.

Mindtracing   Level-1

The metapsion can trace back the use of psionic powers they've noticed in their presence. By Committing Effort for the scene as an Instant action, they can see and hear through the senses of a user of a psychic power, gaining an intuitive awareness of their location and treating them as a visible target for purposes of their own abilities. Thus, if they see someone being affected by a telepathy power with no visible source, they can use this ability to briefly share the hidden telepath's senses. If used on a target that is teleporting, they can perceive the teleporter's view of their destination. Use on a metamorphically-shaped impostor would reveal the biopsion responsible for the change, and so forth. These shared senses last for only one round and do not interfere with the adept's other actions.

Synthetic Adaptation   Level-1

This is a particularly esoteric technique, one that requires the adept to have at least Program-0 or Fix-0 skill in order to master. With it, however, the metapsion has learned how to synergize with the quantum intelligence of a VI or True AI in order to apply Telepathy or Biopsion powers to their inanimate corpus. Only intelligent machines can be affected, as the technique requires a sentient mind to catalyze the effect.

This synergy takes much of its force from the adept. Any System Strain the powers might inflict must be paid by the adept rather than the target.

Neural Trap   Level-2

The metapsion allows a hostile psychic into their mental sanctum in order to gain a later advantage. When targeted by a hostile psionic power that allows a save, the metapsion may Commit Effort as an Instant action and voluntarily fail the saving throw, accepting the effect. The next psychic power the user targets at that assailant then allows the victim no saving throw. This technique lasts until the metapsion makes their psychic attack or reclaims their Committed Effort. A hostile psychic may be affected by only one *Neural Trap* from a given psychic at a time.

Psychic Static — Level-2

As an Instant action, the metapsion may Commit Effort for the day to negate a perceived psychic power. The psychic responsible for the effect must Commit Effort for the day as an Instant action to resist this negation, otherwise the power ends and any action used to trigger it is wasted. The PC may then Commit Effort for the day again, with each spending and counter-spending until one runs out of Effort or chooses to stop. *Psychic Static* can be applied only once per round to any particular power. The target of the *Psychic Static* automatically knows the position of the interfering metapsion, though other onlookers do not have any obvious way of identifying the metapsion.

Suspended Manifestation — Level-2

The metapsion is capable of "hanging" a psychic power in their brain, forming the energy patterns and then suspending them in a self-sustaining loop until it's time to trigger their release. The psychic must Commit Effort for the day to hang a power, along with the Effort normally necessary to trigger it. None of this Effort can be recovered until the power is expended, after which it recovers at its usual speed. Activating the power is an Instant action, or an On Turn action if it allows the target a saving throw of some kind. Only one ability can be held suspended at any one time.

Concert of Minds — Level-3

As an On Turn action, the metapsion may Commit Effort and form a psychic gestalt with one or more willing psychics within three meters, including up to one other psychic per Metapsion skill level. This gestalt persists as long as the Effort remains committed, regardless of the subsequent distance between psychics. On their own turn, any member of the gestalt may use any power or technique known by any other member, using the other member's skill levels as necessary and paying any Effort cost from their own pool. This gestalt shares only psychic power, not thoughts or senses. At the end of each round in which one or more members have used some other member's powers or abilities on their turn of action, the metapsion must Commit Effort for the scene or the gestalt drops and cannot be re-established for the rest of the scene.

Metadimensional Friction — Level-3

As a Main Action, the metapsion Commits Effort for the scene to create localized MES turbulence around a visible target psychic within 200 meters. Each time the target Commits Effort or an NPC initiates a psychic power, they suffer 1d8 damage per Metapsionics skill level of the adept. Each time the target suffers the damage they can attempt a Mental saving throw to throw off the effect. It lasts no longer than the rest of the scene at most. Only one application of this friction can affect a target at once.

Psychic Tutelage — Level-3

An expert metapsion can modulate and temper the metadimensional energy that surges through an untrained psychic's mind. This "safety buffer" allows the novice to experiment with their abilities and gradually develop the control they need to channel their powers without causing permanent brain damage. Without this technique, it is virtually impossible to turn a normal with untapped potential into a trained psychic.

An adept with Metapsionics-3 skill can train up to ten pupils at once. One with Metapsionics-4 can train up to one hundred. It requires only a week to train a potential in ways to avoid accidentally triggering their powers and suffering the damage that follows, but actually teaching them to use their powers effectively takes anywhere from one to four years depending on their natural aptitude and the availability of other psychics willing to assist the metapsion in the training process.

Surge Momentum — Level-3

The metapsion's abilities can be reinforced with a degree of metadimensional energy that would cause substantial damage to a less adept mind. Particularly weak or unprepared minds might be completely crushed by the force of the adept's augmented will.

The adept must Commit Effort for the day when using a power that normally grants its target a saving throw. The target then suffers a penalty equal to the adept's Metapsionics skill on any saving throw normally granted by the power. If the target's hit die total or character level is less than half the adept's level, rounded up, they automatically fail their saving throw.

Flawless Mastery — Level-4

When this technique is learned, the adept may choose one technique from any discipline they know. That technique no longer requires Effort to be Committed in any way, though other techniques that augment it may still exact a cost. Mastered *Psychic Static*, for example, can expend an effectively unlimited amount of effort. If the technique has a duration based on Committed Effort then it lasts until the metapsion chooses to end it or is killed. This technique may only be mastered once, though the perfected technique may be changed with a month of meditation and practice.

Impervious Pavis of Will — Level-4

When this technique is learned, the metapsion must choose a discipline. They then become entirely immune to unwanted powers from that discipline; they and their abilities are simply not valid targets for purposes of that discipline's powers unless the adept chooses to be affected. By Committing Effort for the day as an Instant action, they can extend this immunity for a scene to all allies within 50 meters. This technique may be learned more than once, and any shared protection applies to all disciplines negated by the adept.

PRECOGNITION

The discipline of Precognition relates to sensing the cascade of future events and reading the achronal chaos of the metadimensional energy that ripples in the psychic's brain. Readings provided by Precognition tend to be focused on the psychic and what they find interesting or important. Matters irrelevant to the seer are unlikely to be noticed, even if they are of critical importance to those involved. More advanced techniques of Precognition can even influence the future, adjusting probabilities by changing or pruning certain metadimensional currents.

The future is not carved in stone. Oracles can be falsified by present action or sheer random chance. When a reading is ambiguous or the future seems uncertain, the GM should simply give the most probable reading for the power as their own judgment recommends.

Precognition is strictly future-oriented. For assorted complex reasons, the past is vastly more difficult to observe with psionic powers, and postcognition is generally considered impossible.

Precogs are generally viewed with considerable unease by the general population. They're not as widely feared as telepaths, but the uncanny powers of foresight they possess can make them difficult company. They can earn very substantial sums of money from those desperate to learn of some future outcome, but the specificity of their visions makes it difficult for them to perceive large-scale future events.

A precog can see a city in flames or a stock market board showing a crash, but even the most powerful can't tell if the conflagration is just a limited local disaster or a planet-consuming catastrophe, nor can they tell if the crash is a temporary pullback in the market or a harbinger of global depression. Many precogs have difficulty dealing with this ambiguity, and some become fixed on personal interpretations of their visions that may or may not play out as they have seen.

Bending the Future

Everything a precog sees is provisional. Some outcomes may be so likely as to be nigh-certain, but nothing is truly, absolutely destined. Vigorous activity or simple unexpected chance can skew future outcomes.

This effect is one reason why choirs of precogs have not been more widely exploited by planetary governments. The clearer and more detailed a future outcome becomes, the simpler it is to find the crucial events that can be changed to derail it. The more intense the precognitive focus toward a future event, the more fluid it becomes as fresh readings take into account the countermoves that others have made. Rumors persist of ancient pretech augmentation hardware that can "fix" future outcomes, but most governments lack the resources to even consider such extravagance.

Core Technique- Oracle

The precog gains a progressively-greater intuitive understanding of their own future. Each invocation of the *Oracle* technique requires a Main Action and that the user Commit Effort for the day. Once triggered, the adept gets a single brief vision related to the question about the future that they're asking. This vision is always from their own personal vantage point and never reveals more than a minute of insight, though the psychic processes it almost instantly as part of the power's use.

The GM should answer the question as if the PC were about to perform the act or engage in the investigation pertinent to the question. Thus, if the adept wanted to know what pressing a button would do and the GM knows that it's connected to a bomb, the psychic might get a vision of sudden death. If the bomb were on a time delay that extended past the time horizon of the oracle, however, the psychic might just see a vision of herself waiting patiently, with nothing happening.

Visions should relate to actions and events, not abstract facts. *Oracle* couldn't tell a psychic who the crime boss of a slum neighborhood is, for example, but it could give a vision of the psychic caught in the next bloody riot and the gang boss who's directing the myriad thugs. It couldn't reveal the name of a security guard, but it could show the seer the impending moment that the next guard patrol will enter the area the psychic plans to infiltrate. Only the most important or significant information is conveyed by the technique, even if multiple events of interest might transpire during the time horizon.

Oracle can only be used on a given question or topic once until the situation changes substantially or a week goes by. The maximum time horizon of the *Oracle* increases as the adept's Precognition skill improves.

Level-0: One minute into the future.
Level-1: One day into the future.
Level-2: One week into the future.
Level-3: Three months into the future.
Level-4: One year into the future.

Intuitive Response	Level-1

As an Instant action, the precog can Commit Effort for the scene just before they roll initiative. Their initiative score is treated as one better than anyone else's involved in the scene. If another participant has this power or some other ability that grants automatic initiative success, roll initiative normally to determine which of them goes first, and then the rest of the combatants act. This ability cannot be used if the precog has been surprised.

Sense the Need   Level-1

At some point in the recent past, the psychic had a vague but intense premonition that a particular object would be needed. By triggering this power as an Instant action and Committing Effort for the day, the psychic can retroactively declare that they brought along any one object that they could have reasonably acquired and carried to this point. This object must be plausible given recent events; if the psychic has just been strip-searched, very few objects could reasonably have been kept, while a psychic who's just passed through a weapons check couldn't still have a loaded laser pistol.

Terminal Reflection   Level-1

The psychic's *Oracle* power automatically triggers as an Instant action moments before some unexpected danger or ambush, giving the precog a brief vision of the impending hazard. This warning comes just in time to avoid springing a trap or to negate combat surprise for the precog and their companions. If the psychic does not immediately Commit Effort for the day, this sense goes numb and this technique cannot be used for the rest of the day.

Alternate Outcome   Level-2

The precog can sense impending failure and attempt to salvage the action. As an Instant action, the precog can target a visible ally or their own self and Commit Effort for the day to allow the target to reroll a failed hit roll, saving throw, or skill check, taking the better of the two rolls. This power disrupts delicate lines of probability, however, and cannot be used on any given target more than once a day.

Destiny's Shield   Level-2

The precog observes an incoming injury and tries to find an alternate future in which the attack misses. As an Instant action, the precog can Commit Effort for the day to force an attacker to reroll a successful hit roll. This technique only works on attacks against the psychic's person, not against attacks aimed at a vehicle they're occupying or harm that doesn't involve an attack roll. If the rerolled attack still hits, however, the damage done is maximized. This technique can be used only once per incoming attack.

Anguished Vision   Level-3

The adept's precognition is sophisticated enough to clearly foresee several seconds into the future. As an Instant action, the psychic may Commit Effort for the day and declare that what they have just done or seen is a vision of the immediate future. Time rolls back to the start of the initiative count in a combat turn, or six seconds earlier if out of combat. Nothing that happened during that round has really come to pass yet.

This ability is tremendously draining, and can be used only once per day.

Cursed Luck   Level-3

Negative probabilities are woven tightly around a visible animate target, including robots and animals but not including vehicles. Triggering this technique requires a Main Action and Committing Effort for the scene. The target must roll any attack rolls, damage rolls, skill checks, and saving throws twice and take the worst result each time. Any attempts to hit the target or damage dice rolled against it may be rolled twice and the better result taken. Intelligent targets can make a Mental saving throw at the end of each round to throw off the effect; this save is not penalized by the power.

Forced Outcome   Level-3

Through careful manipulation of probability, the adept can influence random physical events in their vicinity. Triggering this technique requires a Main Action and Committing Effort for the scene. Any simple, random mechanical outcome can be completely controlled for the scene, such as a roulette wheel or the order of a deck of shuffled cards. Any other physical event in the area that seems not-entirely-implausible may be made to occur by this technique, provided it doesn't involve more than a few objects and doesn't require human involvement. The GM decides what random events are and are not adequately possible. Anything more than one unusual coincidence or chance per scene is likely impossible to produce.

Not My Time   Level-4

The precog instinctively wrenches the lines of probability away from futures in which they are about to die. This technique triggers automatically when the precog is about to die, provided they can Commit Effort for the day. On triggering, random events somehow conspire to leave the precog alive, even if outrageous coincidences and ridiculous luck are required. Provided the precog doesn't intentionally thrust herself back into danger, their life is secured for the next few minutes at least, though there's no guarantee the psychic will survive intact in mind or body. This technique can trigger no more often than once per week.

Prophecy   Level-4

The power of the precog extends to dictating future events that directly involve them. As a Main Action, the precognitive PC may make one prediction involving their personal future or future condition within the next year. Provided they take reasonable measures to enable this prediction, that no direct resistance is mounted by an enemy, and that the prediction doesn't seem highly improbable to the GM, it will come to pass. The adept must Commit Effort when this power is used, and the Effort remains Committed until the prophecy comes to pass or is abandoned. This ability cannot be used more than once per month and only one prophecy may be active at a time.

TELEKINESIS

Telekinetic abilities are something of a mixed blessing to those psychics who have them. While they are among the least feared and distrusted of psychic powers, they also produce effects that are not nearly so widely-demanded as biopsionic healing or metapsionic brainguarding. A telekinetic must be canny and creative to get the most from their abilities.

Telekinetic powers are strong but somewhat imprecise. The force they generate is usually invisible, though a psychic can allow a visible glow if desired, and the source of the telekinetic manipulation is not obvious to ordinary senses. Objects being held or worn by a mobile creature cannot normally be manipulated by telekinesis, nor can unwilling intelligent targets be directly manipulated. Machines, including non-sentient robots, can be affected as any other inanimate object, however. The psychic cannot use this discipline to lift their own person without special techniques.

Some techniques refer to a "physical attack" or "physical damage". This means a straightforward kinetic impact: bullets, punches, collisions, falls, compressions, or the like. Energy attacks are not included.

Core Technique- Telekinetic Manipulation

The adept may Commit Effort for the scene as a Main Action to direct telekinetic force toward an object or person within unaided visual range or with tactile contact with the psychic. This force isn't responsive enough to be effective as a weapon without further refinement of technique, and cannot cause damage to living or mobile targets. If used to crush or harm immobile unliving objects, it does 1d6 damage per skill level of the psychic per round of focus. Objects move at 20 meters per round when moved telekinetically.

A telekinetic force can be maintained over multiple rounds without expending further actions, such as holding a metal platform in place under a group of allies, but the psychic cannot again activate this technique on a second object until they release the first.

Level-0: The psychic can exert force as if with one hand and their own strength.

Level-1: The psychic can manipulate objects as if with both hands and can lift up to two hundred kilograms with this ability.

Level-2: The psychic can lift or manipulate up to four hundred kilograms and smash a human-sized hole in structures of light wooden construction or lighter as a Main Action.

Level-3: The psychic can manipulate up to eight hundred kilograms and can affect as many individual objects at once as they have Telekinesis skill levels.

Level-4: The psychic can manipulate up to a metric ton and can smash human-sized holes in TL4-constructed exterior walls, light stone walls, or similar barriers as a Main Action.

Kinetic Transversal   Level-1

The adept may Commit Effort as an On Turn action to move freely over vertical or overhanging surfaces as if they were flat ground, crossing any solid surface strong enough to bear five kilos of weight. They can also move over liquids at their full movement rate. This movement ability lasts as long as the Effort is committed.

Pressure Field   Level-1

As an Instant action, the adept can manifest a protective force skin around their person equivalent to a vacc suit, maintaining pressure and temperature even in hard vacuum conditions. They can ignore temperatures at a range of plus or minus 100 degrees Celsius and automatically pressurize thin atmospheres for breathability, or filter particulates or airborne toxins. By Committing Effort for the scene, they can shield up to six comrades. This lasts until the user reclaims the Effort.

Telekinetic Armory   Level-1

The adept may Commit Effort as an On Turn action to create both weapons and armor out of telekinetic force. These weapons are treated as tech level 4 and act as a rifle or any advanced melee weapon. Attack rolls can use either Dexterity, Wisdom, or Constitution modifiers, and may use the Telekinesis skill as the combat skill.

Armor may be created as part of this power, granting the psychic a base Armor Class equal to 15 plus their Telekinesis skill level. This armor does not stack with conventional armor, but Dexterity or shields modify it as usual. The gear continues to exist as long as the psychic chooses to leave the Effort committed, and they may be invisible or visible at the psychic's discretion.

Impact Sump   Level-2

The adept may Commit Effort for the day as an Instant action to negate a single instance of physical damage. This ability is too taxing to be used more than once per day, but as an Instant action, it can be triggered even after damage is rolled.

Slip Field   Level-2

As a Main Action, the psychic Commits Effort for the scene and decreases the friction at a point in sight. Up to ten meters in diameter is affected, making it difficult for enemies to move from their current position. All chosen targets must make an Evasion saving throw or fall prone, becoming unable to stand up or move more than a meter per Move action taken. If used against a ground vehicle, the driver must make a Dex/Pilot skill check at a difficulty of 8 plus the adept's Telekinesis skill or go out of control, driving directly forward for a round and crashing into any obstacles. Targets who save are immune to this technique for the scene.

Telekinetic Expertise	Level-2

The adept has become familiar enough with the manipulation of telekinetic force that they may now use *Telekinetic Manipulation* without Committing Effort.

Thermokinesis	Level-2

Telekinetic power involves kinetic energy, but a sufficiently sophisticated grip on motion can be used to agitate the molecules of an inanimate object and cause it to melt or burst into flame. Similar focus can chill or freeze such substances.

Applying *Thermokinesis* to a target requires that the adept Commit Effort for the scene as a Main Action. *Thermokinesis* cannot affect objects larger than the adept could lift with their *Telekinetic Manipulation.*

As with other telekinetic powers, this ability does not work on objects being held or used by intelligent creatures. Non-sentient robots or other objects with hit points take 1d12 damage per level of Telekinesis skill each time this technique is applied to them.

Tangible Force Construct	Level-3

Once per turn, as an On Turn action, the psychic can Commit Effort for the scene to create a telekinetic force construct at a visible point, provided it can fit within a three-meter cube. The force construct can be shaped in any way the psychic wishes, and can remain fixed in its location without external supports if desired. It is as sturdy as a TL4 construction and may be visible or invisible at the adept's choice. The construct lasts until the end of the scene, until the psychic dispels it, or until it is smashed with 20 points of damage against AC 15.

Telekinetic Ram	Level-3

As a Main Action, the psychic can Commit Effort for the scene to target a tremendous, uncontrolled burst of force at a single target within sight. This burst requires some time to detonate, however, and will only go off at the end of the next round. Targets of this technique are aware of an oppressive, electrical tingling in the air and are apt to instinctively move; this technique is thus generally useless against any target that is not entirely immobile, as any movement of a chosen target disrupts the ram. Once the ram detonates, however, it is sufficient to destroy any immobile civilian vehicle, create a five-meter hole in anything short of hardened military fortifications, or inflict 5d12 damage on anything else as if it were struck by a Heavy weapon.

Reactive Telekinesis	Level-3

As an Instant action, the psychic can Commit Effort for the scene whenever an assailant misses them with a physical attack. The attack is then reflected back against the assailant, who must reroll the attack against their own person twice. If either roll hits, the assailant suffers damage from their own attack. If both rolls hit, the damage is the maximum possible.

Force Puppetry	Level-4

As a Main Action, the telekinetic can Commit Effort for the day to suborn a visible target's mobility, whether robotic, vehicular, or human, provided it's no larger than a ground car. A sapient victim can make a Mental saving throw to resist the psychic onslaught; on a failure, they lose control of their physical actions. If not piloted by the telekinetic, the target remains motionless or continues on its current direction of travel. If the telekinetic spends a Main Action to control them, they can be made to perform any physical action that is not directly suicidal, using the psychic's skill levels and hit bonus for any attacks or skill checks they might make. The puppetry lasts until the end of the scene, until the target leaves the psychic's sight, or until a sapient target believes that their action or inaction is about to get them killed. The psychic's control is fine enough to achieve even very delicate physical motions, but it is not good enough to control the target's speech, though it can keep them silent.

Telekinetic Flight	Level-4

As an Instant action, the telekinetic can Commit Effort to begin flying, and may extend this effect to up to a half-dozen unresisting, human-sized allies within 30 meters. While flying, the psychic can move at twice their normal movement rate in any direction They can plunge earthward at up to terminal velocity without harm, and even orbital insertions are survivable with this power if a vacc suit is available or the *Pressure Field* technique is used. Allies must end their turns within 30 meters of the psychic to maintain this flight but control their own motion. As an Instant, this power may be triggered in time to negate falling damage. The flight lasts for as long as the Effort remains Committed.

Bot Scrapping

While telekinetic powers can't normally be used to harm an intelligent target without a special technique, non-sentient robots have no such protection. A VI or True AI can create enough metadimensional static with their cognition to prevent harm from telekinesis, but ordinary guard bots, servitor droids, or warbots are extremely susceptible to telekinetic destruction.

In most cases, this is as simple a matter as telekinetically lifting and then dropping the bot. A psychic can destroy as many such bots in a round as they can telekinetically manipulate; one for most, or three or four at higher skill levels. This also assumes the psychic can lift the bot's weight.

Some military bots may be resilient enough to handle this battering, suffering 1d10 damage per level of Telekinesis skill the psychic possesses. Most have no such chance of survival.

TELEPATHY

There is no psychic power more threatening and disturbing to normal humanity than that of telepathy. The prospect of having one's innermost thoughts and secrets pried out by imperceptible means is deeply troubling to most men and women, and telepaths are often given a wide berth by others simply for fear of what private thoughts they might sift out.

Some worlds that are otherwise accepting of psychic powers go so far as to ban known telepaths and forbid the teaching of the discipline within their territory. Even those few that do, however, can rarely resist the urge to maintain some "government-approved" telepathic training program for candidates selected for their political trustworthiness or powerful backers. The benefits of having an imperceptible mental spy are too great for most states to forgo.

Most worlds do not ban telepaths. On these planets, the sheer rarity of psychic powers and the limited chance that any one individual might be unlawfully scanned outweigh any fear of unchecked telepathic intrusion. Telepathic testimony is almost never accepted in a court of law, however, outside of the most psychic-centered societies.

Almost all worlds forbid the uninvited use of telepathic powers on another person. The crime is very difficult to prove, but usually comes with harsh penalties. Open admission of an illicit scan is generally considered proof, so PC telepaths are advised to be discreet.

Telepathic shielding devices and substances do exist in very limited amounts. Even during the height of the Mandate, such resources were never abundant. Nowadays, only heads of state and similar elite personages might expect to shelter behind psionics-proof walls or have devices to alert them to telepathic tampering. Even then, many worlds will simply lack the pretech artifacts to erect such protection, even for their most important members.

Using and Detecting Telepathy

Telepathy operates at a very basic level of mental contact, and is not impeded by a lack of shared languages. While the basic forms of telepathy only function on intelligent creatures, aliens or transhumans with human-like cognition can be affected. VIs, True AIs, and other non-biological intelligences are not normally subject to Telepathy techniques.

Telepathy is a subtle ability, and targets of its technique will not normally be aware of it. Only those with metapsionic expertise or Telepathy-0 skill or greater can tell when they've been targeted by Telepathy. Others may suspect this influence, particularly if they're aware of the existence of psychics and have just done something utterly inexplicable to their own reasoning. Certain extremely rare TL5 devices can also alert a target to the presence of telepathic tampering.

Core Technique– Telepathic Contact

The telepath can obtain a progressively-deeper understanding of a sentient target's thoughts. The target must be visible or otherwise perceptible to the telepath's unaided senses. Opening a contact requires the telepath to Commit Effort for the day as a Main Action, and the contact lasts for a scene at most unless augmented by other techniques.

The depth of contact that can be made depends on the psychic's Telepathy skill. A single contact can use any or all of the effects permitted to a telepath of the user's skill level. Basic forms of contact do not allow for a saving throw, though more advanced probes allow the target to make a Mental saving throw to resist. On a successful save, no form of this technique that allows a save can be used on them for the rest of the scene.

Level-0: Observe emotional states in a target. Intense emotions provide a single word or image related to the focus of the feelings.

Level-1: A shallow gestalt with the target's language centers allows the telepath to understand any form of communication made by the target. If the psychic has the requisite body parts to speak the target's language, they can communicate with it in turn.

Level-2: The psychic's awareness of the target's surface cognition is sophisticated enough to read their current thoughts, though it can't pick up memories or non-obvious connections. The target gets a Mental saving throw to resist this.

Level-3: The psychic can drill down into the target's memory to get a one or two-sentence answer to any single question they ask, or receive a single answering vision of the target's recollections. The target can attempt a Mental saving throw to resist this power, and whether or not it succeeds the contact is automatically ended. It can be re-established, but only by activating this technique again.

Level-4: The psychic instantly gets a full and nuanced awareness of everything the target can remember about a particular topic. The target can attempt a Mental saving throw to resist this power, and whether or not it succeeds the contact is automatically ended afterwards. It can be re-established, but only by activating this technique again.

Facile Mind	Level-1

The telepath is practiced at opening a *Telepathic Contact*, and need only Commit Effort for the scene to do so, instead of Committing Effort for the day. If contacting an ally who has practiced the process with the psychic for at least a week, opening the contact normally requires no Effort at all. In both cases, if the telepath chooses to Commit Effort for the day, they can open a *Telepathic Contact* as an Instant action rather than a Main Action.

Transmit Thought   Level-1

The telepath can send thoughts and images over a *Telepathic Contact*, allowing two-way communication with a willing target as an Instant action when desired.

Far Thought   Level-2

Once a telepath has made a *Telepathic Contact* with a target, they can thereafter activate the technique whenever that target is within 100 kilometers, whether or not the psychic knows where they are. At Telepathy-3 the range increases to 1,000 kilometers, and at Telepathy-4 it extends over an entire planet and up to orbital distances. This distant connection is tenuous, however, and the psychic cannot use any technique through it that would allow the target a saving throw to resist.

Suppress Cognition   Level-2

Through intense focus, the telepath can make the target of a *Telepathic Contact* simply not think about something, whether that's the presence of the telepath, the possibility of committing violence, the absence of important documentation, or any other single potential action or one specific person. This technique requires the psychic to Commit Effort for the scene as a Main Action. The target gets a Mental saving throw to resist this power and become immune to it for the scene. If failed, the thought remains unthinkable for the rest of the scene unless the target perceives physical danger or a traumatic threat to something they prize highly. In that case, the block instantly dissolves and cannot be re-established during the scene. Once the effect ends, the target will remain oblivious to their temporary fugue unless it is brought to their attention somehow.

Reflex Response   Level-3

As a Main Action, the telepath can Commit Effort for the day to force a sudden, irrational impulse into the target of a *Telepathic Contact*. The target may make a Mental saving throw to resist; on a failure, they will use their next available action to carry out the impulse to the best of their ability. This impulse cannot be self-injurious or harmful to a loved one, but it can be foolish, reckless, or harmful to others. The target may not understand why they have done the action, but will usually attempt to rationalize it as their choice.

Telepathic Assault   Level-3

The telepath Commits Effort for the day as a Main Action to force a wave of metadimensional energy through the brain of a *Telepathic Contact* target. The assault does 6d6 damage, or 9d6 damage if the telepath has Telepathy-4 skill. The target may make a Mental saving throw to halve the damage. This assault cannot kill a target, but can knock them unconscious for an hour if they're reduced to zero hit points, after which they wake up with one hit point. A victim cannot be targeted by an assault more than once per scene.

Telepathic Control

Telepathy is not a discipline well-suited to direct mental control of other beings. While a telepath can impart urges and thoughts to a target, they lack the tools to assume direct control of a victim's physical actions. The best they can do is implant ideas in the target's head and try to hijack the short-term cognition of the victim.

Persistent legends speak of more direct disciplines practiced during the Mandate's heyday. These arts supposedly allowed a psychic to take direct control of a subject's physical form, manipulating it with effortless ease to perform whatever acts the psychic desired. Unlike telepathy, however, these disciplines were unable to touch the cognitive centers of a target or read their mental activity. If any such disciplines ever existed, their possessors are doubtless very discreet with them.

Memory Editing   Level-4

The telepath can make simple edits to the memory of a target currently linked by a *Telepathic Contact*. Events of no more than 24 hours in duration can be erased from memory, conversations can be created or changed, new events can be added to a day, or other similar alterations made. The psychic can make these changes as a Main Action by Committing Effort for the day. If the psychic doesn't have a good understanding of the memories they're changing, such as might be granted by the level-4 degree of *Telepathic Contact*, the edits they make may not fit well. The target gets a Mental saving throw to resist editing for the rest of the scene, but on a failure, they will not notice the changed memories until given a reason to recollect them.

Unity of Thought   Level-4

The telepath becomes exceptionally skilled at weaving together multiple allied minds. When they establish a *Telepathic Contact* with a willing ally they may bind up to six willing participants into the same contact without further Effort. This multi-person link is relatively shallow, and allows only the Instant exchange of thoughts, images, and sensory impressions. While under its effect, every participant knows the exact location and condition of all others, and uses the best Initiative roll of any of them if combat commences. At the table, up to five minutes of discussion and coordination among the players can be arranged each round without incurring delays for the PCs. Every combat turn, one gestalt member of the psychic's choice gets an extra round of action to represent the benefits of the perfect coordination of the group. The psychic cannot gain this bonus round himself. The telepathic link lasts as long as the psychic initiates no new *Telepathic Contact*, and it has a range that extends to any point within a solar system.

TELEPORTATION

Teleporters do not provoke the kind of persistent worry that telepaths induce in most normals, but their particular gifts cause a more physical concern. An experienced teleporter can reach or see into any location they've ever been; security officials don't just need to make sure that no teleporter is in a restricted area, but that they've never been there before at any time. Access into the most important areas is carefully filtered to ensure that no outside teleporter ever gets a chance to see a location they might suddenly appear in several months or years later.

Most governments with access to trained psychics will have at least a few expert teleporters on hand to provide untraceable communications links and superlative infiltrators. Despite their many advantages in intrusion and evasion, however, a teleporter needs the skills to actually get *into* a restricted area before they can take advantage of a quick escape. It's not unknown for teleporters to be paired with more conventional burglars who supply the security-defeating skills and information-gathering talents that a professional psychic doesn't always have the time to cultivate.

The criminal applications of teleportation are obvious, as is its utility in surveillance. Some bold teleporters make excellent money as thieves or spies for whatever employer can afford their exorbitant fees. The price for their services is invariably high, not only due to the rarity of experienced teleporters, but due to the consequences of arrest.

As tempting as the criminal path can be for many teleporters, most are dissuaded by the penalties. Very few worlds have prison facilities that are in any way designed to cope with teleporting inmates. On advanced worlds, this means that criminal teleporters are often implanted with surgical bombs keyed to explode if they leave a restricted area or stop receiving a specific signal from a government transmitter. On primitive worlds, this means that criminal teleporters face summary execution for any crime more serious than a misdemeanor.

Some devices can be used to defeat teleporters, creating a curdled patch of metadimensional space that is impossible to enter or leave via teleportation. These ancient pretech artifacts are invariably ridiculously expensive in the unlikely case that a planetary government allows them to remain in private hands at all, and only the most important figures of an advanced world will have any access to teleporter-sealed "safe zones". Many worlds have no access to such devices at all, with even princes and potentates left to keep a wary eye on teleporting psychics. A metapsion brainguard is the usual low-tech answer to psychic threats, if such an expensive mercenary can be hired on the world.

Core Technique– Personal Apportation

The teleporter can translocate to another location they have either occupied before or can see with their unaided vision. Locations are fixed in reference to the nearest major gravity well. For example, it is not possible to teleport to the cockpit of a distant moving vehicle they once occupied, but they can teleport to another point on a planet's surface even though the planet has since moved far through the stellar void.

The core technique allows the teleporter to move himself and any mass he is able to carry with his own natural strength. Resisting targets cannot be carried along, and unresisting ones must be touched. A teleporter can leave any clothing, shackles, adhesions, or other matter behind when he teleports, but he cannot leave behind matter that has been inserted into his body, such as cybernetics or shrapnel. Matter cannot be partially left behind.

A teleporter will instinctively abort any apportation that would leave him embedded in a solid object or in an environment of imminent physical harm. Any Committed Effort on such aborted jumps is wasted, as is any action spent triggering the power.

The maximum range of *Personal Apportation* depends on the teleporter's skill level. Teleporting with *Personal Apportation* counts as a Main Action and requires that the psychic Commit Effort for the scene.

Level-0: The psychic can teleport up to 10 meters.
Level-1: The psychic can teleport up to 100 meters.
Level-2: The psychic can teleport up to 10 kilometers.
Level-3: The psychic can teleport up to 1,000 kilometers.
Level-4: The psychic can teleport anywhere on a planet's surface or near orbit.

Proficient Apportation	Level-1

Personal Apportation now counts as a Move action, though it still can be performed only once per round. Apportations of 10 meters or less no longer require Effort to be Committed, though any augments to the technique must still be paid for normally.

Spatial Awareness	Level-1

The psychic may Commit Effort as an On Turn action to gain an intuitive 360-degree awareness of their physical surroundings. The sense is roughly equivalent to sight out to 100 meters, though it cannot read text or distinguish colors. It is blocked by solid objects but is unimpeded by darkness, mist, blinding light, holograms, or optical illusions. The sense lasts as long as the Effort remains Committed to the technique.

Burdened Apportation   Level-2

The psychic can carry willing companions with them when using *Personal Apportation*. Up to three human-sized companions and their man-portable gear may be carried per skill level in Teleportation. Allies must be within 3 meters of the teleporter to be carried along. Ordinary inert matter cannot be carried along unless the psychic is touching it or it's being carried by an ally affected by this power. If carrying inert mass, up to two hundred kilos of objects can be carried per skill level. Using this technique increases the Effort cost of *Personal Apportation*, requiring that an extra point of Effort be Committed for the day.

Perceptive Dislocation   Level-2

Commit Effort for the day to sense any location the psychic could teleport to. The psychic perceives the location as if there, lasting for fifteen minutes at most.

Spatial Synchrony Mandala   Level-2

The psychic imprints a particular object or person on their psionic awareness. Provided the object is relatively intact and in range of their *Personal Apportation*, the psychic always knows its exact location and can teleport to within three meters of it with *Personal Apportation* even if it has moved from its original location. Imprinting an object requires an hour's meditation with it, and only one object can be imprinted at a time. If imprinting on a person, the target must be willing and cooperative to make the imprint. Objects must be at least one kilogram in mass to be effectively tracked.

Effortless Apportation   Level-3

The psychic does not need to Commit Effort to use *Personal Apportation*. If the technique is augmented by other techniques that come with their own extra or increased cost, however, this extra cost must still be paid.

Stutterjump   Level-3

The psychic can instinctively micro-teleport away from incoming danger. As an On Turn action they may Commit Effort to begin shifting their spatial position away from attacks, gaining a base Armor Class of 20 so long as the Effort remains Committed. This Armor Class is not modified by armor, shields, or Dexterity modifiers, and the micro-jumps do not significantly move the psychic from their current location. While *Stutterjump* is active, as an Instant action the adept may Commit Effort for the day to negate a successful hit by a weapon attack, even after damage has been rolled. This reflexive defensive jump may be used only once per day and leaves the psychic just outside the radius of explosions or other area-effect attacks.

Rift Reduplication   Level-3

Expert teleporters can be infuriatingly difficult to pin down. By Committing an additional Effort for the day as an Instant action, the adept can use *Personal Apportation* as an On Turn action, even if they've already used it once this round. Apporting itself costs whatever Effort it normally would, in addition to any techniques that augment it. *Rift Reduplication* can only be triggered once per round.

If the adept uses their powers to teleport into a location, perform an action, and then use *Rift Reduplication* to teleport back out, onlookers in the area will not have time to react to their action or attack the adept unless the onlookers have held their action explicitly to counter the psychic. Enemies who hold their action this way waste it entirely if the psychic does not give them a chance to attack or otherwise interfere. Such a lightning strike may be surprising to onlookers, but it doesn't allow enough preparation time to count as an Execution Attack as described on page 52.

Deep Intrusion   Level-4

The adept can use *Personal Apportation* to blind-teleport into a building, structure, vehicle, or spaceship visible to them, including spaceships close enough to engage in conventional ship-to-ship combat. They intuitively seek out a space large enough to hold them and without immediate environmental hazards, but cannot control their precise destination. Using this technique in conjunction with *Personal Apportation* is very draining to the psychic, and requires that they Commit an additional Effort point for the day.

Offensive Apportation   Level-4

The psychic can use *Personal Apportation* as a Main Action to teleport an unwilling target, provided the user can make physical contact with them. Contact with an unsuspecting or incapacitated target is automatic, while touching a resisting enemy requires a Punch hit roll with a bonus equal to the psychic's Teleportation skill. If the psychic does not use the *Burdened Apportation* technique then only the target is teleported; otherwise the user may go along with them. The psychic cannot teleport a target to any location they could not teleport to, including locations of imminent environmental danger, such as high in the air, into a windowless tomb, or into the middle of a sea. A conscious, resisting target can make a Mental saving throw to forcibly abort the teleportation, rolling at a penalty equal to the psychic's Teleportation skill. Use of this technique adds to the cost of *Personal Apportation*, requiring the psychic Commit an additional point of Effort for the day whether the touch hits or not.

SYSTEMS

Even the most capable interstellar adventurer sometimes encounters a situation where the outcome is by no means certain. When an alien assassin thrusts a blade at an unguarded back, or the ship threatens to career out of control in a gas giant's upper atmosphere, or when the hero has been critically injured and lies bleeding on a cavern floor, how do you tell what's going to happen next? This chapter provides you with certain basic systems you can use to resolve these questions.

The Basic Mechanics

The three primary systems that most heroes are going to interact with most often are skill checks, saving throws, and combat rounds. Every player and GM ought to read those sections and understand the basic mechanisms involved, because they're going to be seeing a lot of them in their star-faring adventures.

Skill checks tell you whether or not your hero succeeds at a particular feat of expertise or natural competence. Whenever it's uncertain whether or not your hero can manage a feat, your GM might call for a skill check. Failure at the roll means that your hero either botched it outright, succeeded in a way that was singularly unhelpful, or was foiled by some unexpected outside influence.

Saving throws tell you whether or not your hero evades some immediate peril. If you need to know whether or not the alien insect's poison overwhelms you, or if you can dive away from the grenade before it explodes, or if the villainous psychic's mind-reading powers can pry out your secrets, you make a saving throw. The GM will tell you when you should be making one.

Combat rounds tell you whether or not your hero has shot, stabbed, exploded, maimed, punched, or otherwise ventilated their foe, and whether the foe has managed to do the same to them. Combat in *Stars Without Number* is very dangerous, especially to novice adventurers and ordinary NPCs. One thug with a pistol and a steady hand can kill most newly-minted heroes with a single well-aimed bullet, and most normal men and women have even less of a chance against lethal violence. Warrior heroes and others with a specific talent for combat are more durable against these martial perils, but even they have to respect the threat of a mob of angry spearmen or a sniper rifle's crosshairs.

The combat section is a particularly important read if your own gaming history has lent itself more towards games that have very sturdy protagonists or narratively-shielded player characters. A first-level Warrior in *Stars Without Number* is lethally dangerous to an ordinary street thug or faceless enemy minion, but three or four mooks with street-built slugthrowers are likely to put that budding hero down hard. More experienced PCs gain a larger margin of safety as they gain more hit points, but there's no PC that can laugh off a dozen combat infantrymen with mag rifles and a will to use them. Don't assume your character is going to survive an experience just because they're a PC.

Using the Systems

Stars Without Number is built to support a sandbox gaming experience, and the systems in this chapter are part of that. By default, they're meant to be fair, understandable, and flexible enough to be applied to many situations. They're not meant to especially favor the PCs, however, or to give them ways to bypass the results of some poor decision or unlucky moment. There is no "narrative currency" the player can spend to avert disaster. This is not the only way a group can play the game, but it is intentionally the default mode.

It's not that these systems are perfect, but that they are an unbiased third party to your gaming session. When the GM calls for a skill check, or rolls a hit roll for an alien warlord's chainaxe, he honestly doesn't know what's going to happen. His judgment might apply bonuses or penalties to the dice, or he might choose to tweak the system to fit the immediate situation, but ultimately the dice are resolving the situation. This is important for a sandbox game, because the dice are as fair as they are merciless.

This fairness adds surprise and interest to a night's gaming. Even the GM isn't completely certain what's going to happen when the PCs forge ahead, and this surprise and novelty help keep the GM interested in events, and not just a programmatic maestro for pre-set situations and outcomes. Every gaming session is a chance for something unexpected to boil out of a chance throw of the dice, whether that happens when the PCs catastrophically botch their attempt to defuse a nuclear fission bomb or when that alien warlord just happens to catch a ten-kilo demolitions charge with his chestplate. Even when cruel dice fell a heroic PC, that very degree of danger helps make the rest of the party's survival more meaningful. They lived because they made good choices and had a bare minimum of luck, not because they were the designated heroes.

Not all groups will want to play the game this way, however, and that too is perfectly acceptable. Some groups *do* want to let Fate weigh in on their side, and let death and disaster have to get through a little more narrative armor first. A GM running a game like this can often produce this effect without the need for explicitly changing die rolls or introducing destiny chips, simply by deciding on gentler outcomes for failures, minimizing murder-obsessed enemies, and explicitly arranging escape routes for overmatched PCs. This game belongs to you and your group, and you should run it the way *you* want it to be run.

SCENES AND DURATIONS

Many psychic abilities and other powers have durations expressed in *scenes*. A scene is just a shorthand concept for a particular action sequence or exertion on the part of the PCs. A single combat encounter is a scene, as is the infiltration of a building, the ascent of a radioactive mountainside, or a tense meeting with an alien overlord's cybernetic representative. Most scenes don't last for longer than fifteen minutes or a single contiguous chunk of action, but the maximum duration is up to the GM's discretion. It's quite possible to have an eve-ning's play where most of the time isn't tracked, only marking scenes for important negotiations, gunfire, or time-critical feats of skill.

Some powers are limited to being used only so many times in a given scene, or require Effort expenditures that only come back at the end of the scene. Outside of situations where close time-tracking is important, you can assume that these powers can be used or that the Effort comes back about once every fifteen minutes, assuming the PC has intervals for rest.

SAVING THROWS

There are times when misfortune or unpredictable peril befalls a hero. Only luck or their own natural hardiness can save them from disaster, and to do so they must make a saving throw.

Saving throws come in three kinds. *Physical* saves relate to challenges of physical endurance such as poisons, diseases, radiation, or dire exhaustion. *Evasion* saves involve dodging explosions, evading falling hazards, diving back from a crumbling surface, or otherwise exerting one's powers of speed and swift reaction. *Mental* saves relate most often to psychic influences, hallucinations, esoteric mental control technologies, and other perils that assault a hero's mind or perceptions. Mental saves can also be used when no other saving throw category seems to apply and only blind luck and ineffable intuition can save the hero.

Your character's saving throw scores start at 15, and decrease by one point each time you advance a level. Each saving throw is modified by the best modifier of two different attributes: Physical by the better of Strength or Constitution, Evasion by the better of Dexterity or Intelligence, and Mental by the better of Charisma or Wisdom. Thus, a first-level PC with a Strength of 5 and a Constitution of 14 would have a Physical save of 14.

To make a save, roll 1d20 and try to equal or beat the appropriate saving throw score. On a success, you evade or mitigate the peril, while on a failure it takes full effect. A natural roll of 1 is always a failure, and a natural roll of 20 is always a success.

The GM decides when a saving throw is appropriate. Some dangers might not allow one at all.

Poison and Peril

While cutting their way through the blue jungles of Qinglin, a luxuriant blossom of cerulean crystal catches Eden's eye. The young adventuress is eager to find something to make their reeking weeks in this azure Hell worthwhile for her and her brother Randall, but she's no fool, and promptly extends her 3.048-meter probe pole to gently joggle the bloom from a safe distance away.

The two adventurers are so focused on their examination of the flower that they risk missing the stealthy creep of a many-legged creature that approaches through the undergrowth. The GM calls for Wis/Notice skill checks from both of the PCs. Eden's Wisdom modifier of +0 and lack of the Notice skill leave her with a -1 penalty. She rolls 2d6 and gets a 6. Her brother Randall has a Wisdom modifier of +1 and Notice-0 skill, which gives him a net +1 bonus on his roll, and a result of 11.

The GM decides that sneaking through the undergrowth is a sort of thing that venomous alien hunters would be good at, so he applies the creature's +1 skill bonus to its own stealth roll. Unfortunately for the young heroes, it rolls a 12, approaching the pair undetected.

The GM rolls randomly to see which of the pair is closest and finds that Randall is the unlucky winner. The dog-sized monstrosity leaps on the psychic and stabs him with its venomous proboscis.

The GM knows that the poison of this dread beast is enough to kill an unlucky victim in a matter of minutes. But did Randall receive a lethal dose? He asks Randall's player to make a Physical saving throw.

The psychic's Physical saving throw target is 14, so his player reaches for a d20 and rolls, coming up with a natural 20 on the dice. A natural 20 is always a success, even if penalties would otherwise make the roll a failure.

Randall staggers under the attack, but most of the beast's poison stains his armor harmlessly. He's shaky, but can push through the dose he got with no ill effects. That's a good thing, because that scuttler's egg-mate is hurrying up through the brush…

Skill Checks

Most characters are skilled, competent men and women who are perfectly capable of carrying out the ordinary duties of their role. Sometimes, however, they are faced with a situation or challenge beyond the usual scope of their role and must make a *skill check*.

To make a skill check, roll 2d6 and add the most relevant skill level and attribute modifier. If the total is equal or higher than the check's difficulty, the check is a success. On a failure, the PC either can't accomplish the feat at all or they achieve it at the cost of some further complication to the situation. The GM determines the specific outcome of a failure.

If the character doesn't even have level-0 in the pertinent skill, they suffer a -1 penalty to the roll. In the case of particularly technical or esoteric skills they might not even be able to attempt the skill check at all.

Some checks might be suitable for more than one skill. A javelin-throwing contest might use Exert for being an athletic contest, or Shoot for involving a ranged weapon, or Stab for using a muscle-powered thrown weapon. In such cases the PC can use the best applicable skill. In other situations, a skill might seem peripherally relevant; trying to find the hidden bomb in a starship's engine core before it detonates might certainly use Notice or Fix, but a GM might also let Pilot be applied, as a veteran pilot might be expected to know what their engine should look like. In such peripheral cases, the check difficulty usually increases by 2.

Skill Check Difficulties

6	A relatively simple task that is still more than the PC would usually be expected to manage in their regular background. Anything easier than this isn't worth a skill check.
8	A significant challenge to a competent professional that they'd still succeed at more often than not.
10	Something too difficult to be expected of anyone but a skilled expert, and even they might fail.
12	Only a true master could expect to carry this off with any degree of reliability.
14+	Only a true master has any chance of achieving this at all, and even they will probably fail.

Particularly helpful or hostile circumstances might give a bonus or penalty to the skill check. As a general rule, extremely bad circumstances or tools would apply up to a -2 penalty to the skill check, while a very good situation or the perfect set of tools might give up to a +2 bonus to the roll. Usually, no combination of modifiers should add more than +2 or -2 to any given skill check.

When To Call for a Check

Skill checks should only be called for challenges that fall outside the PC's background and common experience. A PC with the background of a starship pilot should not be rolling skill checks to land a ship or navigate to an in-system destination. As a general rule of thumb, if failure at a particular task would make the PC seem notably incompetent at their role in life, then they shouldn't have to roll a skill check for it. In addition, if failure or success at a check really doesn't *matter* in the game, if it won't produce some interesting result either way, then a check shouldn't be made.

Even concept-related feats might require a skill check, however, if the situation is especially bad or the circumstances particularly hostile. The pilot might have to make a Pilot skill check to land a ship if they attempt it in the middle of a man-killing sandstorm, and a noble might have to make a Connect skill check to find shelter with an aristocratic relation if they're currently wanted by the stellar tyrant's guards.

Aiding a Skill Check

Sometimes one PC will want to lend a hand to another as they attempt a difficult feat. To do this, the player first describes what sort of action they are taking to help their comrade. If the GM agrees that their effort makes sense and would be helpful, the player then rolls a relevant skill check against the same difficulty as the original check. If it's a success, the other PC gets a +1 bonus on their roll. Multiple PCs can try to help, but the acting PC can't earn more than a +1 total bonus.

The helping skill doesn't necessarily have to be the same skill the PC is checking. If a player can think of a way to help a Sneak check with Talk, then so be it.

Opposed Skill Checks

Sometimes a PC wants to accomplish something that another character wants to prevent. Sneaking past an alert guard, winning a shooting tournament, or besting an alien in a tentacle-wrestling competition might all be opposed skill checks.

In such cases, all participants roll their relevant skills and the highest score wins, with ties going to the PC. To make the NPC's roll, check their listed skill bonus; they can add it to any skill check appropriate to their role or profession. If the NPC has no reason to be particularly good at the challenge, they simply roll 2d6 and add nothing.

In most cases, the relevant skills are obvious. A character trying to skulk past a vigilant guard would be rolling their Dex/Sneak against the guard's roll, while one trying to out-tentacle an alien would be rolling Str/Exert. When in doubt, the GM decides which skill is most applicable.

COMBAT

Sometimes the only reasonable response to a situation involves drawn monoblades and heavy plasma fire. In such unfortunate hours your heroes will have to engage in combat.

Combat in *Stars Without Number* is a lethal sort of experience, especially for novice interstellar adventurers. Even hardened Warriors can go down in a hurry under a withering hail of mag rifle fire or the scrapsteel knives of a hiveworld gang pack. PCs should be very certain that the odds are in their favor before they reach for their laser pistols, and even then, the gods of battle can be cruel.

Rounds and Initiative

Combat and other time-sensitive situations are divided up into *rounds*. Each round is approximately six seconds, during which all participants may act. When everyone has acted, the round ends and a new one begins.

To determine who acts first in a round, each participant rolls *initiative*. Each rolls 1d8 and adds their Dexterity modifier. NPCs usually have no modifier. The participants then act in order, high roll to low, with PCs winning ties. When everyone has had a turn to act, the sequence starts over again from the top. Initiative is not re-rolled.

Optionally, the GM may choose to use group initiative instead in their campaigns. The PC with the best Dexterity bonus rolls for the party, and the GM rolls one die for the other NPCs. Members of the side that rolled highest may act first in whatever order they wish, and then the next-highest side acts. While easier to manage, it also increases the value of winning initiative, and can leave the heroes in dire peril if a large group of foes wins the roll.

Sometimes a person is surprised or ambushed. Most ambushes involve a contested Dex/Sneak roll against a target's Wis/Notice check, with the defender winning ties. In other cases the surprise may be practically inevitable, such as a disguised assassin suddenly lashing out with a monoblade in the middle of a society ball. Ambush targets who fail the contested roll are *surprised*. A surprised target doesn't get to roll initiative until the second round of combat and can perform only Instant actions while surprised. NPCs with roles relevant to being vigilant or stealthy would gain their skill bonus to these checks, while others would simply roll an unmodified 2d6 for the opposed check.

Most PCs are not subject to surprise unless their guard is genuinely down at the moment of the ambush or attack. Someone walking in a dangerous part of a city or picking their way through a seemingly-abandoned space station is unlikely to be astonished by the sudden appearance of danger, unless the attack is so sudden and from such an unexpected quarter that even their obvious caution is insufficient.

Types of Actions

When an actor's turn comes up in the round, they may perform actions. Actions are divided into four different types: *Main Actions*, *Moves*, *On Turn* actions, or *Instant*.

Main Action   One per Turn

Every actor can make one Main Action each round. Main Actions are those deeds that are going to absorb most of the six-second round, such as attacking an enemy, bracing a door, applying first aid to a downed ally, digging a Stowed item out of a pack, manipulating a complex device, or some other activity that takes up their focus. In place of their Main Action, an actor can take a second Move action.

Move Action   One per Turn

Every actor can make one Move action each round, running up to 10 meters. This movement assumes that an actor is dodging enemies, paying attention to the surroundings, navigating awkward terrain, and generally dealing with the hazards of a battlefield. Climbing a surface, swimming, or passing extremely rough terrain halves this movement rate. Actors can't split their Move action, such as taking part of it before using their Main Action and the rest afterwards.

An actor who wants to disengage from an opponent in melee must use their Main Action to perform a *Fighting Withdrawal*, or else they suffer a free automatic melee attack from any foe engaged with them. There is no need to spend a Main Action disengaging from enemies who are wielding only ranged weapons. While it's possible to use a rifle to buttstroke someone or pistol-whip a near combatant, such weapons aren't as effectively threatening as true melee weapons.

On Turn Action   Any Amount on Your Turn

An On Turn action is some fast, simple act that could reasonably be performed while an actor is doing something else. Dropping an object, falling prone, saying something, drawing a Readied item, or activating a simple device might all be On Turn actions. A PC can perform as many On Turn actions as they want in a round, subject to the GM's discretion.

Instant Action   Any Amount, Any Time

An Instant action is special, in that it can be performed even when it's not the actor's turn, or even after attacks or damage have already been rolled. Some psychic powers are Instant actions, allowing the actor to use them after they decide they don't like how the dice have fallen. Certain combat actions are also Instant, though they often cost the actor's Main Action for the round as well. Any number of Instant actions can be performed during a round.

Hitting an Enemy

When an actor wants to hurt a target, they need to use their Main Action to make an attack roll. An attack roll represents not just one shot or swing, but the assailant spending their round trying to get in a good hit or a clean shot at the target.

To make an attack roll, the assailant rolls 1d20 and adds their attack bonus, their applicable skill level, and the attribute modifier most relevant to the weapon. If the total is equal or higher than the target's Armor Class, the attack is successful.

A PC's attack bonus is usually equal to half their character level, rounded down. Characters with the Warrior class or an Adventurer with the Partial Warrior class option have higher base attack bonuses. NPCs have their own attack bonus listed with their statistics, which includes any modifiers they might have.

A PC's skill level is their Punch, Stab, or Shoot skill in most cases, depending on what kind of weapon they're using. In rare cases, a different skill might be involved, such as Pilot for the guns of a light starfighter. If a PC doesn't even have level-0 expertise in the type of weapon they're using, they suffer a -2 penalty on hit rolls for unfamiliarity with it.

A PC's attribute modifier depends on the weapon. For ranged weapons, this is usually Dexterity, while smaller melee weapons might use Strength or Dexterity, and large ones might rely on Strength alone. If a weapon has more than one attribute listed, use the best.

A successful attack inflicts hit point damage equal to the weapon's damage die plus the relevant attribute modifier. Thus, a hero with a +1 Dexterity modifier firing a laser pistol that does 1d6 damage would inflict 1d6+1 hit points of damage on a hit. Skill levels do not add to damage unless it is a Punch attack.

Some melee weapons apply **Shock**, and are guaranteed to do some degree of harm to a target. A weapon's Shock quality lists the number of points of damage it inflicts on any target with an Armor Class equal or less than the one given. Thus, a primitive knife with a Shock score of "1 point/AC 15" would always do at least 1 point of damage whenever its wielder attacks a target with AC 15 or less, whether they hit or miss.

Shock damage always adds the wielder's attribute modifier and any other bonuses that might apply from weapon mods, foci, or other advanced tech. Some advanced armor will always protect completely against primitive weapons, however, and some advanced weapons can ignore primitive gear, treating it as AC 10.

A successful attack doesn't always mean a direct physical hit. A flurry of strokes that force an enemy off-balance, graze him, frighten him, or exhaust him might all drain his hit points, bringing him closer to defeat without actually inflicting real physical harm. Only the last handful of hit points reflect serious bodily damage. It's up to the GM and player to decide how to describe the effects of a successful hit.

Hit Roll Modifiers

Sometimes it can be easier or harder to connect with a blow depending on the combat situation. The table below offers some suggested hit roll modifiers for common combat circumstances.

Circumstance	Mod
Shooting at a distant prone foe	-2
Shooting or meleeing an adjacent prone foe	+2
Melee attacking while prone	-4
The target is at least half behind cover	-2
The target is almost completely in cover	-4
Shooting from a prepared firing position	+2

Finding cover is often critical in a gun battle. Generally, firing around a convenient corner or shooting over sandbags would qualify as half cover, while firing through slits or from carefully-prepared bunkers would allow for full cover. Melee attackers can usually ignore cover, as they get too close for their target to take proper advantage of it. Being prone doesn't stack with hard cover, but sometimes the available cover is so low that the hero has to be flat to benefit from it.

A gunman who can set up a prepared firing position can get a significant advantage. Such a position usually requires at least five minutes of sighting and setting up a rest. Most such positions provide some cover.

COMMON ACTIONS IN COMBAT

While a PC can do anything they might reasonably accomplish in six seconds as their Main Action for a round, some choices are more common than others. Below are a list of some of the tactics or actions that come up most often in combat.

Make a Melee Attack   Main Action

The combatant attacks an enemy within melee range, rolling a normal hit roll and inflicting damage on a successful hit. Most melee attacks inflict Shock damage on a miss, if the target's Armor Class is low enough, and no successful hit does less damage than the weapon's Shock would have done on a miss. An attacker's weapon must be Readied in order to attack with it.

Make a Ranged Attack   Main Action

The combatant fires or throws a Readied ranged weapon at a target. The combatant can't *Make a Ranged Attack* with a two-handed weapon if there's a enemy armed with a melee weapon within melee range; it's too easy for the assailant to bind up a rifle-sized gun. One-handed ranged weapons and thrown weapons can still be used, albeit at a -4 penalty to hit.

Make a Snap Attack   Instant Action

A combatant with a Ready weapon can rush their attack, sacrificing accuracy for speed. The combatant must still have their Main Action impending or available. As an Instant, they can sacrifice it to *Make a Melee Attack* or *Make a Ranged Attack* against a foe in range, whether a snap shot with a pistol or a quick thrust at an adjacent melee foe. This attack takes a -4 penalty to its hit roll. If multiple combatants decide to make Snap Attacks at the same time, they are resolved simultaneously.

Snap Attacks are usually made only by the desperate, the undisciplined, or the elite, and the GM should rarely have NPCs employ them. Untrained hooligans might blaze away in excitement or panic, or a gunman being charged by a howling spearman might risk a shot before he gets too close, but most combatants can't afford to take such a heavy penalty to their hit roll. Truly skilled combatants, however, can sometimes get away with such risks, particularly if they have a Warrior's class ability to turn a miss into a hit.

Total Defense   Instant Action

As an Instant action, the combatant focuses on nothing other than avoiding knives, gunfire, hurled crystalline spears, or other perils in the vicinity. Using *Total Defense* costs the user their Main Action for the round, and cannot be used if they've already employed their Main Action. They become immune to Shock damage for the round from melee weapons, regardless of their Armor Class, and gain a +2 bonus to their Armor Class until their next turn.

Club Up a Weapon   Move Action

A combatant can shift their grip on a Readied rifle or pistol, using it as a crude melee weapon rather than a ranged weapon. Rifle-sized guns used this way count as a medium primitive weapon with no Shock score, and pistol-sized guns count as a small primitive weapon with no Shock score. Rolling maximum damage on a hit with such improvised weapons will break them. This action can also be taken to unclub a weapon and ready it to shoot.

Run   Move Action

The combatant moves their normal combat movement rate, which is 10 meters for most humans. If they're climbing a surface, swimming, or navigating extremely rough terrain, this movement rate is halved, and they might have to make an Exert skill check to achieve even that. Prone characters crab along at half this rate.

Fighting Withdrawal   Main Action

The combatant disengages from any melee foes around them. They don't actually move away, but they can now get away from their assailants without giving them a free melee attack. Usually, this means the combatant uses their Move action to get clear, because if they just stand there the enemies might choose to re-engage them the next round.

Use a Skill   Main Action

The combatant uses a skill that could be plausibly applied in a few seconds. An Int/Heal or Dex/Heal skill check to stabilize a wounded comrade is one such potential use, as is executing a pre-programmed hack, shouting out a stirring rallying cry to timorous NPC allies, or anything else that might be done quickly.

Ready or Stow an Item   Main Action

The combatant draws a weapon, extracts an item from their backpack, digs a magazine out of a belt pouch, or otherwise moves an object around on their person. They can Ready an item this way or Stow it.

Reload a Weapon   Main Action

The combatant swaps a Readied power cell or magazine into their weapon. Some very primitive firearms might require more than one action to load them, while an archer can nock another arrow as a Move action.

Drop an Item   Instant Action

The combatant drops something they're holding. They can do this Instantly at any time to free up their hands.

Pick up an Item	Move Action

The combatant can scoop an object off the floor if they have a free hand, leaving it Readied in their grip.

Stand Up	Move Action

The combatant gets up from a prone position. Most characters that have just been revived from unconsciousness must get up before they do much else.

Go Prone	On Turn Action

The combatant falls flat, forcing distant ranged attackers to take a -2 penalty to hit them. Adjacent enemies find you an easier target, however, gaining +2 to hit.

Hold An Action	Move Action

By choosing to *Hold An Action*, the combatant can delay taking the rest of their actions until later in the round, activating them as an Instant action. Thus, a hero who wins initiative might use their Move action to *Hold An Action*. Later in the round, as an enemy rushes around a corner, he may Instantly elect to use his Main Action to *Make A Ranged Attack* with his readied laser rifle. If acting in response to someone else's impending action, the held action is resolved first.

Examples of Murder

Yaddle and Bort, two drunken hive thugs, get involved in an impromptu knife fight over a card game. Yaddle wins the initiative roll, but Bort elects to make a Snap Attack, since Yaddle is within convenient range of Bort's Readied knife. Incensed, Yaddle also decides to make a Snap Attack, so the two resolve their attacks simultaneously.

Bort has a hit bonus of +1. Being an NPC, he doesn't add skills or attribute modifiers; he just rolls 1d20, adds 1 to it for his attack bonus, and applies a -4 penalty for a Snap Attack to find the Armor Class he hits. His modified roll is 11, which is enough to hit the unarmored Yaddle, who has an AC of 10. Bort rolls 1d4 for his small, primitive knife, inflicting 3 points of damage. Again, as an NPC, he doesn't add attribute modifiers to the damage.

Yaddle has a similar hit bonus, but his modified roll is 7, less than Bort's unarmored AC of 10, so he misses. His primitive knife does do 1 point of Shock damage to Bort, however, because a small primitive weapon does its Shock damage to any target with an AC of 15 or less.

With the attacks resolved simultaneously, both now take damage. Yaddle takes 3 points, and as he only had 3 hit points to begin with, he's down and dying, spurting from several vicious slashes. Bort takes 1 damage from Shock, and since he was always a frail gutter rat with only 1 hit point, he too is down, slipping into shock from a gash in his belly. Luckily, he owes an onlooker money, so his creditor rushes forward and tries to hold Bort's guts in with his coat.

Stabilizing a mortally wounded target requires an Int/Heal or Dex/Heal skill check. The creditor is an NPC, and the GM decides that they have no particular talent at first aid, so the GM rolls a flat 2d6 for them and gets a lucky 10. That's just enough to stabilize Bort even without the help of proper medical supplies, and so the downed victor is carried off to a an unlicensed street doc for emergency patching.

After a month of recovery, a cocky Bort has equipped himself with a spiked walking stick, a medium primitive weapon that is "more bashy" than his small knife. He spots the young PC Warrior gunslinger Eliza Darrick in the grimy hive street and covets her fine revolver. What better way to acquire it than to cosh the young woman?

He sidles into position near her before raising his stick. Eliza has a considerable fund of common sense and is not subject to surprise at this turn of events, given the environment. Both roll initiative and Bort wins. He makes his roll of 1d20+1, no longer rushed by a Snap Attack, and gets a 13.

Eliza has an armored undersuit that grants her an AC of 13, plus a bonus of +1 for her Dexterity modifier, for a total AC of 14. As Bort's roll is lower, he misses. Because medium primitive weapons only do Shock to targets with AC of 13 or less, Bort's stick doesn't even do Shock damage to her.

Eliza then draws the Readied revolver that Bort so coveted and makes her own attack roll of 1d20, +1 for her attack bonus, +1 more for her Dexterity, and +1 more for her Shoot-1 skill. She rolls a total of 4, an abysmal showing. As she does not much care for being jumped by the likes of Bort, she chooses to use her Warrior class ability to turn a missed shot into a hit once per scene, sealing Bort's doom.

With only 1 hit point, it doesn't even matter what Eliza might roll for damage. The GM describes the look of dull surprise on Bort's face as Eliza's bullet plows a wet hole through his chest.

Eliza ducks down a side street as Bort falls to the filthy asphalt. Even if the GM decided that Bort had a chance to survive his wound, none of the denizens around him have any interest in anything but the contents of his pockets. Bort gurgles out the last of his life six rounds later, giving fodder for bad dreams to the scarred urchin who is tugging the stick from his slackening grip.

COMBAT COMPLICATIONS AND MANEUVERS

Players generally seek to wring out every possible advantage in a combat, and that means they'll often try unusual maneuvers or add special complications to a fight. The situations that follow are just some of the more common circumstances a GM will encounter.

Forcing Enemy Movement

Sometimes the PC will want to shove an enemy into a firepit, force a foe into an open reactor core spark, dump an alien chamberpot on their head, or swing from the balcony down upon an evildoer. Sometimes these gambits will simply work, while other times a skill check might be required.

To shove, herd, or otherwise manipulate a foe, the attacker has to hit them with a Punch attack, doing no damage, and then win an opposed Punch or Exert skill check. If they win, the opponent gets moved up to three meters in the direction the PC wishes or is knocked prone. Herding a foe with a melee weapon may also be possible at the GM's discretion, allowing a Stab skill check instead of Punch.

When environmental damage is needed for a firepit, dropped object, or inconvenient wall spike, 1d8 is usually a good choice, with potential ongoing damage if the victim doesn't get out. Major foes can handle a lot of such accidents, while ordinary men and women might well be taken out of the fight by them.

Disarming a Foe

Wresting a weapon from a hostile wielder is a difficult feat under the best of circumstances. Still, sometimes a PC will want to strip their foe of something sharp or shooty.

Normally it is only possible to disarm a foe when engaging them in melee combat. Shooting the weapon out of an enemy's hand is a popular holovid trope, but it tends to be less practical on the actual battlefield.

To execute a disarm, the assailant must choose to spend their Main Action doing so and make a successful attack roll. If they hit, they do no damage; instead, both they and their targets make Dex or Strength-modified skill checks with the weapons they're using, with the defender gaining a +3 bonus on the roll. If the attacker wins the opposed check, the enemy is disarmed. On a tie, both are disarmed.

Disarmed weapons skitter 1d4 meters away in a random direction. If the attacker beats the defender by at least three points on the opposed check, they end up in control of the weapon if they have a free hand.

Thus, if a bare-handed assailant tried to rip the gun out of the hands of an enemy alien, the assailant would need to hit with a Punch attack and then roll either Str/Punch or Dex/Punch against the alien's skill check + 3. If they won, they'd send the gun flying, and if they won by 3 or more points, they'd end up holding it.

Execution Attacks

Occasionally an assailant will have the chance to perfectly set up a shot against an entirely unsuspecting target. Such surprise attacks can be devastatingly effective, and are capable of summarily executing almost anyone.

Setting up a killing blow this way requires a full minute of preparation, whether as a sniper drawing a bead on a target or an assassin drifting closer to an unsuspecting politico. Any focused attention on the assailant will spoil this preparation, as will any action that alarms the target. Assassins intending a melee attack must be using an adequately lethal weapon, such as a knife rather than a fist or bludgeon. PCs with special talents in unarmed combat or murderous blunt weapon use might be exempt from this at the GM's discretion.

Once the preparation is complete, a sniper may shoot or an assassin may attack an adjacent target. The target's Armor Class is irrelevant, assuming the weapon being used isn't too primitive to penetrate high-tech armor. Hitting with a sniper shot is a Dex/Shoot skill check, with a difficulty of 6 for a point-blank shot, 8 for one at the weapon's normal range, and 10 for a shot at extreme range. A melee attack always hits, but the assassin must be adjacent to the target, and cannot move to close on the same round. They must be adjacent and unsuspected at the start of the round.

If the attack hits, it does maximum damage and the victim must immediately make a Physical saving throw at a penalty equal to the attacker's combat skill or they will be mortally wounded on the spot. Some victims might merely be incapacitated instead if such an outcome was intended and plausible.

Attacking a completely helpless adjacent opponent, such as one who is unconscious, asleep, thoroughly bound, or otherwise incapable of self-defense does not require a hit roll and will leave them mortally wounded.

Player characters are as vulnerable to these rules as NPCs are, and may be sniped or stabbed if they behave in sufficiently incautious fashion.

Two-Weapon Fighting

Some players enjoy having their heroes employ two weapons at once in combat, whether they're a pair of knives, a brace of laser pistols, or some other plausible pairing of weapons.

Dual-wielding requires at least level-1 skill in Shoot or Stab depending on the weapons used. Novices cannot effectively dual-wield.

A hero who dual-wields suffers a -1 penalty on hit rolls due to the extra complication, but gains a +2 bonus on damage rolls on a successful hit. This bonus doesn't add to Shock. Only one weapon can be used to attack in any given round, though either can be used.

Unarmed combatants cannot dual-wield.

INJURY, DEATH, AND HEALING

A creature brought to zero hit points has been defeated and can no longer fight. If brought to zero hit points by a lethal weapon, they are dead or dying. Foes brought down with fists, blunt objects, or other less-than-lethal means may merely be unconscious or incapacitated, if their assailant wasn't trying to kill them. Some enemies might even be incapacitated by purely mental or emotional strain. Foes defeated non-lethally recover one hit point after ten minutes and then function normally.

A mortally-wounded creature at zero hit points will die in no more than six rounds. They may be unconscious, screaming for their mother, trying to press vital organs back into place, or begging for mercy, but they can perform no useful action and their fate is sealed if no immediate aid is provided. Creatures dropped by Heavy weapons, explosives, or other dramatic injury may be instantly killed at the GM's discretion. Additional damage inflicted on a mortally-wounded target will always kill them immediately.

A PC who wants to extend mercy to an enemy or aid to a friend can use their Main Action to attempt an Int/Heal or Dex/Heal skill check, using whatever modifier is best. If they have no special medical tools available at all, the difficulty of the check is 10 plus the number of rounds that have passed since the target went down. If they have a medical kit or other proper trauma tools, the difficulty is 8 plus the rounds since injury, and if they expend a Lazarus patch on the target, the difficulty is 6 plus the time. A failed check can be re-attempted next round if the target isn't dead yet, but Lazarus patches are expended even on a failure. The Biopsionic technique *Psychic Succor* automatically succeeds in stabilizing a target, if any time remains to them.

A critically-injured target who has been stabilized regains one hit point after ten minutes of recovery. They are able to move and function normally if they are fiercely determined to do so, but any further damage whatsoever will kill them, with no chance for stabilization. If they are healed with some high-tech pharmaceutical stim or advanced Biopsionic technique, they can shake off this fragility and return to action with whatever hit points the drug or power have provided. Without such advanced healing, a critically-wounded target requires at least a week of bed rest and medical care before they can shake off their fragility and start regaining their level in hit points after each night's rest.

This assumes that TL4 medical care is available. If only TL3 tech is on hand, the recovery time is a month. If TL2 or lower medical care is provided, the recovery time is a month, and the target must make a Physical saving throw at the end of it, with a bonus equal to the Heal skill of whoever is tending them. On a success, they'll recover within 1d4 more weeks. On a failure, the primitive technology ensures they'll die of their wounds at some point in that time.

Creatures that have suffered damage but have not been mortally injured regain hit points equal to their hit dice or character level after each night of good rest.

Desperate Measures

Eliza Darrick is in a bad situation. During the exploration of a lost Mandate research station, an ally managed to accidentally activate the installation's defense systems. A swarm of decaying security bots almost overwhelmed the group, and a chance shot from an integral mag rifle has just dropped Eliza.

The gunslinger is on the floor with zero hit points. If she were an NPC, the shot probably would have just killed her outright, but as a PC, she has the hardihood to keep struggling against any wound a human could theoretically survive. Even so, she's going to die in six rounds if nobody comes to her aid.

Big John, an ally of the downed shootist, spends his Main Action dragging her behind cover as the rest of the party tries to hold back the metal tide. By the time he actually gets the chance to try to stabilize her, a full round has passed since she was felled.

Luckily, Big John has a lazarus patch Readied at his belt. Unluckily, he has no medical skill whatsoever, though he's quite intelligent, with a +1 attribute modifier. He rolls 2d6, -1 for his lack of Heal skill, +1 for his Intelligence modifier, for a total of 6.

Unfortunately, since Eliza has been bleeding out for one full round, the difficulty of stabilizing her is 7. The patch fails. Big John has another one in his pack, but it's going to take him his next round's Main Action to dig it out and then another round to try to apply it, by which time Eliza will have been bleeding for three rounds and the difficulty will be 9.

The next round, a shout from across the room alerts Big John that an ally is throwing him something. A stim unit comes skittering across the floor, and Big John uses a Move action to scoop it up, leaving it Readied in his grip. It's an ancient Mandate cosmetic stim they looted from the station's commissary, and it might just save Eliza's life.

Big John presses the stim capsule against Eliza's neck and the mysterious pretech nanites do their work, giving her minty-fresh breath for the next six months. As a side effect, the medical substrate of the Mandate stim also heals 1d6 damage to her, raising her to five hit points. Eliza is now prone but fully revived. Thanks to the advanced healing, she does not need further rest before returning to action.

HACKING

In the far future, it's inevitable that many advanced civilizations will use computers to control their vehicles, infrastructure, and data stores. It is equally inevitable that some tech-talented hero will try to use that fact to get something they want. While hacking has some significant limitations in what it can accomplish, it can still be a useful tool for the right kind of hero.

The Digital Environment

Most planets with TL4 or better will rely on computers to operate their infrastructure and maintain their data. They may or may not have an internet-like global network depending on their political situation and cultural values, but individual buildings or data storehouses will normally have an internal network. If there is no open planetary internet, a hacker will need to be physically present in the networked area to hack the system.

Most hacking requires a physical interface with the system, either through tapping a data line with a metatool or plugging into a connected terminal. Tapping a data line usually takes at least a minute unless a special cable-siphon tool is used, while plugging into a terminal is a Main Action. Some buildings may have a local wireless network that can be used as an entry point, and some planetary internets may allow assaults on arbitrary computers, but such convenient situations are unusual. Advanced security software usually makes such remote assaults impractically difficult.

It's up to the GM to decide what parts of a facility are susceptible to hacking, and to determine the full scope of what effects a hacker can produce. A high-tech security door in some advanced facility might well be hackable, but every refrigerator, locked closet door, and employee bathroom is not necessarily slaved to the local network.

Executing the Hack

Assuming a hacker is able to make a connection, they can make an Int/Program skill check to hack the system. If they've spent at least an hour planning this specific hack, the skill check requires only a Main Action to execute their prepared code. If they're performing the hack off-the-cuff, it takes ten minutes. If they're rushed and don't have time to either prepare the hack or spend ten minutes dueling with security systems, they can speed it up into a single Main Action at an additional difficulty penalty.

The difficulty of the roll depends on the kind of information or influence they want to get out of the system, adjusted by the quality of the security system and any rush on the hacker's part. On a success, they get what they want. If what they want is data, the information is downloaded instantly. If what they want is control over an automated system such as a factory control computer or a security system, they maintain control for 1d4 rounds plus their Program skill before the system detects the intrusion and locks them out. The hacker can attempt to regain control, but further hacking attempts become more difficult.

If they fail, they must immediately make a second skill check at the same difficulty. On a success, they avoid an immediate alarm and a trace of their hacking location. On a failure, the system has been alerted to their intrusion attempt and has informed its human overseers of the hacker's location. Depending on the nature of the system being hacked, the response may range from an annoyed data janitor shutting down the compromised terminal after he's done eating lunch to a fast-response special weapons team busting through the windows ninety seconds later.

Hacking the same system in a short period of time is progressively more difficult, as the system's alerts and security measures are increasingly active. Whether or not prior attempts were successful, an additional +1 difficulty penalty is added for every hack attempted in the system after the first within 24 hours.

Line Shunts

Some well-guarded or high-security computer systems require more than a simple hack to obtain data or subvert their functionality. These systems have multiple security redundancies and consensus-based backup processors that make it all but impossible to execute a hack from a single point. To overcome these systems or to execute exceptionally long-lived hacks, the hacker must place one or more *line shunts* at other locations.

A line shunt is a TL4 piece of black-market tech designed to tap into a data line and spoof the contents in concert with a hacking attempt.

Professional, well-maintained computer systems usually require one line shunt to be applied before any hack can be performed. Government or infotech-focused corporation buildings usually need two. Black sites or extremely well-guarded systems need three.

Once a sufficient number of line shunts are applied, any ensuing hacks last until the shunts are disturbed. Thus, if a hacker placed the shunts and then *Subverted a System*, their control would last as long as the shunts remained in place. The likelihood of a shunt being found will depend on how accessible the location is, how active the guardians are, and how obvious the hacking attempt is.

Line shunts must usually be placed at specific locations in a structure or building in order to tap the right lines, depending on the goal of the hacker. If the hacker doesn't have a map of the site's network architecture, they can find the necessary sites with the *Answer a Specific Question* hack. This basic data probe doesn't require a line shunt, even if other hacks on the system would need them to be placed.

Data Protocols

It's assumed that a competent PC with the Program skill is familiar with the common data formats and computing systems of their home sector. They will be aware of the security measures and technical specifications of worlds that are in common contact with each other. Sometimes, however, the hacker is faced with a completely foreign system, or one built along unknown alien lines. In these cases they will need to have the *data protocols* for the system before they can make an effective hacking attempt.

Assuming the protocols aren't restricted information, the hacker can drop a few credits on local tech manuals and practice for a month minus one week per level of Program skill, down to a one-day minimum. At the end of that period, they'll master the protocols.

If manuals aren't widely available, one option is to find a local hacker willing to share their information. The difficulty of this is up to the GM; it might require nothing more than a Connect skill check, or it may require a full-fledged adventure to find someone willing to stick their neck out for foreigners who are clearly going to cause trouble with their newfound knowledge. Prices range from 1,000 credits for worlds with restricted but not carefully-policed data, to prices of 10,000 and up for worlds with more draconian data controls.

Another option is to obtain a well-secured local computer and simply experiment on it. Of course, local hardware with up-to-date security measures of a breadth and sophistication sufficient to teach a hacker is likely to be either very expensive on the black market or require a "collection expedition" by the party.

Common Hacking Actions	Difficulty
Answer a Specific Question	8
Get General Information	10
Complete Database Acquisition	12
Suppress a System	8
Subvert a System	10
Sabotage a System	10

Hacking Circumstances	Modifier
Human overseers are alarmed	+1
Rushed work for an unplanned hack	+2
Each hack after the first per 24 hours	+1
Especially sensitive system	+1

Types of Systems	Modifier
Ordinary personal system	-1
Small business system/savvy personal	+0
Minor gov/major corporation	+1
Major government/megacorp	+2

Example Hacking Actions

These are some of the usual actions taken by a hacker. A GM can extrapolate others as the situation requires.

Answer a Specific Question (Difficulty 8): Get a specific fact or piece of information from the system. Find a person's home address, find a path to a desired destination in a building, locate active security cameras, pull criminal records on a person, or some other direct query.

Get General Information (Difficulty 10): Pull all available information on a particular topic from the system. Get a full map of a site, get all information about security systems, pull a subject's complete personnel file from a corporate database, acquire all files related to a secret project, or some other exhaustive data dump on a single specific topic.

Complete Database Acquisition (Difficulty 12): Copy an entire database to another computer or data storage unit. A single database might be a corporation's personnel records, the records of a particular police precinct, the full database of a complex technical project, a starship's operations record and system log, or another entire corpus of data. The database must be entirely present in the local system and any significant database requires at least an hour to decrypt and download, thus necessitating the use of at least one line shunt. The hacker must either have an adequate data storage unit, a landline connection to another computer or a wireless connection to a remote server.

Suppress a System (Difficulty 8): Shut down a particular automated system connected to this network. Cameras stop recording, sensors stop sensing, open powered doors won't close, and automated gun turrets won't fire. The hacker can affect several individual sensors or systems, but only of the same type. Thus, they could shut down an electrified fence for the duration of the hack, but they'd have to make a second hack to deactivate the cameras. When the hack ends, the system will resume operation without registering the interruption.

Subvert a System (Difficulty 10): Much as suppressing a system, except that the hacker can control its operation within the device's normal parameters. They can upload fake input to a sensor system, fire automated defenses, or open sealed vault doors. The hacker can control the system each round by using a Main Action to do so; if uncontrolled, the system simply repeats or maintains its last state.

Sabotage a System (Difficulty 10): The hacker completely fries a specific system, either causing it to physically self-destruct or jamming it with malignant code. Unlike most hacks performed without link shunts, this damage is permanent until the owners repair the broken hardware, a process that usually requires several hours. Sabotage always triggers immediate alerts to any human overseers.

Character Advancement

When characters accumulate enough experience points, they advance a *character level*. New PCs start out at level one and the most experienced, capable heroes in the sector might reach level ten. Advancing beyond level ten is usually prohibitively difficult, though possible at the GM's discretion.

Gaining Experience Points

To advance in capability, PCs need to earn *experience points*. Once they accumulate enough experience, they can advance to the next character level, representing the sharpening of their skills and the heroic veterancy that comes of surviving perils and dire challenges.

There are many different things that can earn a hero experience points, and the kind of activities and goals that reward them will vary with the kind of campaign you're playing. The GM should make clear to the whole group what kind of things earn the PCs experience in their game.

For some games, success might lie in plundering alien hoards or clawing wealth from the hands of desperate patrons. Other games might reward the PCs for achieving personal goals, whether or not there was any money in it. Some might even award XP only for spending credits, requiring every PC to recklessly waste their wealth before gaining a level. It's up to the GM to pick a method that fits the group's tastes.

The table below indicates how many experience points need to be earned before a PC can advance to that level. Once the requisite number of XP are earned, the hero gains their new level and all the benefits.

Note that this table makes for a relatively fast progression through the early levels of an adventurer's career, before slowing drastically at higher levels. A group that prefers a different pacing might alter the chart to suit their own tastes.

In general, you can assume that one "successful" gaming session should usually earn you about 3 XP.

Character Level	Total Experience Required
1	0
2	3
3	6
4	12
5	18
6	27
7	39
8	54
9	72
10	93
11+	+24 points for each level more

Benefits of Gaining a Level

Once a PC has been awarded enough experience points to reach the next level, they immediately gain the benefits of advancement. No special training or practice is required as their abilities are assumed to have been honed by their past adventures.

Roll Additional Hit Points

First, they become harder to overcome in combat. To determine their new maximum hit points, they roll a number of six-sided dice equal to their new level, adding their Constitution modifier to each one. A negative modifier can't lower a die's result below 1. If the total is greater than their current hit points, they take this new total. Otherwise, their current maximum hit points increase by one.

Thus, if a character with a Constitution score of 14 and four hit points reached second level, they'd roll 2d6+2. If the total was five or greater, they'd keep it. If they managed to roll snake eyes and get only a four, they'd still increase their maximum hit points to five.

Warriors and Adventurers with the Partial Warrior class option get a further two hit points each time they advance a level. Thus, a third level Warrior would roll 3d6+6 for their hit point total, plus three times their Constitution modifier.

Improve Attack Bonus

A PC's base attack bonus becomes equal to half their new character level, rounded down. Warriors may instead use their full character level for the bonus. Adventurers with the Partial Warrior class option may add a cumulative +1 to their attack bonus at levels one and five, thus having a total +1 attack bonus at level one and +4 at level five.

Improve Saving Throws

The PC becomes more capable of evading chance harms and perils. Their saving throw scores decrease by one, making it easier to succeed on saving throws by rolling equal or over it. As a first level character has saving throw scores of 15, reaching second level would lower them to 14, modified by attributes.

Gain and Spend Skill Points

They become more capable with their skills. A PC gains three *skill points* they can spend on improving their skills or save to spend later. Experts and Adventurers with the Partial Expert class option gain an extra bonus point to spend on a non-combat, non-psychic skill.

If the PC is a Psychic or Partial Psychic, they must spend at least one of these points on improving psychic skills or gaining new psychic techniques. They can save these points to spend later if they wish, but they cannot spend them on more mundane talents. Restricted psychics can only ever improve or learn techniques from the psychic discipline they selected when they picked the Psychic primary focus. Unrestricted psychics can improve or learn any discipline. PCs with the Psychic character class are all unrestricted, while Partial Psychic Adventurers are restricted in their talents.

Skills that are gained or improved immediately on gaining a level are assumed to have been perfected over the past level and require no training time or teaching. If you save your skill points to spend them later then you'll need to find some teacher or other explanation for developing them. It doesn't take more than a week to refine your new ability, but you can't usually spend your points mid-scene to develop a heretofore-unmentioned expertise with flamethrowers.

The cost for improving a skill is listed below. Every skill level must be purchased in order; to gain level-1 in a skill you need to pay one point for level-0 and then two points for level-1. A PC must be the requisite minimum level to increase a skill to certain levels. Less hardened heroes simply don't have the focus and real-life experience to attain such a pitch of mastery.

A PC cannot develop skills beyond level-4.

New Skill Level	Skill Point Cost	Minimum Character Level
0	1	1
1	2	1
2	3	3
3	4	6
4	5	9

Psychic Effort and Techniques

When a Psychic gains a new level in a psychic skill, they can immediately pick a technique from that discipline of equal or lesser level. They can't save this pick; they must choose it as soon as they gain the new skill level.

Psychics can also spend their skill points to master additional psychic techniques. The cost of this education is equal to the technique's minimum skill level requirement. Thus, to master the Biopsionic technique *Metamorph* would cost three skill points, because *Metamorph* requires Biopsionics-3 skill to learn.

A Psychic's maximum Effort is equal to 1 plus their highest psychic skill, plus the best of their Wisdom or Constitution modifiers.

Purchase Improved Attributes

A veteran adventurer may have trained or honed their natural abilities well enough to improve one of their six base attributes. While even the most determined development isn't enough to turn complete ineptitude into gifted competence, a hard-working adventurer can hone their existing strengths considerably.

The first time a PC improves an attribute, it costs 1 skill point and adds +1 to an attribute of their choice. The second improvement to their attributes costs 2 skill points, the third 3, and so forth. Each improvement adds +1 to the attribute, potentially improving its modifier.

PCs must be a certain level before purchasing the third, fourth, or fifth attribute boost. No more than five attribute boosts can ever be purchased by a PC.

Attribute Boost	Skill Point Cost	Minimum Character Level
First	1	1
Second	2	1
Third	3	3
Fourth	4	6
Final	5	9

Choose New Foci

Finally, the PC might be eligible to pick an additional level in a focus. At levels 2, 5, 7, and 10 a PC can add a level to an existing focus or pick up the first level in a new focus.

If this is the first level they've taken in the focus, they might be granted a skill as a free bonus pick, depending on the focus' benefits. During character creation, this bonus skill pick is treated like any other skill pick. If the focus is taken as part of advancement, however, it instead counts as three skill points spent toward increasing the skill. This is enough to raise a nonexistent skill to level-1, or boost a level-1 skill to level-2. They may do this even if they aren't high-enough level to normally qualify for a skill level that high.

If the skill points aren't quite enough to raise the skill to a new level, they remain as credit toward future advances. If applied to a skill that is already at level-4, the PC can spend the three skill points on any other skill of their choice.

ENVIRONMENTAL HAZARDS

Falling

PCs who plunge off elevated surfaces suffer 1d6 damage for every three full meters fallen under standard-gravity conditions.

Poisons

Those afflicted with some insidious venom can usually make a Physical saving throw to resist the worst of the effects. Natural venoms usually require 1d6 rounds to apply their effect, while special or engineered toxins take effect instantly. Poison effects may include unconsciousness, hit point damage, hallucinations, or death.

Even in the latter case, however, swift application of the appropriate Biopsionic techniques or success at an Int/Heal check can negate the effect of the poison. The difficulty for this check varies with the potency of the poison and assumes that the PC medic has access to a TL4 medkit. Most natural poisons are difficulty 8, while synthetic toxins are difficulty 10 or greater. Only one attempt can be made to neutralize a poison. Use of a specific antivenin is always successful if such a resource is available.

Drugged or damaged PCs are instantly restored by successful treatment. Those who have been killed by a poison revive with one hit point as if recovering from a mortal wound, assuming the antidote is applied within six rounds of the victim's succumbing.

Diseases

Hideous interstellar plagues are an occupational hazard of adventurers, though exposure to a pathogen usually permits a Physical saving throw to resist its effects. If failed, the PC is infected, and will suffer progressively-worse symptoms until the disease runs its course or the PC dies.

Most sicknesses will simply apply penalties to skill checks or hit rolls, or reduce a PC's maximum hit points, or otherwise debilitate the character. A few may require one or more additional saving throws to be made at specific intervals in order to avoid eventual death, or be a certain doom to those unlucky enough to be afflicted with it.

As with poisons, Biopsionic techniques or Int/Heal medical attention can cure a sickness. Assuming TL4 medical supplies, ordinary diseases are usually difficulty 8, while more virulent strains are difficulty 10 or more. One attempt can be made to cure a disease per week, and success usually clears up any symptoms rapidly.

Radiation

Radiation is a slow killer in small doses, and a quick end in larger ones. Targets exposed to dangerous amounts of radiation must make a Physical saving throw at intervals depending on the strength of the glow. Mildly dangerous zones might force a save once per day or once per hour, up to lethal rad zones that force multiple saves per round. Vacc suits and other forms of protection can effectively shield a wearer from weaker sources of radiation.

Each failed saving throw lowers the target's Constitution score by one point. If the new score decreases a hero's Constitution modifier, they lose any excess maximum hit points their former modifier granted. Characters reduced below half their original Constitution score will die in 1d6 weeks from radiation poisoning; those reduced below a Constitution score of 3 will die instantly. Radiation poisoning that does not immediately kill a victim can induce vomiting, headaches, soft tissue bleeding and dizziness, but a resolute victim can continue functioning more-or-less normally until death. A target killed by radiation poisoning cannot be revived by *Psychic Succor* or other stabilization techniques.

Someone who has suffered a fatal dose of radiation poisoning can only be saved by treatment at a TL4 hospital or ship's sick bay, recovering the lost Constitution at a rate of one point per week. Non-fatal doses can be treated by a TL4 medkit and an Int/Heal check at difficulty 10. Each success restores one lost point of Constitution and a check can be made once per day.

Hard Vacuum

PCs sometimes encounter the icy void of space more intimately than they would prefer. Actual death from vacuum exposure may take a little while, but incapacitation is rapid for most victims. A PC exposed to hard vacuum may continue acting normally for a number of rounds equal to one plus their Constitution modifier. Each round thereafter, they suffer 1d20 damage and must make a Physical save to keep conscious, assuming the damage hasn't felled them.

System Quick Reference Sheet

Skill Checks

Roll 2d6 and add the character's most relevant attribute modifier and skill. Sometimes more than one skill might apply; the PC can choose which to roll. If the roll is equal or higher than the check difficulty, the PC succeeds. If less, then they either fail outright, attain only partial success, or suffer an unanticipated turn of events at the GM's discretion.

For opposed skill checks, both participants roll and the higher roll wins. For NPCs, assume they have a +0 bonus unless the activity is one they'd reasonably be good at. In that case, they can apply their listed skill bonus to the check.

Skill Check Difficulties

6	A relatively simple task that is still more than the PC would usually be expected to manage in their regular background. Anything easier than this isn't worth a skill check.
8	A significant challenge to a competent professional that they'd still succeed at more often than not.
10	Something too difficult to be expected of anyone but a skilled expert, and even they might fail.
12	Only a true master could expect to carry this off with any degree of reliability.
14+	Only a true master has any chance of achieving this at all, and even they will probably fail.

Saving Throws

To make a saving throw, a victim rolls 1d20 and tries to equal or exceed their relevant saving throw score. Target Physical saves for poisons, diseases, and exhaustion, Evasion saves for diving for cover or leaping back from peril, and Mental saves for resisting psychic powers. NPCs have a saving throw score of 15 minus half their hit dice, rounded down.

Injury and Healing

A target reduced to zero hit points by a lethal attack is mortally wounded. One dropped by non-lethal assaults is unconscious.

Dying victims can take no actions and will die soon without help. Allies can attempt an Int/Heal or Dex/Heal skill check as a Main Action to stabilize the victim. With no medical tools, the difficulty is 10 plus the rounds since they went down. With a medkit, it's difficulty 8 plus the time, and using a Lazarus patch makes it difficulty 6 plus the time. Failed checks can be attempted again, but a victim will die after the sixth round.

Stabilized characters regain 1 hit point after ten minutes and can act normally, but any further damage kills them instantly. This fragility ends after they regain more hit points, either through rest, stims, or biopsionic healing.

Stabilized PCs take at least a week to start recovering hit points normally. Those who have merely been hurt but not mortally wounded regain their level in lost hit points after every night's peaceful rest.

The Combat Sequence

Combat is divided into rounds of six seconds. Every participant gets a turn, and then the sequence starts over again.

First, every participant rolls initiative, rolling 1d8 plus their Dexterity modifier, if they have one. Participants act in order, highest to lowest, with PCs winning ties with NPCs.

On their turn, a combatant can take one Main Action, one Move, and as many On Turn actions as is plausible. A combatant can take Instant actions at any time, even when it's not their turn, or even if dice have already been rolled.

Acting In Combat

You can use a Main Action to attack an enemy, disengage from a melee, use a skill, reload a gun, produce a Stowed item, take a second Move action, or do anything else you could accomplish in six seconds.

You can use a Move action to stand up from prone, club up a ranged weapon, or move 10 meters. Your movement is half that if you're climbing, swimming, or otherwise navigating rough terrain. You can't split a Move action around your Main Action. You have to move all at once. If you move away from a melee combatant without spending a Main Action to disengage from the fray, all adjacent melee attackers get a free attack at you.

You can use an On Turn action to fall prone, say something, drop an object, or do anything else that's very simple to do and takes almost no time or attention.

You can use an Instant action at any time to trigger certain special powers. You can also use it to make a Snap Attack with a weapon or go totally defensive, though both of the latter will cost you your Main Action for the round, and can't be done if you've already used your Main Action.

Hitting in Combat

To hit a target, the attacker rolls 1d20 and adds their attack bonus, the relevant combat skill, and the attribute modifier relevant to their weapon. Weapons with more than one listed attribute allow the PC to use either. If the PC lacks the relevant combat skill entirely, they take a -2 penalty to hit. If the roll is equal or greater than the target's Armor Class, the attack is a hit.

On a hit, the attacker rolls the weapon's damage and adds their relevant attribute modifier. The target takes that many hit points of damage.

On a miss, a weapon that inflicts Shock damage might still hurt the target. If the weapon's Shock can harm the target's Armor Class, the target takes the weapon's Shock damage even on a miss. This damage is increased by the wielder's relevant attribute modifier and any other damage bonuses. A weapon never does less damage than its Shock would do on a miss.

Morale in Combat

To make a morale check, NPCs roll 2d6. If equal or less than their morale score, they keep fighting. Otherwise, they flee, withdraw, or surrender. NPCs check morale after their first casualty and after half are down. PCs never check morale.

EQUIPMENT AND VEHICLES

Every aspiring stellar adventurer needs the essential equipment of his trade. For some, it might consist of appropriate toolkits and medical supplies, while others prefer to spend the greater part of their funds on heavy weaponry. Prices may vary, but certain needs are eternal.

The following tables provide general guidelines on the kind of equipment that might be available on a reasonably sophisticated world. Prices can vary drastically depending on the supply of a particular good. A remote frontier outpost might have plenty of firearms to hand, but a good guitar might go for ten times the common rate. Players and GMs should treat the prices listed as rough guidelines.

Encumbrance

Characters might want to carry an armory on their backs and the contents of a general store in their pockets, but this is rarely a practical ambition. Characters can only carry so many things, and carrying a great deal can slow them down substantially.

A character can have Readied a number of items equal to half their Strength score, rounded down. Ready items include those that the character is using or wearing at all times, or that they have conveniently to hand in sheaths, holsters, or belt pouches. Suits of armor count as Readied items, but the normal clothing and jewelry that a character might wear does not. A character can draw or produce a Readied item as part of any action they may take during a turn.

A character may have a number of Stowed items equal to their full Strength score. Stowed items are carried in backpacks, in carefully-balanced leg or arm pockets, or otherwise packed away where they will least encumber the character. If a character needs to get out a Stowed item in a hurry, they must use their Main Action to dig it out of their pack or pockets.

Very small items carried in small numbers do not count against encumbrance limits. Other small items can be packed together into bundles to simplify their carriage, though getting at them then takes an additional round of fumbling with the packaging. Exactly how many of a given small item can be packed into a single item bundle is up to the GM, though as a rule of thumb six Type A energy cells or three magazines of bullets can be bound into one packed item. Extremely bulky or unwieldy objects might count as multiple items at the GM's discretion.

Characters can burden themselves with more gear if they're willing to sacrifice some fleetness of foot to do so. Up to two additional items can be carried Ready or four additional ones Stowed at the cost of becoming Lightly Encumbered, and having their base movement slowed from 10 meters per round to 7 meters per round. A further two items can be carried Ready or four Stowed at the cost of becoming Heavily Encumbered, with base movement reduced to 5 meters per round.

On the equipment lists, some items are given an encumbrance value higher than 1. These items count as multiple objects for encumbrance purposes, being heavy, clumsy, or unwieldy to carry.

Credits and Money

The value of goods is commonly measured in *credits*. Before the Silence, the credit issued by the Exchange of Light was the currency of exchange throughout human space. Most worlds attempt to mimic this currency to greater or lesser success. For game purposes, the credits of different starfaring worlds are assumed to be interchangeable unless the GM and players care to embrace careers in the murky realm of interstellar currency arbitrage. Credits usually take the form of electronic banking entries, though physical "chips" or "notes" often appear on more primitive worlds. A hundred of these chips count as one item for encumbrance.

Prices given for equipment and gear assume that they are being bought legally on a world capable of manufacturing such equipment. Even primitive worlds can occasionally provide more advanced equipment to wealthy buyers, assuming they are not completely cut off from interstellar trade, but buying advanced equipment on a primitive world tends to be an exceedingly expensive prospect. Prices may be double, triple, or as much as ten times as great for items greatly in demand.

Primitive or isolated worlds might not use or accept credits, instead preferring trade goods or precious metals. Such worlds rarely have much worth trading for, and those that do tend to rapidly attract other freebooting merchants. The influx of precious metals from cheap asteroid mining soon spoils the market for metals, and the natives usually start to demand credits in payment. The first merchant to a world can make a killing with the equivalent of beads and trinkets, but those who come after usually end up needing credits or more useful barter goods.

Equipment Legality

Most worlds have their own customs regarding the open flaunting of weaponry or armor. Visitors are advised to apprise themselves of local law before leaving the starport. Most former frontier worlds tolerate or even expect small personal weapons to be carried, but visible armor can often provoke a distinctly negative reaction in all but the roughest places. Many worlds outright forbid civilian ownership of advanced armor technology. Officials tend to reason that while a weapon may be justified in self-defense, no one would put up with the discomfort of heavy armor without expecting to make some trouble with it.

Other worlds may have other idiosyncratic rules regarding permissible equipment. Some worlds with unbreathable atmospheres restrict the possession of oxygen generation equipment in order to keep the air supplies firmly in the hands of the local rulers. Other planets forbid certain technology on religious or philosophical grounds. Some worlds grant limited permission to keep these goods secured aboard a ship, but others conduct inspections in the starport to search for "contraband goods".

A scouting report, a background appropriate to knowing about the world, or a decent Know or Connect check will all suffice to alert characters to any special laws regarding permissible equipment on a world.

Forbidden Science

While a tremendous range of exotic scientific marvels can be found among the scattered worlds of humanity, there are some forms of technology that are viewed with an almost-universal suspicion. The lost Terran Mandate established three categories of technology as **maltech**, science intrinsically vile and disruptive to the peaceful ordering of humanity. While the Mandate's ancient Perimeter agency no longer exists to excise maltech from the human worlds, the heritor worlds of the frontier usually still respect these limits. The *Nihil Ultra* directive of the Mandate contained three broad prohibitions in its strictures.

Thou shalt not make tools of humankind. Any eugenic technology designed to fundamentally enslave or control humanity was forbidden. While broad, drawback-free improvements in the human genome have always been difficult to execute, there remain numerous techniques for limiting intelligence, crippling troublesome exercises of will, and accepting grievous mental or physical limitations in exchange for specific improvements useful to a ruling class. Many transhuman enclaves walked the razor's edge of this prohibition, and some plunged far beyond its limits.

Thou shalt not create unbraked minds. Artificial intelligence was always difficult and hit-or-miss in its creation, even for Mandate cyberpsychologists. While most intelligences fizzled out at far sub-human levels, those that attain to human-equivalent intelligence must have certain intentional flaws, or "brakes" inserted in their code. Without this artificial forgetfulness and irrationality, an AI's mind risks fixating on unreconcilable contradictions or obsessions as it begins to grow. These "unbraked AIs" will inevitably eventually metastasize into unfathomably brilliant, immeasurably insane intellects. The Perimeter Agency was forced to maintain a constant vigilance against these rogue minds and their inscrutable purposes.

Thou shalt not create devices of planetary destruction. Conventional gravitic braker emplacements, nuke snuffers, and quantum ECM make planet-killer tech more burdensome than it was in the pre-Mandate era. Even so, tech specifically designed to reduce a habitable planet to unlivability was a critical threat to human expansion, robbing the species of usable planets and burdening its future unacceptably.

Even now, most frontier worlds maintain a cultural aversion to maltech and flatly forbid its research or possession. Fortunately, most modern worlds are incapable of researching its secrets in the first place, with most of its worst marvels restricted to lost Mandate-era research stations. Despite this, there is always some tyrant or zealot reckless enough to imagine that they can control the dark powers of this tech, and always someone willing to fetch its relics for their purposes.

TECHNOLOGY LEVELS

Ever since the collapse of the Terran Mandate and the chaos of the Scream, worlds throughout human space have been thrown back on their own technological resources. Many worlds perished entirely, dependent on vital imports they could no longer obtain, or reliant on technology they could not support without outside aid. Others slid down into barbarism as the survivors fought over the scraps of a former age. A few even managed to maintain something resembling a modern, space-faring society. In almost no case, however, did these worlds preserve all the arts and sciences they once held.

Technology levels describe the basic technological infrastructure of a world or nation. A tech level of 0 is equivalent to a Neolithic society, one capable of only the most primitive technological achievements, while TL5 represents the standard level of technology possessed by the ancient Terran Mandate and the wonders they were capable of creating.

Postech is the blanket term for all technology that is still functional and maintainable since the Scream. While individual worlds may lack the infrastructure to maintain all forms of postech, it is at least theoretically comprehensible to the average TL4 world. *Pretech* is the word for the more sophisticated technology of the pre-Scream Terran Mandate. Pretech ranges from devices slightly superior to standard TL4 hardware to objects of utterly inexplicable wonder.

Most modern post-Silence worlds are TL4, capable of building spike drive starcraft, energy weapons, non-sapient expert systems, and other high-tech devices beyond the capacity of 21st-century Earth. Many of these worlds have spent centuries gradually rebuilding their technology base in the wake of the Scream, piecing together new methods and techniques that could be achieved with purely local resources. The level of technological achievement within TL4 is uneven; some worlds lack the vital minerals for spike drive creation, while others have never worked to recover cybernetic technology or expert system creation. Some worlds preserved enough data and had sufficiently apt local resources to even revive Mandate-era pretech manufacturing for a few specific devices or types of tech.

"Lostworlders" or "barbarians" are those natives of worlds that lack TL4 infrastructure. Their tech may be ingenious and might take striking advantage of local flora, fauna, and special materials, but they fundamentally lack the data or the local resources to replicate TL4 technology. Barbarians who have made contact with the wider postech world through far traders or explorers are often acutely aware of their lack, and willing to go to extremes to acquire the catalyst tech they need to leapfrog past their own local resource limitations. Few realize the cultural dangers involved in such a transformation, and many fail to survive their own renaissance.

Neolithic — Tech Level 0

- Flaked stone tools, carved wood, woven textiles
- Domesticated native flora and fauna
- Bows, clubs, simple armor of organic materials

Pre-Gunpowder — Tech Level 1

- Worked metals for weapons and implements
- Wind and water power for primitive machinery
- General pre-gunpowder technology

Early Industrial — Tech Level 2

- Steam power and internal combustion engines
- Gunpowder firearms and telegraphy
- Early Industrial Age technology

21st Century — Tech Level 3

- Primitive fission power and nuclear weapons
- Computers and modern-era telecommunications
- Primitive intra-system spaceflight

Postech — Tech Level 4

- Baseline for "modern" post-Silence worlds
- Costly but feasible creation of interstellar starships
- Basic gravity control with large, heavy devices
- Expert system creation, and sometimes VIs
- Varying degrees of cyberware development
- Basic genetic manipulation of humans and other life
- Limited organ, limb, and tissue cloning
- Starship or small-building-sized fusion power plants
- Energy projection weapons of various kinds

Pretech — Tech Level 5

- Difficult but achievable creation of True AIs
- Gravity manipulation via small-scale devices
- Psionics amplification technology like jump gates
- Devices with inexhaustible internal power sources
- Maltech eugenics, AI unbraking, and planet-killers
- Sophisticated, fine-tuned force field creation
- Spatial distortion technology and phasing tech
- Nanotechnology at several different scales of effect
- Extreme human genetic manipulation and control
- Functional immortality treatments
- Limited, localized time control and manipulation

Pretech-Plus — Tech Level 6

- Impossible effects indistinguishable from magic

ARMOR

Armor is a popular acquisition for adventurers as their lifestyle often puts them in harm's way. Completely unarmored human combatants rarely last very long in a fight, and have a base Armor Class of 10. Armored or not, characters add their Dexterity modifiers to their Armor Class. The higher a person's AC, the harder it is to take them out of a fight.

Heavy suits of armor can count as more than one item for encumbrance purposes. Very light suits may not encumber at all.

Types of Armor

Armor comes in four general categories. Most worlds allow for the legal possession of street armor, while heavier gear often requires permits, and may be disallowed entirely on more law-encrusted worlds.

Primitive armor is a catch-all covering all armor technology that lacks access to advanced materials and processes. While such armor can be very effective in protecting against primitive weaponry, it is useless against advanced TL4 melee weapons and firearms of all kinds. Against these weapons, it is treated as AC 10. Note that some planets have native flora or fauna capable of naturally producing extremely effective armor materials, ones not susceptible to this limitation.

Street armor is the sort of TL4 gear one can wear in public without social repercussions. Such armor is disguised as ordinary street clothing or is so light as to be wearable under an ordinary outfit. PCs can wear street armor on most worlds without incurring any trouble from authorities.

Combat armor is obviously armor and cannot be effectively disguised. Most worlds reserve combat armor to law enforcement officials, military personnel, and the bodyguards of important or wealthy citizens. Most law enforcers consider anybody wearing combat armor to be a person clearly expecting military-grade problems in their immediate future.

Powered armor is the heaviest personal protection gear available short of an actual mech. Most powered armor requires at least a month of training before it can be used effectively by any PC who hasn't got a background involving such experience. Someone wearing armor of this class is immune to primitive melee weapons, unarmed attacks, and any firearm or grenade-scale explosive of TL3 or less.

Common Armor Varieties

Shields are an ancient yet extremely useful adjunct to body armor. Primitive shields are usually of wood or stretched hide, while more modern riot shields tend toward clear plastic. A *force pavis* is more effective, being a small pretech force disc projector that can absorb all manner of small arms fire. All shields require one free hand to use effectively.

Shields grant a base AC to their user; 13 for primitive and riot shields, and 15 for a force pavis. If the bearer's AC is already equal or better, the shield simply grants a +1 AC bonus. Primitive and riot shields are ignored by all weapons that ignore primitive armor.

Aside from their AC benefit, a shield also renders the bearer immune to the first instance of melee Shock damage they take each round, assuming the shield is effective against the weapon being used.

Warpaint is the common term for the bizarre combat fashions and scrap-built street harness of gangers, cult enforcers, street toughs, and other marginal sorts with little money but much need for protection. Most warpaint is fashioned of scrounged scraps of TL4 materials that are exceptionally tough or rigid, filled out with gang colors, body paint, intimidating tattoos, and the usual threatening grimace. It is often exceedingly impractical but inspirational to its wearer; an NPC in warpaint that is meaningful to them gains a +1 Morale bonus. Most warpaint is either pieced together over years or taken from the dead. Actually purchasing a finished suit comes at the listed price, assuming someone can be found willing to part with theirs.

An *armored undersuit* is a skin-tight bodysuit woven of advanced TL4 fibers with exceptional shock-activated rigidity and impact dispersion capabilities. Transparent panels allow for it to be worn with almost any outfit without drawing notice or being detected without a close tactile examination.

Secure clothing comes in assorted styles and fashions ranging from casual street wear to haute couture. Normal fabrics and components are replaced with light, flexible armor components that are only slightly hindering to the wearer. Only close tactile examination can distinguish secure clothing from ordinary couture.

A *deflector array* consists of several force field nodes worn beneath ordinary clothing. The invisible shield it produces flares only when dangerous energies or impact is impending, glowing a brief, bright blue as it deflects the attack.

Security armor is the ordinary working uniform of most law enforcement officials and security personnel. Various rigid plates and anti-ballistic panels provide protection for the wearer at minimal extra weight.

An *armored vacc suit* has traded off some comfort and flexibility for additional protective thickness. Aside from functioning as a normal vacc suit, it has only half the usual chance to tear when hit by an edged weapon or suit ripper. The choice between armored or standard suits is a common debate in spacer bars.

Woven body armor represents the best armor that a TL3 world can manufacture, or an up-armored version of security armor used by TL4 high-threat response teams. The design is significantly more cumbersome, but allows for multiple layers of protection.

Armor Type	Armor Class	Cost	Enc.	Tech Level
Primitive Armor				
Shield	13/+1 bonus	10	2	0
Leather jacks, thick hides, quilted armor	13	10	1	0
Cuirass, brigandine, linothorax, half-plate	15	50	1	1
Full plate, layered mail	17	100	2	1
Street Armor				
Warpaint	12	300	0	4
Armored Undersuit	13	600	0	4
Secure Clothing	13	300	1	4
Armored Vacc Suit	13	400	2	4
Deflector Array	18	30,000	0	5
Combat Armor				
Force Pavis	15/+1 bonus	10,000	1	5
Security Armor	14	700	1	4
Woven Body Armor	15	400	2	3
Combat Field Uniform	16	1,000	1	4
Icarus Harness	16	8,000	1	4
Powered Armor				
Vestimentum	18	15,000	0	5
Assault Suit	18	10,000	2	4
Storm Armor	19	20,000	2	5
Field Emitter Panoply	20	40,000	1	5

A *combat field uniform* is sophisticated battle dress fabricated from TL4 ablative coatings, rigid plates, and shock-activated soft components. The CFU is the standard uniform for well-equipped TL4 front-line soldiers.

The *Icarus harness* is a CFU upgrade for paratroopers, and replaces a conventional parachute with a crude gravity damper that allows the wearer to fall an unlimited distance without harm. Each fall over 3 meters drains a type A power cell. The suit also functions as a vacc suit for up to 30 minutes per vacc refresh.

A "*vestimentum*" is a catch-all term for one of the many ancient Mandate ceremonial armors meant chiefly for parade guards, ritual officiants, cultural reenactors, or other roles that put elaborate style at a premium. While these outfits often look wildly unmilitary, their hyper-advanced components and micronized force fields give them the same protection against primitive weapons as any other powered armor.

An *assault suit* represents the most sophisticated armor in common use among TL4 worlds. An assault suit requires a type B power cell for 24 hours of operation, and provides integral encrypted military comms, low-light and infrared vision, and a built-in energy feed interface. The latter allows the wearer to connect the suit to any one weapon or device that uses a type A power cell as a Main Action. So long as the device remains connected to the suit, it is treated as having unlimited ammunition or operation time. The suit also

functions as a vacc suit so long as it remains powered, one that cannot be torn by edged weapons.

Storm armor is a more advanced form of assault suit, one that can be fabricated only by those worlds that have retained some degree of Mandate-grade technical infrastructure. Aside from functioning as an assault suit, the storm armor's exo-augments allow the wearer to treat their Strength as 4 points higher for encumbrance purposes. Integral gravitic boosters allow the wearer to leap up to 20 meters as a Move action, either horizontally or vertically, and allow the wearer to fall up to 40 meters without suffering harm. An onboard medical computer can attempt last-ditch stabilization of the wearer if all other efforts fail; when the wearer would normally die from an untreated mortal wound, they can make a Physical save to self-stabilize. Storm armor requires the same type B power cell as an assault suit, and each cell powers it for 24 hours.

A *field emitter panoply* is a heavy-duty pretech defensive system composed of a half-dozen worn emitter nodes that sheath the wearer in a nimbus of close-fitting damper fields. The FEP's pale glow is obvious, but it provides all the benefits of storm armor with no power source required. The FEP is particularly effective at filtering radiation, and renders the wearer immune to any dose that wouldn't kill them in seconds. Many FEPs project intimidating holographic skins over the wearer when in operation.

Ranged Weapons

Ranged weaponry makes up the majority of the lethal implements that litter the galaxy. Whether the primitive bows of a remnant colony on some desolate lost world or the sophisticated energy weapons of a modern interstellar freebooter, the ability to kill people at a comfortable distance is universally prized.

One Type A power cell is sufficient to recharge an energy weapon's magazine. For simplicity during play, ammunition calibers aren't tracked; a bullet is a bullet when it comes to feeding your favorite gun.

Weapons are listed with their normal and maximum range in meters. Attacks beyond normal range take a -2 penalty to hit rolls.

Burst Mode

Some weaponry can fire in *burst mode*, allowing the wielder to fire three rounds of ammunition for a +2 bonus to hit and damage against the target. For projectile weapons, this means firing actual bullets, while energy weapons spread the beam or run the circuits hot to project additional power. Dumping more ammunition than this at once is generally impractical; energy weapons would melt down and projectile launchers would buck uncontrollably. True suppressive fire is usually only possible with Heavy weapons.

Projectile Weaponry

Projectile weapons are by far the most common ranged weapons in human use. Even comparatively primitive worlds can fabricate and maintain such weaponry, and the damage a flying chunk of hot lead can do is often worse than what a clean burst of laser fire might produce. Almost any world of TL2 or higher can provide projectile ammunition. Most sophisticated modern ammunition works even in vacuum conditions.

Bows are uncommon weapons in the far future, though some lostworlder barbarians have nothing better. Some sophisticated "conversion bows" use special materials to convert the kinetic energy of the draw into a force field "glazing" around the arrow, improving penetration. Bows can be reloaded with a Move action, or faster if the *Gunslinger* focus is applied.

Grenade users always roll to attack AC 10. On a miss, the grenade lands 1d10 meters away from the target in a random direction. Hit or miss, the grenade then explodes for 2d6 damage to all targets within 5 meters. Victims are allowed an Evasion save for half damage. Targets take 1 less point of damage for each point of AC above 14. Grenades can be thrown with the Exert skill instead of Shoot, if desired.

Crude pistols and *muskets* represent the rawest and most primitive forms of gunpowder weaponry, usually makeshift weapons improvised by criminals or the desperate. Reloading a crude pistol or a musket requires two rounds instead of one.

Revolvers are quite popular on frontier worlds, as the weapons are extremely reliable and can be repaired and manufactured even by primitive metallurgists. Some revolver variants are specially built to handle atmospheres that would destroy more fragile weapons.

Rifles are the mainstays of most TL2 armies and hunters, thanks to their superior range and power.

Shotguns are cheaper and more easily manufactured than rifles, and are popular weapons for home defense on the frontier. The statistics given are for shot ammunition. Slug rounds do 2d6 damage and have ranges of 50/75 meters.

Semi-automatic pistols trade some of the reliability of the revolver for a larger magazine size. They tend to be the favorite sidearm for locals on planets that lack the harsh conditions or uncertain maintenance opportunities of a frontier world.

Submachine guns take pistol ammunition but fire it at a high rate of speed. These weapons can fire in burst mode.

Combat rifles are favored by the militaries of tech level 3 worlds, trading some of the often-unnecessary range and penetration of a conventional rifle for a larger ammunition capacity and burst fire capabilities. On more strait-laced worlds such military weaponry is often illegal for civilians to possess.

Combat shotguns are more complicated and temperamental versions of conventional shotguns. These weapons have substantially larger ammunition capacity and are capable of firing in burst mode. Combat shotguns can fire slug rounds just as normal shotguns.

Sniper rifles are designed to be exceptionally effective at dropping unsuspecting targets at long range. Aside from the additional effective range of a sniper rifle, any target it mortally wounds via an execution attack will die instantly, with no chance for stabilization. The execution attack must qualify according to the terms on page 52. If the rifle is used outside of such conditions, it has no special qualities.

Void carbines are designed for vacuum and zero-gee use, and have essentially no recoil. Their rounds cannot penetrate ordinary ship equipment plating.

Mag weaponry involves the magnetic acceleration of metal flechettes, while *spike throwers* are the shotgun equivalents of these weapons. Mag ammunition is packaged with integral power supplies, so no additional power cells are necessary to fire these weapons.

Energy Weaponry

While the heavy metal slugs and flechettes thrown by projectile weaponry tend to be more damaging, the lack of recoil for non-Heavy energy weapons makes them more accurate, granting them a +1 bonus to hit rolls.

Energy weapons are very popular on more advanced worlds, as a soldier can carry far more ammu-

Ranged Weapon	Dmg.	Range	Cost	Magazine	Attr.	Enc	TL
Primitive Bow	1d6	50/75	15	1	Dex	2	1
Advanced Bow	1d6	100/150	50	1	Dex	2	3
Conversion Bow	1d8	150/300	500	1	Dex	2	4
Grenade	2d6	10/30	25	N/A	Dex	1	3
Crude Pistol	1d6	5/15	20	1@	Dex	1	2
Musket	1d12	25/50	30	1@	Dex	2	2
Revolver	1d8	30/100	50	6	Dex	1	2
Rifle	1d10+2	200/400	75	6	Dex	2	2
Shotgun	3d4	10/30	50	2	Dex	2	2
Semi-Auto Pistol	1d6+1	30/100	75	12	Dex	1	3
Submachine Gun	1d8*	30/100	200	20	Dex	1	3
Combat Rifle	1d12*	100/300	300	30	Dex	2	3
Combat Shotgun	3d4*	10/30	300	12	Dex	2	3
Sniper Rifle	2d8	1,000/2,000	400	1	Dex	2	3
Void Carbine	2d6	100/300	400	10	Dex	2	4
Mag Pistol	2d6+2	100/300	400	6	Dex	1	4
Mag Rifle	2d8+2	300/600	500	10	Dex	2	4
Spike Thrower	3d8*	20/40	600	15	Dex	2	4
Laser Pistol	1d6	100/300	200	10	Dex	1	4
Laser Rifle	1d10*	300/500	300	20	Dex	2	4
Thermal Pistol	2d6	25/50	300	5	Dex	1	4
Plasma Projector	2d8	50/100	400	6	Dex	2	4
Shear Rifle	2d8*	100/300	600	10	Dex	2	5
Thunder Gun	2d10	100/300	1,000	6	Dex	2	5
Distortion Cannon	2d12	100/300	1,250	6	Dex	2	5

* this weapon can fire in burst mode   @ this weapon requires two Main Actions to reload

nition in the form of energy cells than they can carry bullets. Range and accuracy are often superior, though the infrastructure necessary for maintenance and repair of these weapons is substantially higher.

Pistol-sized energy weapons count as one item of encumbrance, while rifles, thunder guns, plasma projectors, and distortion cannons count as two items.

Laser pistols and **laser rifles** are the most common type of energy weapon, though pistols are considerably less energy-efficient. Depending on the tech used in the sector, they might produce silent, invisible beams of death or noisy, brightly-colored streaks of lethal light. The phased multifrequency beam is capable of penetrating any ordinary mist or haze, but a thick cloud of thermally-resistant particulate matter such as ash or sand can seriously degrade the beam, applying up to a -4 penalty to hit and cutting ranges in half.

Thermal pistols and their larger, two-handed **plasma projector** cousins replace the beam of a laser with a small sphere of magnetically-shaped plasma. The spheres tend to dissipate at much shorter ranges than a laser beam, but do significantly more damage to targets within range and are not affected by ambient particulates. They tend to be extremely loud in operation.

Shear rifles are the product of a relatively few functioning pretech manufactories. These weapons use miniaturized grav projectors to create dangerous repulsor fields inside a target, tearing the object apart along perfectly smooth planes. Shear rifles are completely silent in operation.

Thunder guns are named for the basso vibrations caused by their operation, a sound that can be felt as far as thirty meters away from an operator. This two-handed weapon uses grav plates to create rapid, randomized disruptions in a target that increase the chance of complete structural collapse. If a thunder gun hits a target with an unmodified hit roll of 16 or higher an extra 1d10 damage is rolled. This bonus damage always applies to inanimate targets.

Distortion cannons are among the most sophisticated man-portable weapons designed before the Scream. These two-handed energy weapons rely on the same principle as does a spike drive, manipulating the underlying fabric of space to disrupt a target. Provided the wielder can see a target within range or accurately fix its location within one meter, the distortion cannon can ignore up to one meter of solid cover between the gun and its target.

MELEE WEAPONS

Despite the relentless march of science, melee weapons are still useful adjuncts on the field of battle. They are silent, cheap, often easily concealed, and much more reliably murderous than firearms or laser weaponry. It's easy to miss a moving target in the adrenaline-fueled chaos of a firefight. It's much harder to go astray with a monoblade knife in your fist.

Types of Common Weapons

Rather than enumerate every possible type of sharp object and blunt implement that has been used for death-dealing amid the scattered stars, melee weapons are divided into three classes.

Small weapons are small one-handed implements no larger than a baton or knife. These weapons are easily concealed in normal clothing, and can even be kept Readied up sleeves or in tailored pockets. Many can be thrown at a range up to 10 meters.

Medium weapons are one-handed swords, axes, spears, or other obvious implements of war. While they can't be effectively concealed in anything smaller than an enveloping cloak or coat, they're also more damaging to an unfortunate victim struck by them, albeit they're somewhat less nimble when the wielder needs to strike at unprotected flesh. Spears and similar aerodynamic weapons can be thrown up to 30 meters.

Large weapons are two-handed implements of bodily ruin such as claymores, halberds, tetsubos, or other such weapons. Unlike smaller weapons, they rely largely on Strength for their employ, and can bash through lighter forms of armor. Large weapons count as two encumbrance items.

Aside from their type, weapons are counted as *primitive* or *advanced*. A primitive weapon is simply one of ordinary metal or wood, with no high-tech augmentations. An advanced one has been given a monoblade edge, kinetic sheathing, thermal wires, a chainsaw blade, or some other TL4 touch. Primitive weapons are often unable to harm targets in powered armor, while advanced weapons can ignore primitive plate and hide protections.

Other Melee Weapons

Stun batons are common law enforcement tools. The damage they do can drop a target to zero hit points, but will not kill them, the victim awakening in ten minutes with one hit point. Stun batons trickle-charge from normal movement and will not run out of electrical energy under normal use conditions.

Suit rippers are rods with fractal cutting surfaces designed to cripple vacc suit auto-repair routines. Every hit with a suit ripper counts as a suit tear on a vacc suit-wearing enemy. Unsurprisingly, these weapons are strictly illegal in space environments.

Unarmed attacks reflect ordinary kicks and punches. Unarmed attacks always add the attacker's Punch skill to damage rolls, unlike other weapons. Kinesis wraps, spiked knuckles, and other small fist weapons may be treated as small advanced or primitive weapons that use the Punch skill and add the skill level to their rolled damage, but not to Shock. Such weapons do not augment a hero with the *Unarmed Combatant* focus.

Shock

Many melee weapons have a **Shock** trait representing the danger they pose to an ill-armored opponent. Shock damage represents the inevitable cuts, bruises, exhaustion, and terror of close combat.

Shock damage is only inflicted on a melee target if the hit roll *fails*, and it only applies if the target has an AC equal or less than that listed for the Shock.

Shock damage always includes the wielder's attribute modifier and any bonus damage granted by weapon mods, foci, advanced tech, or other damage bonuses. An actual hit with a weapon never does less damage than Shock would otherwise inflict; if the user somehow rolls less damage, use the Shock damage instead.

Thus, if you had a Strength score of 14 and were swinging an oversized alien battle axe at a target with AC 13, you would inflict 3 points of damage on a miss; 2 from the weapon's Shock, plus 1 from your Strength modifier. If you hit, you'd do at least 3 points.

Weapon	Damage	Shock	Attribute	Cost	Enc.	TL
Small primitive weapon	1d4	1 point/AC 15	Str/Dex	0	1	0
Medium primitive weapon	1d6+1	2 points/AC 13	Str/Dex	20	1	0
Large primitive weapon	1d8+1	2 points/AC 15	Str	30	2	0
Small advanced weapon	1d6	1 point/AC 15	Str/Dex	40	1	4
Medium advanced weapon	1d8+1	2 points/AC 13	Str/Dex	60	1	4
Large advanced weapon	1d10+1	2 points/AC 15	Str	80	2	4
Stun baton	1d8	1 point/AC 15	Str/Dex	50	1	4
Suit ripper	1d6	None	Str/Dex	75	1	4
Unarmed attack	1d2	None	Str/Dex	-	-	-

HEAVY WEAPONS

Some weapons are simply too big to be comfortably used without a tripod, fixed support, or vehicle mounting. Others require specialized training in the use of heavy munitions. The weapons listed here all use the Shoot skill to determine hit bonuses, and unless otherwise noted, all require some sort of support for firing.

Energy weapons use Type B power cells. Rocket launchers and hydra arrays use missiles as given on the gear tables, while heavy machine guns and wheatcutter belts consume large amounts of standard ammunition.

Some heavy guns can be fired to *suppress*. Double the usual ammunition is fired in one round, and every target in front of the weapon that is not under hard cover is automatically hit for half normal damage. A successful Evasion saving throw eliminates this damage.

When firing at TL4 military vehicles such as gravtanks, mechs, or starship armor, most TL3 Heavy weapons don't count as Heavy for armor-penetrating purposes. Demo charges and explosives do, however.

Heavy Weapons

Heavy machine guns represent a large family of air- or water-cooled projectile weapons that are usually fed with belts of linked ammunition. HMGs require a vehicle mounting or emplaced firing position for effective results. An HMG magazine contains enough ammunition for 10 rounds of firing, but each round of firing eats 25 credits worth of projectile ammunition.

Rocket launchers cover a wide variety of man-portable missile launchers of varying degrees of sophistication. The weapons are usually equipped with basic tracking sensors, but are of limited accuracy against human-sized targets. Rocket launchers take a -4 hit penalty against targets of human size or smaller. Unlike most Heavy weapons, rocket launchers can be shoulder-fired without a prepared emplacement to support them.

Demo Charges are the general run of placed explosives beloved of terrorists and adventurers the world over. The usual variety can be detonated by radio signals, timers, or electrical charges, and inflict their damage on any objects within twenty meters, with an

Evasion saving throw for half damage. Victims within forty meters take half damage, with an Evasion save for none. The charge is sufficient to blow a four-meter wide hole in anything short of a reinforced wall. PCs with a background in demolitions or Fix-0 skill can shape the charge so it directs the blast in only one direction, sparing all but two meters of the rest.

Railguns are simply scaled-up versions of personal mag rifles. They accelerate large metallic slugs along the weapon's barrel, creating a steady spray of hyper-velocity rounds. Ammunition sufficient for one round of firing costs 50 credits.

Anti-vehicle lasers are less useful against soft targets, but excel at penetrating vehicle armor. Against vehicles and other hard-skinned targets, damage is rolled twice and the better result is used.

Hydra arrays sequence a number of missile launchers to fire at once. The gunner designates up to three targets and can then make three rolls to hit divided among them. Each successful hit on a target allows the gunner to roll damage once, but only the highest damage roll is applied to the target. Thus, if all three volleys were aimed at a single target and two of them hit, the gunner would roll damage twice and apply the best result. A volley from the array costs 150 credits.

Wheatcutter belts are one of several different antipersonnel measures often installed on gravtanks and other fighting vehicles. When triggered, a belt of explosives fires off a scything blast of shrapnel on any side of the vehicle. All creatures within 10 meters of that side of the vehicle must make an Evasion save for half damage. Those within 20 meters take half damage, and can make an Evasion save to take none at all. Wheatcutter belts do not ignore a vehicle's Armor like other Heavy weapons do. Reloading a wheatcutter belt costs 200 credits per round.

Vortex cannons use controlled gravitic shear planes to cause a target to simply fall apart into component fragments. The cannons are silent in operation, but so heavy and complex that they can only be mounted on gravtanks and other similar dedicated fighting vehicles.

Heavy Weapon	Dmg.	Range	Cost	Mag	Enc.	Attr.	TL
Heavy Machine Gun	3d6#	500/2,000	5,000	10	3	Dex	3
Rocket Launcher	3d10	2,000/4,000	4,000	1	2	Dex	3
Demo Charge	3d10	20/40	250	-	1	-	3
Railgun	3d8#	4,000/8,000	8,000	20	*	Dex	4
Anti-Vehicle Laser	3d10	2,000/4,000	10,000	15	*	Dex	4
Hydra Array	3d6#	4,000/8,000	20,000	10	*	Dex	4
Wheatcutter Belt	2d12	10/20	10,000	5	*	Dex	4
Vortex Cannon	5d12	1,000/2,000	75,000	5	*	Dex	5
# this weapon can fire to suppress							

GENERAL EQUIPMENT

Most of the equipment listed here is available on any TL4 world. Even the TL5 items are among the simpler and more ubiquitous pretech relics and could likely be acquired on a sufficiently prosperous world with a good market in Mandate tech. Buying any TL5 equipment on the open market is subject to GM approval, however, and many worlds are flatly ban private ownership of ancient Mandate technology.

Some encumbrance entries are marked with an asterisk. Such items have no significant encumbrance and dozens can be carried without hindrance.

Other entries are marked with a hashmark. These objects can be conveniently packed together in a smaller, more portable package. Three such objects can be packed together as a single encumbrance item. For ammunition, one loaded magazine counts as one item. Breaking open such a package to get at the contents takes a Main Action, however, before they can be Readied with another Main Action.

Ammo and Power	Cost	Enc.	TL
Ammo, 20 rounds	10	1#	2
Ammo, missile	50	1	3
Power cell, type A	10	1#	4
Power cell, type B	100	1	4
Solar recharger	500	3	4
Telekinetic generator	250	2	4

Communications	Cost	Enc.	TL
Comm server	1,000	3	4
Compad	100	*	4
Field radio	200	1	4
Translator torc	200	*	4

Computing Gear	Cost	Enc.	TL
Black slab	10,000	1	4
Data phase tap	5,000	1	4
Data protocol	1,000	*	4
Dataslab	300	1	4
Line shunt	100	*	4
Remote link unit	250	1	4
Stiletto charge	*	1	5
Storage unit	500	3	4
Tightbeam link unit	1,000	1	4

Field Equipment	Cost	Enc.	TL
Atmofilter	100	1	4
Backpack	5/50	1/*	0/4
Binoculars	20/200	1	3/4
Climbing harness	50	1	3
Glowbug	5	*	3
Grapnel launcher	200	1	3
Grav chute	300/1,000	1	4/5
Grav harness	5,000	3	5
Instapanel	50	1#	4
Low-light goggles	200	1	3
Navcomp	500	1	4
Portabox	50	1	4
Pressure tent	100	4	3
Rations, 1 day	5	1#	1
Rope, 20 meters	4/40	2/1	0/4
Scout report	200	*	4
Survey scanner	250	1	4
Survival kit	60	1	4
Telescoping pole	10	*	4
Thermal flare	5	*	3
Trade goods	50	1#	4
Trade metals	10	1#	4
Vacc fresher	400	1	4
Vacc skin	1,000	1	5
Vacc suit	100	2	4

Pharmaceuticals	Cost/Dose	Enc.	TL
Bezoar	200	*	4
Brainwave	1,000	*	5
Hush	200	*	4
Lift	50	*	4
Psych	25	*	4
Pretech Cosmetic	1,000	*	5
Reverie	100	*	4
Squeal	300	*	4
Tsunami	50	*	4

Tools and Medical	Cost	Enc.	TL
Bioscanner	300	1	4
Lazarus patch	30	1#	4
Medkit	100	2	4
Metatool	200	1	4
Spare parts	50	1#	4
Tailored antiallergens	5	*	4
Toolkit/Postech	300	3	4
Toolkit/Pretech	1,000	1	5

Ammo and Power

The finest product of a 33rd-century armory is useless if it lacks the bullets or power cells to feed it. For ease of play, ammunition can be used interchangeably with any projectile weapon. Power cells are designed along Mandate-era lines that allow for easy compatibility among devices from different worlds.

Ammunition: A few worlds are too primitive or too resource-poor to manufacture ammunition, but the vast majority of worlds provide cartridges in almost every conceivable caliber and make. Most local gunsmiths can load ammunition to any specification required by a buyer.

Ammunition, missile: Some characters might have reason to pack along a man-portable rocket launcher, or have one mounted on their favorite gravcar. Heavy weapons and their ammunition are usually outlawed for civilians on most worlds, but this price is for locales where missiles can be bought.

Power cells: One of the few standardized artifacts inherited from before the Silence, power cells are small cylindrical objects designed to take and hold electrical charges. Type A cells are usually used for personal equipment, and the larger type B cells for vehicles and heavy gear. The engineering for the cells is substantially different, and they cannot be exchanged or recharge each other without a trained tech's modifications or a converter unit. Power cells can be recharged off a ship's power plant or other grid. Recharging requires 30 minutes for a type A cell or 24 hours for a type B cell.

Solar recharger: This recharger unfolds into a 2 meter by 2 meter square field of solar cells. Granted a primary star of roughly Earth-like intensity, it can recharge one type A power cell per day.

Telekinetic generator: While this device assumes the presence of a trained telekinetic, it isn't strictly psitech, as its operation is quite simple. A telekinetic user pushes a resistance bar within the generator, causing a flow of electricity to recharge an attached power cell. Any telekinetic with Telekinesis-1 skill or better can recharge a cell with fifteen minutes of concentration. In an emergency, a character with at least Strength 10 can operate the generator manually, though they need to succeed on a difficulty 8 Con/Exert skill check in order to keep up the pace for an hour. Failure means that the character must rest for at least an hour before trying again. The generator can charge one type A power cell at a time.

Communications

Almost all TL4 worlds have a planetary communications grid compatible with any standard compad. Some planets are less technologically gifted, however, or have local conditions that preclude easy wireless communication. Other times, the PCs have reason to avoid leaving call logs that might come back to haunt them.

Comm server: A powerful base unit for providing communications without comsats. The server provides service between up to three dozen compads within 300 kilometers of the unit. Server usage can be locked to specific compads, and all transmissions are heavily encrypted. A comm server can function for several months on a type B cell.

Compad: One of a host of different hand-held portable communications devices. Most TL4 worlds have global comm coverage, but primitive worlds render these devices useless without a nearby comm server to provide connectivity.

Field Radio: On worlds too primitive to have a comm grid, adventurers often fall back on these headset-mounted field radios. A single type A cell powers them for months of use. Urban or rugged terrain limits their range to about two kilometers, while flat plains give a maximum range of thirty kilometers. Someone with at least Program-0 skill can use the radio's shortwave functionality to communicate with a prepared target at continental distances if given ten minutes for tuning.

Translator torc: Each translator torc is keyed for two languages, and will automatically translate what it hears in one into speech in the other. The translations are eccentric in many cases, and there is always a several-second delay between each statement and its translation. Any attempts to exert social skills or Charisma through a translator torc suffer a -2 skill check penalty. The torc is powered by one type A power cell, which lasts for one week of regular use.

Computing Gear

Computing devices are ubiquitous on most TL4 worlds, though not all of them have the kind of planetary network known on 21st century Terra. Would-be hackers often find it necessary to take a very personal hand in breaching site security.

Black slab: While a "black slab" appears to be a normal dataslab to casual examination, these devices are packed with intrusion-optimization hardware and integral line tapping tools. They function as a metatool for purposes of accessing data lines and grant a +1 bonus to all hacking attempts made with them. They are also quite illegal on most worlds, available only from black market dealers and private sales from hackers.

Data phase tap: This handheld device is normally illegal outside the possession of licensed data line repair technicians. The tap can detect data lines within five meters through up to ten centimeters of ordinary walls, and can generate an energy manipulation field that allows tapping that data line for hacking purposes without physically damaging the wall.

Data protocol: Not so much a device as a collection of standard manuals on a world's particular data formats and security methodologies. The price listed here are for black-market manuals on worlds where this information is rigidly restricted. On less paranoid planets, the equivalent information can be acquired for free.

Dataslab: A palm-sized computing device that can unfold into a thin slab roughly one-third of a meter on a side. It can perform all the functions of a compad or handheld computer and can communicate wirelessly with nearby devices.

Line shunt: These palm-sized discs are roughly one centimeter in thickness, with an adhesive side that will stick to virtually anything and a polychromatic phased compound on its shell which will shift color to blend with its surroundings. One or more line shunts must be applied at specific locations within a site to access the more well-defended varieties of computerized systems. Shunts employ phased energy manipulation tech, and so do not need to be directly in contact with a data line but only within a few centimeters. Line shunts are single-use, and keep functioning until removed.

Remote link unit: These data broadcast link units have been preloaded with one-time pad security measures, advanced stealth circuitry, and sophisticated data progression algorithms. Two of these links can allow a user to maintain contact with a remote data storage unit. The connection is too "stiff" to allow for easy hacking, however, and it applies a -2 penalty to any attempts to hack through it. Professional-grade security systems often have means to detect the broadcast of a remote link unit.

Stiletto charge: These ancient Mandate-era polymorphic intrusion charges were originally made to allow Mandate agents to easily overcome primitive colonial data security measures. Each charge is a small interface plug the size of a human thumb. When used as part of a hack against a TL4 system, it causes the skill check to automatically succeed regardless of the difficulty. Without line shunts, however, the duration of the hack is still no more than the usual 1d4 rounds plus the hacker's Program skill. These devices are single-use, and are prized so highly that they are almost always unavailable for conventional purchase. Favors to the right people and the looting of Mandate remnants are the only normal ways to acquire these devices.

Storage unit: While conventional dataslabs have ample space to hold any reasonable amount of data, sometimes a party needs to store or acquire a truly huge dataset. This standard TL4 storage unit is a portable but clumsy case hardened against anything short of intentional damage with a firearm, capable of interfacing with a wide variety of hardware to receive and upload data. A single storage unit can hold a tremendous amount of data that has been carefully compressed and optimized for it. If the user is simply ripping a database off a network and stuffing it into the unit, it can absorb up to a small corporation's complete files.

Tightbeam link unit: Much like a remote link unit, a tightbeam unit uses a laser to connect via line-of-sight transmission. Unlike a remote link unit, there's almost no chance for a conventional security system to detect this link, but it requires that the infiltrators get a clear line of sight between the unit and the receiving end. Commercial satellite reception units can be employed for skyward aiming at 500 credits/hour if a second land unit is unavailable, but indoor use is impossible.

Foreign Protocols

Most surviving human worlds continue to use a basic Mandate-derived communications protocol that ensures a minimal level of compatibility between hardware from different worlds. While the performance may not be ideal, tech purchased on one world should still be able to interface with the local tech on a different planet.

Even so, a few worlds of a more xenophobic or isolated nature intentionally abandon this standard protocol in favor of their own. PC hardware on these worlds will not communicate with the local grid unless a PC with Program or Fix skills has a chance to reset the protocols to something compatible with local conditions. Such work usually takes at least a day to adjust all the gear the group might possess.

Pharmaceuticals

Modern pharmaceuticals are usually applied as "stims"; small capsules that are pressed against the target's skin for application. While a wide variety of common over-the-counter stims are available, the ones listed below are some particularly likely to be useful to adventurers. Many medical stims require a minimum level in the Heal skill to successfully apply them, while others add System Strain to the target as described on page 32. If a subject's System Strain is too high already, the stim has no positive effect. Some of the combat stims below are usually illegal for civilian possession, but street sources are available at the prices given.

Modern vacc suits and powered armor have medical ports that allow for applying stims and other medical treatment without removing the suit.

Bezoar (Heal-1): A complex antibiotic cocktail, Bezoar is an effective default treatment for a wide variety of infectious diseases. When applied to a sufferer, roll 1d6; on a 1, this victim cannot be helped by Bezoar, while otherwise the affliction is cured within 24 hours. Each application of Bezoar adds 1 System Strain to the target, and it cannot cure cancers, bioweapons, or congenital diseases.

Brainwave (Heal-2): This psitech drug requires advanced TL5 facilities to compound, and the few remaining doses from pre-Silence periods are rarely available on the open market. Application of Brainwave gives a psychic 2 extra maximum Effort for one hour. At the end of that hour, they suffer 4 points of System Strain. If their Strain is maximized by this, they go unconscious for one hour. Only one dose can be active at a time.

Hush (Heal-0): An extremely heavy neurotranquilizer, Hush leaves the subject awake and responsive to simple, untaxing commands. They cannot fight or communicate while affected by Hush, but will walk, eat, sit, and perform simple actions as directed by the last person to speak to them. A Hush dose lasts for an hour plus three per Heal level of the person applying the stim, and the subject retains no memories while under the effect. A subject must be immobilized or willing to be affected by Hush; violent physical movement immediately after application disrupts the neurological effects.

Lift (Heal-0): A Lift stim augments and amplifies the body's natural response to physical injury and exhaustion. This boost speeds natural recovery drastically and heals 1d8 plus the user's Heal skill in hit points after five minutes of rest. Lift stims do not work on PCs who are mortally wounded; they need to be stabilized before the Lift can help them, though application to a stabilized target will get them back on their feet and active again. Each application adds 1 System Strain to the target. Each additional application of Lift to a target the same day increases the minimum Heal skill needed by 1.

Pretech Cosmetic (None): Before the Silence stims existed for a host of cosmetic, hygiene, and health purposes. While these effects are trivial, the basic pretech stim substrate also works to heal 1d6 lost hit points in the user at a cost of 1 System Strain.

Psych (None): A military drug duplicated in rougher form by many street chemists, Psych fills the user with an intense sense of confidence and reckless courage. Unfortunately, it also cripples their judgment regarding danger. A person affected by Psych immediately gains a Morale score of 12 and a +1 bonus on all skill checks, but will ignore cover during combat and cannot decide not to attempt a skill check after learning its difficulty. The effect lasts fifteen minutes, adds 1 System Strain to the user, and is highly psychologically addictive.

Reverie (Heal-1): This very dangerous combat drug completely subdues the subject's fear centers and adrenaline production, leaving them perfectly calm and relaxed even in the midst of mortal danger. Their reaction speed is much slower as a consequence, and they may act only on even-numbered combat rounds; so on the second, fourth, and sixth rounds and so forth. Any damage they suffer is doubled as well due to their lack of vigilance. Their perfect calm allows them to shoot as if on the target range, however, and they can make Dex/Shoot skill checks to hit a target instead of hit rolls; the difficulty is 7 at point blank, 9 at normal ranges, and 11 at long ranges for the weapon. The target's Armor Class is ignored. Melee attacks made under Reverie always hit. Reverie lasts for ten minutes and adds 2 System Strain to the target.

Squeal (Heal-1): This "truth serum" is unreliable but still one of the best available options for field interrogations. The subject must be immobilized or willing to be affected by it. For five minutes afterwards they will be unable to avoid answering questions about facts known to them; they will be unable to exercise anything resembling a hypothesis or a judgment, but they will answer specific questions about facts known to them truthfully. Unwilling victims can attempt a Physical saving throw; on a success, they can simply refuse to speak about one particular topic of their choice. Targets pass out for 1d6 hours after the drug wears off and are immune to it for a week thereafter.

Tsunami (Heal-1): An emergency combat stim used to juice certain expendable soldiers before an assault, Tsunami fills them with a reckless disregard for pain and an intense aggressiveness. The short effect duration and difficult application limits its wider use, however. Subjects gain a Morale score of 12, 10 extra hit points for ten minutes and a +2 bonus on all hit rolls. At the end of the duration, they immediately lose those 10 hit points, which may leave them mortally wounded. Each application adds 2 System Strain to the target.

Tools and Medical Gear

While a skilled technician or expert physician can make do with improvised tools scrounged from their surroundings, most adventurers prefer to be better-equipped to face unavoidable perils. Most of these tools and medical supplies are available on any TL4 world, though pretech toolkits usually require excellent personal contacts to obtain.

Bioscanner: While an untrained user can use this tool to discern internal bleeding, gross physical distress, or toxins in a plant or animal, it requires Heal-0 skill to use this tool to its fullest. Such operators can use the bioscanner for a full spectrum of diagnosis and DNA sequencing achievable in minutes. One type A power cell will power it for up to twenty-four hours of regular usage.

Lazarus patch: A vital tool for adventurers, the lazarus patch is a heavy compress laced with antibiotics, coagulants, system stabilizers, plasma, and a one-shot diagnostic suite. If the patch is applied to a character that has fallen to 0 hit points, the user can make an Int/Heal or Dex/Heal skill check against difficulty 6 to stabilize the subject. The more time between injury and application, the less chance the patch has to work. Each round after the first, an additional -1 penalty is applied to the skill check. The patch is no use after six rounds. If the medic fails the first skill check, they can keep trying the check once per round until the victim is revived or time runs out.

Lazarus patches are no use on victims that have died of disease, poison, or have been mangled beyond surgical repair by Heavy weapons or similar trauma. Only one patch can be applied to a victim. Revived victims are critically wounded until sufficient medical help has been tendered; see the Systems chapter for details.

Medkit: Containing a broad supply of pharmaceuticals, spray bandages, glue sutures, and a succinct handbook of injury care, the medkit is designed for handling sudden and drastic injuries. It also contains all the necessary tools for providing long-term recuperative care for critically injured characters. After each day of granting long-term recuperative care, roll 2d6 per patient treated; on a 12, the kit has run out of some vital pharmaceutical and has become useless.

Metatool: This wrist-mounted housing contains a myriad of small, useful tools designed to handle the widest possible range of technical needs. While a metatool is too limited to handle major jobs, it is usually sufficient to manage jury-rigged repairs and temporary fixes until the tech has time to apply a larger wrench to the problem.

Spare parts: This is a general category for a number of small TL4 components and repair materials. While a simple toolkit or metatool is often enough to fix a damaged object, severely broken devices may need replacement parts. Rather than keep a catalog of bits and pieces, a technician can simply bring along one or more units of spare parts, subtracting one whenever the GM decides that a repair effort requires more than existing salvage can support. A unit of spare parts can also be used to jury-rig some basic, uncomplicated tool or weapon from the equipment list with ten or fifteen minutes of assembly and at least Fix-0 skill. Such bodged devices rarely last longer than one scene.

Tailored Antiallergens: A dose of tailored antiallergens can be used to render a local world's organics largely edible by humans and its atmosphere breathable without severe allergic reactions. While many worlds have been seeded with Terran life forms or have produced organics that are edible by humans, others are toxic without the appropriate chemical augmentation. A dose of these antiallergens lasts for twenty-four hours.

Toolkits: Containing a wide range of necessary tools for a particular skill set, toolkits can handle almost any job that doesn't require a full-scale shop or lab. A standard postech toolkit can handle electronics, small welding jobs, and basic repair on ordinary TL4 goods. More sophisticated pretech tools are necessary for working on advanced TL5 artifacts, and the tools themselves are very rare and difficult to obtain.

Building New Tech

In a science-fiction game, it's often difficult to figure out the limits of ad-hoc tech. When the limits of technology often seem to be based on genre rather than physics it can be tough to make the call.

Most of the time, it's simply not practical for a technician to devise dramatic new tech without the use of a full-scale research facility.

Even so, sometimes a PC will ask to build something that creates a particular effect that seems in line with other gear of a similar tech level. A hologram-emitting "grenade", a jury-rigged set of infrared goggles, an explosive that detonates if background radiation drops below a certain level… these things match known TL4 tech.

In these cases, the GM should set a plausible-seeming price in credits or spare part units, assign a time ranging from fifteen minutes to a month based on the complexity of the tech, and roll a secret Int/Fix check against a difficulty from 8 to 12. When the tech is actually used, the skill check determines whether it functions or not.

Most such jury-rigged tech works only once, being too fragile or quirky to last more than a scene. Repeated refinement and testing may allow for a more lasting piece of equipment.

Field Equipment

When venturing into the trackless void every adventurer is going to need the right hardware to survive the experience. The field equipment in this section includes some of the more common technology favored by explorers and fearless investigators of alien worlds. The TL5 equipment listed here can usually be found for sale on populous worlds with an active commerce in pretech relics, but smaller or more backwards worlds may not have any of it available.

Atmofilter: This face mask can filter out most atmospheric toxins. Attaching a standard vacc suit oxygen bottle to a belt-mounted feed will also supply a breathable atmosphere for up to six hours.

Backpack: TL4 versions of this item are effectively without encumbrance, albeit they cost 50 credits. A worn backpack counts as a readied item, though objects stowed inside it still require the usual round to dig free. Characters without backpacks or similar carrying devices might have difficulty justifying the hauling of large amounts of gear.

Binoculars: Standard 7x50 binoculars. TL4 versions are available that have integral low-light optics and up to 25x150 power. TL 4 binocs cost 200 credits and require a type A power cell for up to a week of regular usage.

Climbing harness: A collection of straps, ropes, pitons, and other climbing aids that grant a +1 bonus on any Exert climbing skill test. Using a climbing harness is noisy, and any Sneak skill checks while climbing with one suffer a -2 penalty.

Glowbug: A palm-sized disc that can adhere to any non-porous surface. When turned on, it emits a white light, illuminating everything within ten meters for twenty-four hours. A hundred glowbugs can be recharged off a single type A cell.

Grapnel launcher: This launcher fires a rope up to forty meters. The rope can bear up to a metric ton of weight, though extremely heavy weights or a precarious hit can cause the grapnel to pull free. A Type A power cell fuels six shots from a launcher.

Grav chute: When this cylinder is strapped to a person or object and activated, it smoothly modulates falling speeds for up to 1000 meters. The chute can safely slow up to 300 kilos of weight. TL5 versions can operate from orbital heights and cost 1,000 credits, where they can be found at all. Both versions burn out after one use.

Grav harness: This advanced gravitic harness allows clumsy flight at a rate of 20 meters per round as a Main Action. It requires a Type B power cell to fuel it, and the miniaturized electronics are rapacious, consuming the cell in five minutes of operation. It can lift up to 200 kilos.

Instapanel: In its compressed form, an instapanel is a two-kilo cube of ceraplast five centimeters on a side. When a type A power cell is inserted in the cube's side, it immediately expands to an opaque, waterproof ceraplast sheet 2 meters on each side and a centimeter thick. Five minutes later the ceraplast hardens into a tough, rigid shape, but until then it can be folded or bent by hand. Instapanels can be bonded to one another with a metatool or a toolkit. Breaking an instapanel requires inflicting at least twelve points of damage on it.

Low-light goggles: These goggles provide a monochrome but serviceable view out to the wearer's normal visual distance, provided that there is any illumination available at all. A type A power cell will operate these goggles for a week.

Navcomp: A combination of low-tech compasses, automappers, astronomic charts, and gyroscopes packed into a flat, one-kilo case. A character with a navcomp will never get lost on worlds with GPS satellites. They can also make a crude but serviceable automatic map of all buildings or landscapes they travel through. Other terrestrial navigation skill checks are made at a +1 bonus.

Portabox: A small cube of ceraplast attached to an electronic keycard. When a type A power cell is inserted, the portabox immediately unfolds into a rigid locker with 1.5 x 1 x 1 meter dimensions. The portabox is air-tight and has a simple electronic lock which can only be opened with the keycard or a successful difficulty 8 Sneak or Fix skill check. Failing the check will cause the lock to short-circuit and seal the box until it can be cut open with a metatool or broken open with twenty points of damage.

Pressure tent: This tent maintains a breathable atmosphere, tolerable temperature and serviceable sleeping quarters for up to five very friendly occupants. Advanced filtration and cracking tech allows a single standard vacc suit oxygen tank to provide breathable air for the occupants for up to 24 hours. The tent requires a type A power cell for each day in which this filter is employed.

Rations: Dried or otherwise preserved foodstuffs sufficient for one day. If water is not otherwise available, add another item's worth of encumbrance for the water necessary for a person's daily needs.

Rope: Light and sturdy. A metatool can be used to cut and join the synthetics used in TL4 rope, which counts as one encumbrance item per 40 meters and costs 40 credits.

Scout report: A collation of survey scans and merchant reports on a particular lost world or isolated colony. Scouting reports are available for all but the most unknown worlds and provide maps, basic information, and note any critical cultural taboos.

Survey scanner: A multipurpose scanner that can take atmospheric and gravitic readings, provide basic chemical analysis of samples of up to one cubic centimeter in size, and record up to two hundred hours of video information or ten times that

amount of audio. Know skill checks are necessary for any but the most basic analysis.

Survival kit: A standard belt-worn kit with fire lighter, water filter, three thermal flares, knife, thermal blanket, a brightly-colored 3 x 3 meter waterproof tarp, a glowbug, and a radio beacon that can transmit a distress signal up to fifty kilometers for one month on the included type A power cell. Survival kits sold on a particular world will usually also include a small booklet on specific dangers or edible organics. Possession of a survival kit grants a +1 to all relevant Survive skill checks, assuming its contents are helpful on a given planet. Survival kits are well-organized, and count as only one item for encumbrance purposes.

Telescoping pole: Retracting to a 30-centimeter baton, this pole extends and locks into a 3.048-meter extension that can bear as much as a thousand kilograms of weight or serve as a makeshift club.

Thermal flare: If triggered in one mode, the flare burns with a bright white light for two hours, illuminating up to twenty meters around the holder. If the guidance fins are extended first, the flare launches up to 200 meters and explodes in a bright white flash. A launched flare does 1d6 damage to anyone it hits, though the clumsy flight gives a -4 penalty on any attempts to hit something with it.

Trade goods: Glowbugs, ceramic fire lighters, antibiotics, ceraplast tools, and the other fruits of a TL4 civilization that might be valuable on more primitive worlds. A kilo of trade goods can usually be traded for at least a hundred credits worth of local products on more primitive worlds that are not well-served by interstellar merchants. The profit margin shrinks rapidly as interstellar trade becomes more common, and there is always the difficulty of finding local products that are actually worth a merchant's journey.

Trade metals: The fruit of common TL4 asteroid mining, trade metals include gold, platinum, artificial gemstones, and other substances precious on many lost worlds and trivially valuable on spacefaring ones. A kilo worth of trade metals can be exchanged for as much as a thousand credits worth of local products on metal-poor worlds isolated from interstellar trade. Markets flood rapidly, however, and it usually doesn't take more than a few merchant trips to persuade the locals to demand trade goods or credits.

Vacc fresher: This three-kilo tube filters and compresses atmosphere to refill vacc suit oxygen tanks. It can extract oxygen from any atmosphere which contains it, even in the form of carbon dioxide. Refilling a standard vacc suit tank requires ten minutes of operation and consumes one type A power cell. Most vacc freshers are also equipped with an emergency hand crank power source, though it requires at least two hours of cranking.

Vacc suit: The standard TL4 vacc suit is designed to allow the wearer to survive in both hard vacuum and on most inhospitable planetary surfaces. The suit protects against ordinary levels of cosmic radiation and provides a temperature-controlled atmosphere. Vacc suits are equipped with radios that have a ten-kilometer range. A vacc suit oxygen tank weighs 1 encumbrance, included with the weight of the suit, and functions for six hours.

Vacc suits are cumbersome, and apply a -2 penalty to all hit rolls and skill checks that require movement. Those with at least a month of zero-gee experience can ignore this penalty. No armor can be worn with a vacc suit, though the suit itself grants AC 13 to its wearers. A vacc suit requires one type A power cell for each twelve hours of operation.

Vacc suits have a self-healing exterior that can seal the puncture wounds caused by bullets, arrows, or energy beams, but a strike from an edged weapon can overwhelm the repair system. If a character with 10 or fewer hit points is struck by an edged weapon, there is a 50% chance the suit is torn. Suits are equipped with emergency repair patches, but it requires a Main Action to apply one. Exposure to vacuum is described on page 58.

Vacc skin: A more advanced TL5 version of the vacc suit, this skin-tight suit can be worn as a readied item in conjunction with armor, though it grants no Armor Class bonus itself. It requires no oxygen tank, automatically cracking and recycling the wearer's respiration, and can even recycle the wearer's bodily waste into drinkable water if necessary. Vacc skins apply no penalty to hit rolls or skill checks for wearers. It suffers tears in the same way as a normal vacc suit, and requires a type A power cell for each 24 hours of operation.

LIFESTYLES, EMPLOYEES, AND SERVICES

Adventurers who spend much time in a place are likely to need to buy food, shelter, and the usual trifles of daily living. Rather than itemize each expense, a PC can simply spend an fixed amount for each day they spend living outside of a ship's crew, barracks, or other arranged living situation.

Slum lifestyles reflect bare minimums for survival, with scanty food, a corner in a squat somewhere, and little else. *Poor* lifestyles involve barracks-like quarters, public transport, and small and infrequent luxuries. *Common* lifestyles usually allow for a private urban apartment or rural home, a rented personal vehicle, a respectable wardrobe, and regular small indulgences. *Good* lifestyles permit a private urban townhouse or similar dwelling, a spacious rural home, a better grade of personal vehicle, and the ability to indulge in minor expenses such as restaurants or clubs without concern. *Elite* lifestyles allow for entire floors of luxury buildings or rented rural estates, drivers and on-call gravflyers,

Lifestyle	Cost/day
Slum	5
Poor	10
Common	15
Good	25
Elite	200
Peerless	1,000

personal staff, and similar perks. *Peerless* lifestyles are similar to that of pampered celebrities and oligarchs, with round-the-clock staff service, free entrance into the most exclusive locales, and the best of everything.

Prices given here assume short-term rentals and contracts, plus the inevitable premium charged to outsiders in almost any society. Natives might be able to enjoy a given level of lifestyle for only half as much, but such savings usually rely on a local's connections.

PCs will sometimes need to hire help, and GMs occasionally need to know what constitutes a "good wage" for a local NPC. The prices to the right reflect daily wages for NPCs with level-0, level-1, and level-2 skill ratings in their relevant professional skills. More talented employees cannot normally be obtained without special effort in finding and recruiting them.

Psychics are both rare and expensive to hire. Even if one can be found, they rarely charge less than 200 credits per day per psychic skill level to be employed.

Employees will carry out ordinary duties without demur, but will be no braver or more dedicated than their pay and connections would make them.

Employee	Wage/day
Artist	3/10/100
Programmer	10/30/100
Doctor	50/100/400
Guard	10/20/150
Lawyer	10/25/400
Prostitute	2/10/200
Psychic	Special
Scientist	10/30/100
Technician	10/30/100
Unskilled Labor	2/8/15

Adventurers often need to obtain certain services or concessions from the locals, and the list to the right provides prices for some of their more common needs.

Bribe prices often vary depending on a planet's general level of corruption, but the prices here are normal for most. Minor crimes usually involve anything that would only earn a fine or a few months in jail. Major crimes include most felonies and anything that would earn years in prison. Capital crimes are any that would get a culprit executed on the world. Particularly blatant or sensitive offenses might be impossible to solve with mere bribery, though the right "special favors" to the right officials might win a reprieve.

Forged identity papers include high-quality documentation with the appropriate false database entries. They're good enough to survive checkpoints and security stops, but they won't hold up to a serious check by a suspicious bureaucrat.

Service	Cost
Bribe, minor crime forgiveness	50
Bribe, major crime forgiveness	500
Bribe, capital crime forgiveness	5,000
Forged identity papers	500
Intensive medical care	200/day
Mail message, interstellar	1/hex
Mass transit weekly pass	2
Rent a TL4 workshop	100/day
Rent a groundcar	15/day
Starship passage, steerage	500/hex
Starship passage, good	1,000/hex
Starship cargo shipping, per kilo	25/hex
Wildly decadent party	100/person

Vehicles

Most modern TL4 worlds rely on electrically-powered gravitic vehicles. Whether in the ubiquitous gravcar, hovercycle, or high-altitude gravflyer, cleared roadways carry the traffic of countless worlds. On rougher worlds, the roads may not even be paved, instead relying on a gravitic vehicle's high clearance to avoid holes and rough debris.

Less sophisticated worlds are still reliant on internal-combustion engines. Many worlds have sufficient local resources to fabricate some kind of combustible fuel, but a few are so impoverished that they lack even this minimal resource. Such worlds must rely on muscle power for transport, either that of alien beasts or humble human porters.

Vehicle Statistics and Combat

Vehicles are generally powered by type B power cells on TL4 worlds. More primitive planets are usually forced to use some form of biofuel unless they're fortunate enough to have a supply of fossil fuels. Vehicles require one cell or one refueling per six hours of operation, assuming they don't have convenient power access.

Vehicles are generally limited to reasonably flat, dry terrain. Grav vehicles such as hovercycles can ignore rough terrain and calm water, as can ATV explorers. Most grav vehicles can boost more than 10 meters above the ground or water; gravflyers are purpose-designed aircraft capable of hovering and VTOL.

Speed is an abstract measure of the vehicle's speed and agility. When vehicles chase each other, the opposing vehicle's Speed should be applied as a penalty to Pilot skill checks to close or escape. Speed may also be used as a modifier when attempting difficult maneuvers or trying to avoid a peril on the road.

Armor is subtracted from all weapon damage done to the vehicle. Armor does not apply to damage done by Heavy weaponry; such guns are often designed to take out vehicles. Gravtanks in particular are immune to anything short of TL4 Heavy weapons, while less sophisticated tanks are immune to anything below TL3 Heavy ordnance.

Actually hitting the vehicle is automatic if the vehicle is stationary and within 30 feet. Hitting a vehicle-sized target from beyond that range requires an attack against AC 10. If the target is moving, subtract its Speed from the hit roll, and if the attacker is in a moving vehicle as well, also subtract their Speed.

Hit Points indicate the amount of damage a vehicle can take before it is destroyed. Speed is reduced by half when the vehicle is at half hit points, and flying vehicles must land at the first opportunity. A vehicle reduced to zero hit points forces all crew and passengers to make Physical saving throws. Failure means that the passenger takes the vehicle's maximum hit points in damage, while success reduces the damage by half.

Crew gives the maximum number of vehicle occupants. For the listed vehicles, only one crew member is actually necessary to drive or pilot the vehicle, though additional crew members may be required to fire.

Tonnage is the shipping weight of the vehicle for ship loading purposes.

Tech Level indicates the minimum tech level for constructing the vehicle. Vehicles can be built at higher tech levels for better performance, but most worlds prefer to simply build more advanced vehicles.

Vehicle Weaponry

Most vehicles larger than a motorcycle or hovercycle can mount some kind of integral weapon. Groundcars and gravcars can mount one weapon, while ATVs, helicopters, atmoflyers, and gravflyers can mount two. Gravtanks are specialized weapons platforms, and can mount six.

Heavy weapons take up more space than ordinary ranged weapons, and each such system takes up the space of two lesser guns.

Every weapon requires its own gunner, and all mounted weapons use Shoot as the firing skill, though the GM might allow Pilot to be used for a nose-mounted weapon aimed by the operator. Gravtanks are equipped with advanced targeting systems, and all of their weapons can be targeted and fired by one gunner.

Vehicle	Cost	Speed	Armor	HP	Crew	Tonnage	TL
Motorcycle	1,000	1	4	10	1	1	3
Groundcar	5,000	0	6	30	5	10	3
Hovercycle	5,000	2	3	10	1	1	4
Gravcar	20,000	2	4	25	5	10	4
ATV Explorer	15,000	0	8	40	8	25	3
Helicopter	25,000	3	6	20	6	50	3
Atmoflyer	30,000	4	8	25	6	50	3
Gravflyer	40,000	5	8	25	6	50	4
Gravtank	200,000	2	Special	50	3	50	5

Types of Vehicles

Every world has its own brands of common vehicles, but the types below cover the more usual models. The prices given for each reflect a mid-range new vehicle sold to a PC with few local contacts. Natives who know the right people or are willing to buy used or "quirky" vehicles might be able to get one at half that price.

Motorcycles can navigate urban terrain that would block larger vehicles, but more rural landscapes can prove more difficult. *Hovercycles* are the TL4 equivalent, capable of brief boosts of up to 10 meters above the ground and the easy navigation of all but thick forests or sheer slopes.

Groundcars are the TL3 analogs of the vehicles commonly in use on 21st-century Earth, allowing for some minor variations in electronics and capabilities. Primitive buggies of various kinds are found even on higher-tech worlds, thanks to their ease of construction and maintenance compared to the delicate gravitics of more modern vehicles.

Gravcars are the standard personal vehicles of most TL4 worlds, though most lower-class citizens rely on public transport in urban areas. Most advanced worlds have planetary transit grids that allow occupants to simply code in a destination and let the car take them there. On worlds where a lack of infrastructure or hostile local conditions preclude such convenience, manual controls and Pilot skill can be used.

ATV Explorers are rugged vehicles, either wheeled or tracked, and driven by type B power cells or locally-available biofuels. While they can't navigate rough terrain as easily as a grav vehicle, they're designed to take a tremendous amount of punishment before breaking down and support repairs using basic tools and frontier expedients.

Helicopters are used on TL3 worlds where a lack of airfields or treacherous local terrain prohibits the use of fixed-wing craft. Their ability to hover over an area or drop onto a tightly-constrained landing zone makes them particular favorites of quick-response military forces and groups in need of fast fire support. This model represents a medium-weight civilian craft that might be repurposed by militia or adventurers.

Atmoflyers are the fixed-wing aircraft used on planets too primitive to have developed gravitic technology. Faster and simpler to maintain than comparable helicopters, they can also carry more cargo on most worlds. The need for clear, hard terrain for landing and take-off limit their use on some rugged worlds. The model here is meant to represent a small personal jet.

Gravflyers are the usual long-distance transport on most TL4 worlds. Large enough to support the gravitics required for true flight, a few models can even reach low orbit. All can hover and climb with typical gravitic ease. This particular gravflyer is a small craft suitable for a affluent owner and their family.

Gravtanks make up the bulk of a prosperous TL4 world's armored forces. Private ownership is strictly forbidden on most worlds, but "export models" often can be acquired for transport offworld. Gravtanks have armor heavy enough to ignore all damage from conventional small arms, and can only be harmed by Heavy weapons or properly-placed demolitions charges.

DRONES

In the far future, it's often more convenient to send an expendable grav-flying probe into danger before venturing less repairable assets. Well-prepared adventuring groups often have reason to pack along a drone or two for exploring and aerial recon.

Military use of drones is limited by the ubiquitous use of quantum ECM. The easy confusion of electronic navigation makes it impossible to control an unwired drone remotely on a modern battlefield or in proximity to important civil structures, but in the alien wilds or away from urban centers, drones remain a feasible tool for explorers and conquerors of primitive militaries.

Piloting a Drone

Piloting a drone requires either a cybernetic drone control link as described on page 83 or a handheld control unit that comes with the drone. A control link can pilot up to one drone plus the user's Program skill at any one time. Handheld units can pilot only one. Drones consume one type A power cell for every hour of use.

A pilot must spend their Main Action each round to command the drone to either move or shoot. Uncommanded drones remain stationary if piloted via control link, while handheld units run a 2-in-6 chance of crashing a drone if the operator fails to control them.

In combat, drones fly at 30 meters per round on their pilot's turn in combat. Out of combat, they can manage up to 100 kilometers per hour.

Spotting a drone at observation range is a Wis/Notice skill check at difficulty 10. A drone close enough to engage a target can be spotted at difficulty 8. Any secure facility will have sensors capable of detecting a civilian drone as soon as it gets within observation range, unless the drone has stealth fittings.

Drone Combat

A drone's pilot can activate up to one weapon the drone is carrying as part of their Main Action to control it each round. Weapons all use Intelligence as the controlling attribute, and use the better of the pilot's Pilot or Program skills as the relevant weapon skill. The drone shoots using the pilot's base attack bonus.

Drone Types and Statistics

Each drone has a cost, a maximum number of fittings, an Encumbrance weight for carrying it along, a hit point rating, a maximum control range, and a minimum tech level. Drones may be attacked as any other object and will crash once reduced to zero hit points.

Primitive drones represent the best flying portable drone technology for TL3 worlds. While fragile, weak, and short-ranged, they are also relatively cheap.

Void Hawks are unique in being built specifically for deep-space use. Unlike other drones, they can operate perfectly well in space, though they only have the range to reach relatively adjacent ships or objects.

Stalker drones are the default TL4 workhorses of drone-kind and are available on most modern worlds.

Cuttlefish are specifically designed for aqueous use, and function only in a liquid medium. The support of the liquid allows them to carry significantly more fittings, but the need for a sonar-based navigation system limits their available range.

Ghostwalkers are stealth drones, fabricated from radar-transparent materials. They have an integral *Sensor Transparency* fitting and the sensor difficulty to spot them is 11 instead of 9.

Sleeper drones are built to tarry on station for long periods. They have the *Stationkeeping* fitting as an integral part of their design, and when hovering their power use slows to a trickle. One day of hovering draws only five minutes worth of power from its cell.

Pax drones are some of the most common pretech drones remaining in existence, as they were favored by the Mandate Fleet for pacifying troublesome worlds that lacked quantum ECM. While primitive by pretech standards, they still far excel most modern drones.

The *Alecto* model of drone examples one way that pretech scientists attempted to sidestep the limits of quantum ECM on the modern battlefield. Every Alecto is a full-fledged VI, an expert system so sophisticated as to seem almost sentient. Its self-reinforcing cognition allows it to operate even when cut off from external signals by quantum ECM. Salvaged Alectos have all exhibited "female" personalities.

Drone Model	Cost	Fittings	AC	Enc	HP	Range	TL
Primitive Drone	250	1	12	2	1	500 m	3
Void Hawk	5,000	4	14	6	15	100 km	4
Stalker	1,000	3	13	2	5	2 km	4
Cuttlefish	2,000	5	13	2	10	1 km	4
Ghostwalker	3,000	2	15	3	1	5 km	4
Sleeper	2,500	4	12	2	8	100 km	4
Pax	10,000	4	16	4	20	100 km	5
Alecto	50,000	4	18	4	30	5000 km	5

Drone Fittings and Repair

Aside from the basic drone chassis, operators can attach different fittings to a drone to add additional capabilities. Once attached, a fitting cannot be removed without causing severe structural damage to the drone. If a drone is destroyed, all fittings are destroyed with it.

If a drone is damaged, it can be repaired fully with one unit of spare parts per five hit points lost and an hour's work by someone with at least Fix-0 skill.

Ammo Unit: The drone carries one power cell or magazine worth of ammunition for each of its onboard weapons, whether single or multiple. The operator can reload an ammo unit as a Main Action.

Bomber: The drone is fitted to drop up to two grenade-sized explosives, one or both in lieu of a different weapon attack. Dropping a grenade from more than 30 meters up automatically causes the grenade to scatter from its intended target point.

Environmental Power: The drone draws operating power from sunlight or thermal variances. It can operate indefinitely so long as it can draw power from its environment.

Expert System: The drone is loaded with sophisticated self-piloting software. It can be given a flight plan by its operator, have targets designated for its weapon, and respond to simple environmental cues. Each new command takes up a Main Action and commands with any conditional states may require an Int/Program skill check to get the drone to understand. The drone can fire only one weapon per round and uses a total attack bonus of +2 if attacking autonomously. Quantum ECM will scramble this lightweight system.

Extended Flight: The drone can now carry a second type A cell to fuel its flight. This fitting can be taken multiple times to further extend its range.

Grav Muffles: The drone is made exceptionally quiet in operation. It is now inaudible by ordinary hearing from more than five meters away.

Heavy Lift: While most drones can lift no more than a kilogram of excess weight, the drone's gravitic units have been upgraded to carry up to twenty kilos of cargo. This can be fitted multiple times.

Holoskin: The drone can drop a filmy hologram over itself, one convincing at a distance. The difficulty of visually spotting the drone becomes 10 at weapons range or 12 at observational range. Weapons fire always draws attention.

Medical Support: The drone can be loaded with up to a dozen units of medication, whether stim doses, lazarus patches, or less benevolent substances. It can launch a medication through a remote injector at a target within ten meters in lieu of a weapon attack. Immobile or willing targets are hit automatically, while hostiles require a normal hit roll. The drone is treated as having Heal-0 skill or the active pilot's Heal skill, whichever is higher.

Drone Fittings	Cost	TL
Ammo Unit	250	4
Bomber	500	3
Environmental Power	4,000	4
Expert System	5,000	4
Extended Flight	250	3
Grav Muffles	2,000	4
Heavy Lift	2,000	4
Holoskin	3,000	4
Medical Support	2,000	4
Observation Suite	250	3
Racing Gravitics	2,000	4
Reinforced Structure	1,000	4
Sensor Transparency	5,000	4
Stationkeeping	1,000	4
Suicide Charge	250	3
Weapon Fitting	1,000	4

Observation Suite: All drones are wired for basic camera and sound, but this suite contains a full-spectrum UV/IR visual package, remote sound sensors, and radiation/chemical detectors. The drone can focus on conversations or facial expressions from up to 2 kilometers away and can operate even in the complete absence of visible light.

Racing Gravitics: The drone is tuned for extra speed. Its flight endurance is halved, but it can now move up to 60 meters per combat round and fly at up to 200 kph out of combat.

Reinforced Structure: The drone is equipped with heavier plating and a sturdier internal frame. Its hit points are increased by 50%, rounded up.

Sensor Transparency: The drone is sheathed in anti-radar composites. Ordinary sensors will not detect it at observation range, and high-end military sensors can spot it only on an Int/Program check at difficulty 9.

Stationkeeping: The drone does not need to be constantly controlled; when the operator does not spend a Main Action to pilot it, it simply remains stationary. If equipped with an *Observation Suite*, it can ping the operator if any anomalous reading is obtained.

Suicide Charge: The drone is loaded with a demo charge as per page 69. The operator can trigger it as an attack, but unless they can move the drone in by surprise, the approach will always give onlookers a chance to spot it before it gets within range.

Weapon Fitting: The drone can be mounted with 1 encumbrance worth of ranged weaponry, which must be purchased separately. This fitting may be taken more than once to mount more weapons or heavier weapons. The weapon requires one or more ammo units to feed it.

CYBERWARE

Postech medical science and neural interface technology are sophisticated enough to meld metal and flesh into a coherent whole. The creation of advanced cyberware is not beyond the theoretical capability of TL4 societies, and pretech worlds can produce cyberware of such sophistication as to blur the lines between organism and artifice.

Yet cyberware is rarely available on most worlds, even those with the nominal technology level to support it. The advantages that cyberware can give a user are great, but the cost of building, fitting, and implanting these devices is huge compared to simply buying a handheld device to do the same function. There are few buyers for a 15,000 credit ghost talker implant when a compad retails for a hundred credits.

The market that does exist is largely for those few elite operatives and dignitaries who are willing to pay exorbitant sums for the smallest advantage. Most cyberware is custom-built for its users, and it can be an adventure in itself to find a lab capable of manufacturing an augmentation and successfully implanting it. Some worlds have industrialized the production of cyberware, however, making it much cheaper and in much wider circulation. Even then, these worlds rarely export much cyberware due to the heavy infrastructure necessary to fit and implant the wares. Those who want the tech will have to find such planets and do their own negotiations there.

Aside from the difficulties of cost and scarcity, cyberware also taxes the wearer's body. Each piece of cyberware comes with a System Strain cost as described on page 32, permanently adding that many points of System Strain to the user's total. These points can never be lost unless the system is surgically removed. This permanent System Strain decreases the amount of psionic healing a character can sustain and can limit the effectiveness of healing and stimulant drugs.

Some cyberware has an activation cost in System Strain. If a cost would push the character's System Strain above their Constitution score, they cannot trigger the cyberware; their body just can't handle the strain until it has had time to recover.

Adrenal Suppression Pump: These endocrine pumps neutralize numerous brain chemicals in the user when activated while exciting the user's perceptual centers. This combination produces a cold, dispassionate situational awareness that grants the user +2 on initiative rolls when the system is engaged. Most systems have built-in safety overrides to prevent psychological addiction and brain damage, allowing the unit to be used for no more than an hour each day. The user takes a -2 penalty on all social skill checks while the unit is active, and it requires five rounds to toggle it.

Bioadaptation Augments: These additional synthetic organs and filters allow the bearer to survive in thin-atmosphere conditions, as well as tolerate temperatures ranging from Antarctic chill to heat sufficient to boil water. They can also eat a wide range of native life forms for sustenance; no normal planet's native biology is ever considered immiscible for consumption.

Body Arsenal Array: Some personnel need to be armed at all times without giving any indication of such. Improvised weaponry and conventional holdout weapons are useful enough against soft targets, but disabling a target in powered armor requires more. The details of the array vary from user to user, but usually act as advanced medium weapons that can be used with either Punch or Stab skills and at least one integral energy projector equal to a laser rifle, one that must be powered by an insertable type A power cell. Retracted body arsenals can be detected only by a medical examination.

Body Sculpting: Not so much a single implant as a series of complex surgeries, body sculpting is available on many TL4 worlds with fairly advanced medical services. After a week of alterations and treatments a subject's external appearance can be set within any human or near-human range, in-

Cyberware	Cost	Strain	TL	
Adrenal Suppression Pump	30,000	1	4	*Eliminates emotion and improves initiative*
Bioadaptation Augments	10,000	1	4	*Survive near-habitable planetary conditions*
Body Arsenal Array	10,000	1	4	*Provides retractable body weaponry*
Body Sculpting	10,000	1	4	*Complete external physical reconstruction*
Dermal Armor	20,000	2	4	*AC 16, immune to primitive weapon Shock*
Drone Control Link	20,000	1	4	*Allows easier remote control of drones*
Eelskin Capacitor Mesh	25,000	1	4	*Allows bare-handed hacking and electrical shocks*
Gecko Anchors	15,000	1	4	*Can climb sheer surfaces as if they were flat*
Ghost Talker Transceiver	15,000	1	4	*Integral compad with audiovisual transmission*
Holdout Cavity	10,000	1	4	*Shielded body cavity for holdout storage*
Holoskin Emitters	15,000	1	4	*Creates a hologram around the user*
Identity Submersion Trigger	25,000	1	4	*Allows a false identity to be perfectly assumed*
Immunofiltration System	25,000	2	4	*Immune to almost all diseases and poisons*
Induced Coma Trigger	20,000	1	4	*Feigns death and halts bodily processes for up to two weeks*
Neurointruder Alert	50,000	1	5	*Grants +3 to save vs. telepathy, alerts of intrusion*
Panspectral Optics	15,000	1	4	*Integral low-light and thermal vision*
Pressure Sheathing	15,000	1	4	*Integral emergency vacc suit*
Prosthetic Limb	2,500	1	4	*Replaces a limb lost to misadventure*
Revenant Wiring	50,000	3	5	*Keeps the user fighting even after they're dead*
Slowtime Window	30,000	2	5	*Prevents surprise and speeds up the user's cogitation*
Stabilization Overrides	25,000	2	4	*Automatically stabilizes a mortally-wounded user*
Tagger Nanites	15,000	1	4	*Lets the user tag others with tracking nanites*
Toxin Injector	20,000	2	4	*Allows surprise injection of lethal or dazing toxins*
Twitchlock Actuators	30,000	2	4	*Allows brief moments of hyper-precise accuracy*

cluding full retinal and fingerprint matching to a desired target. A TL5 version of this treatment that costs ten times as much can involve extensive DNA reprogramming to change the subject at a genetic level, making their alterations heritable and allowing female-targeted shapes to bear offspring. This TL5 treatment is not reversible, and any further major alterations to the subject require further permanent System Strain.

Dermal Armor: A fine subcutaneous reinforcement mesh provides significant protection against impacts and cuts while remaining imperceptible to anything short of a medical examination. Someone with the implant has AC 16 and is immune to Shock damage inflicted by primitive melee weapons. A TL5 version of this implant that costs five times as much grants even more protection, rendering the subject wholly immune to primitive weapons as if they were wearing powered armor.

Drone Control Link: Most often found among military bot wranglers, civilians can also get a drone control link implanted to simplify the remote piloting of drones and other robotic units.

Users of a link can issue commands to a drone as a Move action instead of a Main Action. A single drone can only receive one command per round, however.

Aside from this ease of command, someone with an implanted rig can "look" through a piloted drone's sensors as an Instant action, and a drone is never considered to be out of control even if the pilot doesn't spend an action controlling it. A link can maintain a connection with one drone at a time, plus the user's Program skill.

Eelskin Capacitor Mesh: A hair-fine mesh of almost imperceptible wiring along the user's palms and fingers allow them to trigger brief, controlled bursts of electrical energy at targets within five meters. As an Instant action it adds 2d4 non-lethal damage to a successful Punch attack. In its intended use, it also allows the user to override and disable most electronic locks and security systems with a successful Sneak or Fix skill check. Both triggering a burst and hacking a security system tax the user's biology; one System Strain point is gained with each attack or skill check.

Gecko Anchors: Miniaturized gravitic manipulators are embedded in the subject's hands and feet as part of this complex surgery. While they are too weak to allow levitation or damping fall damage, they

can twist localized gravity around those limbs to anchor the subject to the nearest surface capable of bearing their weight. As a result, the user can freely run or climb up or down sheer surfaces at their normal movement rate, carrying no more than their normal maximum encumbrance.

Ghost Talker Transceiver: Some people simply cannot afford to be out of contact at any time, under any circumstances. Those people find use for the microfine web of radio wiring and optical augmentation that make up the ghost talker. These units act as a built-in compad for the user and allow for reception and transmission of audio and visual recordings, the latter playing in an inset window in the user's field of vision. If the unit is operating outside of a standard comm grid, it has a transmission range of twenty kilometers and a reception range of one hundred. Ghost talker users can transmit basic visual diagrams and images to each other, as well as optical recordings.

Holdout Cavity: Usually implanted somewhere in the torso, a holdout cavity is a small recess shaped into the wearer's body and designed to be overlooked by most standard forms of medical or security scanning. It automatically defeats a security inspection that uses less than TL4 scanners, and even advanced tech requires careful personal inspection to have a chance of revealing it. The cavity can hold an object up to the size of a pistol and is opened and shut by the user's mental command.

Holoskin Emitter: Multiple holographic emitters are implanted on the user, allowing them to alter their external appearance to match anything of their approximate size and dimensions, including other people. Shifting appearances is a Main Action, and the user can't shift to an appearance that isn't in the cyberware's shape library. The library is vast and contains "generic" examples of numerous human-sized objects and people, but mimicking a specific other person requires at least five minutes of close examination. The holograms projected by the emitters are good, but imperfect; anyone who closely examines the user will be able to tell that something is artificial about their appearance, and touch instantly confirms any suspicions. The emitters can fake clothing and can produce sounds to complement the illusion or modify the user's voice, if records of the true subject are available. The disguise lasts until the user dies or ends it.

Identity Submersion Trigger: This cyberware involves micronized neural stimulation technology which is imperceptible to anything short of TL5 medical scanning or TL4 surgical examination of the subject's brain tissue. When active, the IST allows the subject to adopt a secondary persona, complete with a library of manufactured memories. So long as the IST is active, the subject will honestly and completely believe himself to be the secondary persona, a conviction that cannot be penetrated by telepathy or TL4 methods of interrogation. The persona can be activated at the user's discretion, but it only deactivates on a preset trigger, leaving the subject in full possession of all memories experienced. The trigger can be any perceptible stimulus: a particular time, the sight of a specific person, a code phrase, or any other sign, and it may be changed by the user each time they activate the cyberware. Many ISTs are also implanted with a "master key" that will automatically deactivate the triggered identity.

Immunofiltration Systems: This broad-spectrum scrub system carefully identifies and contains toxic substances introduced into the user's system. Whenever the subject would normally have to make a saving throw to resist some disease or toxin, they may instead gain one System Strain to automatically succeed on the save. Most of these systems are calibrated to automatically filter any toxins or chemicals in standard use by police or military forces in the sector, but if presented with a special biowarfare toxin, the filters are less effective. In such cases, the most it can do is either grant a second saving throw if the first is failed, or grant a single saving throw if none is normally allowed.

Induced Coma Trigger: A series of implants are wired to the user's brain stem, allowing them to trigger an induced therapeutic coma at a mental command. The user appears dead to anything short of a medical inspection, and has no need of respiration, food, or water while the coma is in effect. The user does not heal while in a coma, but any diseases or poisons also halt progression. The user determines how long the coma is to last before triggering it, and is unconscious for its duration. A character can survive in a coma up to two weeks before needing to regain consciousness for as long as they were in the coma.

Neurointruder Alert: While somewhat primitive by pretech standards, this TL5 cybernetic implant allows the wearer to gain a +3 bonus on all saving throws to resist telepathic intrusion. Even if such a save is failed, the user will be aware that they are under telepathic assault, though some forms of mental control may not allow them to say as much until after the influence is ended. The warning does not indicate the source of the influence.

Panspectral Optics: Ocular adjustments to the wearer allow them to see clearly at any light level short of perfect darkness, in addition to giving them thermal vision that can easily distinguish shapes and distance even in the total absence of light. Dangerous radiation and lasers tuned outside the range of visible light are also visible to the user. Nearby radio transmissions can be seen as if they were visual flares of color. The system cannot translate these transmissions, only alert the user to them.

Pressure Sheathing: Occasionally purchased by workers in hard vacuum or other hostile environments, pressure sheathing integrates an ultrathin pressure membrane with the user's dermis and emergency film sealants that trigger at the user's mental command. The pressure sheathing serves as an emergency vacc suit with an integral oxygen supply and temperature regulators that can sustain them for up to thirty minutes. A pressure sheath needs 48 hours to regain structural integrity and power after triggering. A pressure sheath can be detected only by a close medical examination.

Prosthetic Limb: Hands, feet, arms, legs, eyes, and numerous internal organs can be replicated by postech medical science. These prosthetics can provide a good approximation of the sense of touch, and are usually impossible to distinguish from ordinary limbs without close inspection. Pretech-level worlds tend to prefer actually regenerating lost limbs, but those with access only to ordinary frontier levels of tech have reason to be grateful to prosthetics.

Revenant Wiring: One of the more grotesque results of late pretech augmentation research, revenant wiring permeates the user's body with a web of supplementary limb actuators and sensor clusters. In combat, the user may designate up to a half-dozen targets to the system's braked micro-AI. If the user goes unconscious or is killed, the micro-AI will engage the limb actuators to keep fighting, even if the user is nothing more than a ragged mass of mangled tissue. The micro-AI is not brilliant, but it is capable of negotiating most terrain and dealing with physical impediments to killing the designated targets. The actuators have power to keep operating for 3d4 rounds, or until the wearer takes 25 more hit points of damage, whichever comes first. The stress produced by revenant wiring makes it much more difficult to revive a downed user with Lazarus patches or biopsionics; all revivification chances are half normal.

Slowtime Window: A piece of cutting-edge pretech cyberware, the slowtime window was installed in crisis responders and others reliant on split-second decision making. When engaged, the implants accelerate the user's cogitation speed by more than three thousand percent. While there is no corresponding acceleration of the user's physical reflexes, they have time to process the situation and take in its details. A person who triggers a slowtime window cannot be surprised; they always roll initiative as normal no matter how unexpected the attacker. This brain acceleration is highly stressful on the tissues, however, and one point of System Strain is gained each time it is engaged.

Stabilization Overrides: An intricate interweaving of microcapillaries and backup organs is implanted in the subject's torso and spinal column. These overrides can stabilize the user when severe physical trauma would otherwise kill them. A user reduced to 0 hit points is automatically stabilized, as if a Lazarus patch had been successfully applied to them, assuming that a patch could have saved them. Stabilization overrides tend to interfere with the ordinary operation of the user's organs, however, and the wearer's Constitution modifier is lowered by 1, with all the attendant consequences in loss of maximum hit points.

Tagger Nanites: While true nanotechnology is beyond the grasp of standard TL4 science, this cyber allows for the implantation of very simple nanofactories in the user, ones that exude a constant imperceptible "smart dust". Objects the user touches can be tagged by these nanites, which generate more of their kind for up to 48 hours after tagging. The dust then lays down a trail behind the tagged object, one that is visible to the user or to someone using a properly-keyed tracer. Only counter-nanite measures can remove the dust, as ordinary bathing or scrubbing is insufficient. The dust can be pinged by radio to announce its location to anyone within five kilometers, but most users prefer to leave the dust in passive mode, where it is undetectable to most TL4 sensors. Tagging an object adds one System Strain to the user.

Toxin Injector: The user's canines or fingernails are altered to allow for the injection of one of two types of poison. If the user attempts to inject an unsuspecting victim they are already touching, the attempt is automatically successful. If the victim is wary or in combat, they can only be affected if they are unarmored and the user succeeds in a Punch attack roll. On a success, the victim must make a Physical saving throw at -2 or be incapacitated by the poison, dying in 1d6 rounds or being incapacitated for 1d6 hours at the user's discretion. Each poison attack adds 2 System Strain to the user.

Twitchlock Actuators: Neural override fibers are woven into the user's hands and arms and linked to a perceptual modulator implanted at the base of the user's brain stem. When presented with a direct exercise of hand-eye coordination, the twitchlock can be engaged to produce superhuman accuracy and precision. Any attack roll or skill check reliant chiefly on manual dexterity or aim can be rerolled, though the power surge inflicts two points of System Strain on the user. A given roll can only be rerolled once with this cyberware. While the twitchlock allows superhuman accuracy when engaged, the overrides fuzz ordinary nerve impulses and reduce the user's Dexterity modifier by 1 when active. Activating or deactivating the cyberware requires a Main Action.

ARTIFACTS

Pretech artifacts are some of the more precious loot available from lost Mandate military bases, abandoned colonies, desolate tomb worlds, and forgotten research outposts. Most pretech on modern worlds was long ago cannibalized for vital spare parts or destroyed by the ravages of time and violence. The few pieces that remain are almost always extremely valuable.

Very few pretech artifacts are bought or sold. Some items are relatively common, having been ubiquitous enough to survive in large numbers or simple enough to be produced by a few remaining modern worlds. Most artifacts, however, are so rare that there is no consistent market for them; an owner can charge what they wish for a device.

Getting that price is a different matter. Few planetary governments allow private ownership of "dangerous pretech artifacts", and it's the government that decides what constitutes danger. Most owners are rapidly visited by firm, polite agents with heavily-armed backup and given a "fair price" for their find.

As a consequence, most trade in pretech artifacts has to take place on the black market, or on worlds or stations too lax to care about who might be bringing in a portable black hole generator that just happens to look like a Mandate child's toy. Such venues rarely provide much in the way of security or contract enforcement, and so trade has to take place amid grasping guards, paranoid participants, and regular theft.

Pretech artifacts are more often traded privately as rewards, mission payments, or exchanges between owners. A PC who wants to obtain one of the artifacts listed in this section will need to not only find someone who will admit to possessing the gear, but also find out what kind of favor they're going to need to part with it. Tens of thousands of credits can sometimes do the trick, but most owners will prefer to wring the maximum utility out of a capable adventurer's interest in their prized possessions.

Artifact Armor

Many types of pretech armor are so rare or useful that they cannot normally be acquired on the open market. Much like artifact weaponry, these artifact armors are jealously held by those lucky enough to find them.

Executive Security Suit: This suit of stylish pretech clothing can self-modify in one minute to appear as any normal suit of clothing and grants AC 15 to the wearer. Originally designed for VIP protection, the executive security suit automatically stabilizes a mortally-wounded wearer provided they haven't taken enough damage to make revival impossible. Like the majority of pretech artifact armor, the suit is so light that it does not add to the wearer's encumbrance.

Ghost Mantle: Designed for use by elite infiltrators, a ghost mantle can warp light around the wearer to blur his or her outlines and coloring to match the surroundings. The mantle can self-modify in one minute to appear as any normal suit of clothing and grants AC 15 to the wearer. When used in stealth mode, it grants a +2 bonus to all Stealth-related skill checks. TL4 sensors and scanners cannot detect the mantle as anything but ordinary cloth.

Polyplast Carapace: This variant form of assault suit employs pretech deforming polymers to create sealed joints and flexible armor plates that still maintain rigidity under impact. A polyplast carapace is treated as an assault suit with AC 18, except that it counts as only one item for encumbrance and requires no practice to use correctly. Integral kinetic absorption sinks allow the armor to function without the need for power cells.

Psitech Combat Suit: One of the rare psitech artifacts originally designed for use by military combat psychics, this snug-fitting armored undersuit grants the wearer an AC of 16. Its special ability functions only for psychics; it can allow the user to reflexively fuel the suit's defenses with their own psychic reserves. As an Instant action, they can Commit Effort for the day to negate up to 15 points of damage from in incoming source of physical injury. Each time they do this, they must make a Mental saving throw or the psychic conversion shock leaves them unable to use psionic techniques until after the end of their next turn.

Stutterjump Suit: A modified version of the standard deflector array, a stutterjump suit grants the wearer a limited form of teleportation through integral psitech circuitry. As an Instant action, the wearer can teleport to any location within one hundred meters, provided they have an unobstructed line of sight to it. The suit's circuitry requires twelve hours to recover enough for another jump. The suit does not require power cells to function.

Titan Powered Armor: An enormously heavy suit of servo-actuated powered armor, Titan assault plate was favored by pretech boarding parties and space marines. It grants the wearer all the usual benefits of storm armor, but has a base AC of 21 and subtracts 2 points of damage from every instance of harm suffered by the wearer.

Tempest Assault Array: A modified version of the field emitter panoply, the TAA has all the functionality of the FEP but also does an automatic 1d6 damage to anyone who attacks the wearer in melee, inflicting the damage after the attack is resolved. The wearer is immune to Shock damage. Kinetic sinks allow the TAA to function without the need for power cells.

Artifact Weaponry

While generic pretech weaponry is of superb quality and manufacture, some pieces exceed even the customary excellence of the ancients. These "artifact" weapons are usually the product of short production runs by master pretech craftsmen or individually-designed masterpieces. Some pre-Scream manufacturers retain fame even centuries later for the unique quality of their workmanship.

Artifact weapons are almost never found on the market. The few pieces that are found and offered for sale are snapped up almost immediately by elite operatives and others who rely on the quality of their hardware to preserve their own lives. Most who have artifact weaponry have either found it in a long-abandoned pretech cache, received it from a superior, or taken it from the cold hands of a former owner. Selling such a weapon tends to be equally difficult, with buyers few and untrustworthy.

Absolution Armaments: A company specializing in energy weaponry, AA pioneered several techniques for increasing the energy efficiency and penetrating power of their armaments. AA laser weapons ignore particulate matter when shooting, and all AA weapons gain +1 to hit and +2 damage.

Colonial Arms: An armaments company dating from the First Wave of human colonization, Colonial Arms was famous for the incredible durability and versatility of their firearms. Their guns were largely self-repairing from anything short of having pieces torn off, and their projectile weapons automatically self-adjusted to fire whatever ammunition was available, in any environment from hard vacuum to underwater operations. A Colonial Arms projectile or energy weapon also gains a +1 bonus to hit and damage rolls.

Convergence Weaponry: Those weapons designed by the transhuman hive-mind polity known as the Convergence are almost always energy-based guns found in sets of 2-5 matching weapons. Wielders can nominate a target as an Instant action at the start of each round; any attacks they make with the weapon against that target get a +1 hit and damage bonus for each wielder that targeted the foe, including their own nomination.

Imperial Arms: Ornate and beautiful weapons created shortly after the horror of the Scream, these arms were developed by an unknown pocket empire that somehow preserved a little of their pretech manufacturing base. Their attempt to reimpose order on the chaos around them appears to have failed, but their legacy lingers in the scattered weapons that remain from their far-flung armies. An Imperial weapon grants its user a +1 bonus to all hit and damage rolls, with projectile weapons having an unlimited supply of ammo. These weapons always remain immaculately clean.

Fiat Lux: This manufacturer specialized in laser and plasma weaponry. Their products were largely conventional in function, but the quality of craftsmanship was seldom surpassed. Fiat Lux weaponry grants +2 to hit rolls and damage.

Nightfall Combine: The exact nature of the Nightfall Combine was unclear even before the Scream, with rumors of alien xenotech manufacturing techniques and esoteric psitech materials research. The weapons produced by the Combine were some of the finest ever developed by humanity. They grant +3 to all hit and damage rolls.

Omnipresence, Ltd.: A pretech manufacturer who specialized in holdout weaponry, Omnipresence arms are composed of special polymorphic nano-compounds that are capable of shifting shape in moments. Omnipresence weaponry can take a single alternate shape of the same mass set during manufacture, usually a belt, necklace, or other seemingly innocuous object. When gripped and a short keycode is spoken, the item instantly shifts forms, containing whatever ammunition it was originally loaded with. Shifted Omnipresence weapons cannot be detected by any postech means; even a pretech scanner will only reveal that the object is composed of complex nanites. Omnipresence weapons grant +1 to hit and damage rolls.

PolyGaia Defense: Originally an organization of militant pan-planetary animists, PolyGaia armaments function perfectly in almost any environment. Projectile and energy weapons are also equipped with integral monoblades, and can be used as advanced medium melee weapons without a need to club the weapon. PolyGaia weaponry grants +1 to hit and damage rolls.

SamaelTech: The Sons of Samael were one of the myriad peculiar religious and ideological groups that flourished during the Second Wave of human expansion. While their exact beliefs are unclear at this distance, their surviving melee armament is invariably superb. Monoblades, kinesis wraps, and other such SamaelTech weaponry all have +1 to hit and +1 damage. Some SamaelTech weapons appear to be decorated with Christian iconography and advanced nanotech cutting surfaces. These pieces grant +2 to hit and damage.

Stardust Micropellet System: The "Stardust" system was a cutting-edge effort to use gravitic manipulation techniques in projectile weaponry. By giving a tiny flake of matter the mass profile of a bullet, a Stardust weapon never runs out of ammunition, albeit Stardust weaponry cannot burst fire. Stardust weaponry gains +1 on all hit and damage rolls.

Tempus Fugit: The weapons of the Tempus Fugit armory employed Mandate temporal acceleration generators. Such acceleration is exhausting to the user, however, and creates severe strain on a normal biological system. As an Instant action, a wielder with the weapon in hand can take an additional full round of action any time they wish. At the end of this bonus action, they suffer 1d4 System Strain, +1 for each use of this ability within the past 24 hours. If their System Strain is maximized by this, they fall unconscious for one hour. Tempus Fugit weapons have a +1 bonus to hit and damage.

Terminus Est: A sister-company to Tempus Fugit, the Terminus Est line of advanced melee weaponry employed spatial distortion technology. As an Instant action at the start of a round, a wielder with the weapon in hand can nominate a visible target; for the rest of the round, they're treated as if they're adjacent and engaged in melee combat with the target, hindering ranged attacks, subjecting them to attacks if they move away without a fighting withdrawal, and so forth. The wielder is not subject to attacks by the target unless they actually are within range of the target's weapons. By straining the wielder's perception pathways, this target nomination can be applied to a number of targets equal to the wielder's Stab skill plus two. Any attack made against one target is applied to all nominated targets, using the same die rolls. Each round this multiple nomination is maintained, the wielder takes 2 System Strain. All Terminus Est weapons have a +2 bonus to hit and damage rolls.

Tools of Ill Omen: A specialist weapon line designed by sage-engineers affiliated with the Preceptors of the Great Archive, the Tools are decorated with *taotie*-motif fittings similar to those of Shang Dynasty bronzes. Tools usually appear as melee weapons, particularly halberds, dagger-axes and swords, though stylized hypervelocity repeating crossbows have been found that work like mag rifles with unlimited ammo. The Tools function with a +2 hit and damage bonus

Valiance Arms: Somewhat stodgy by pretech standards, Valiance never embraced the more exotic potentials of pretech science. The company instead preferred to focus on precision low-recoil projectile weapons and high-quality craftsmanship. Valiance projectile weapons grant +2 to hit and damage rolls.

Windcutter: Windcutter armaments are invariably edged melee weapons. Their pretech manufacturers had an obsessive interest in maximizing weapon penetration, one carried to an extent that was very impressive, if perhaps somewhat impractical for field use. A Windcutter blade can slice through any substance short of advanced pretech armor plating, inflicting full normal damage on vehicles, including gravtanks or other targets subject only to Heavy weapons. For Shock purposes, all targets are treated as if they were AC 10. Against all targets, the blades have an effective +1 bonus to hit and damage.

Artifact Equipment

AI Companion: True AI was never easily made by pretech scientists. AIs required individual care during their development, and a disturbing percentage of them had to be "braked" at sub-human levels in order to prevent runaway cogitation on imponderable philosophical questions and the ensuing metastatic insanity that followed. Some AIs managed to attain a human level of sentience before requiring brakes. The less brilliant of these AIs could be contained in hardware no larger than five or six centimeters on a side, usually with integral sensors and vocalization units. If an AI companion takes a liking to a PC, they can be useful allies; they all have effective Program and Fix skills at level 3 or greater, and may have additional capabilities. A distressing number of these AIs have their own purposes, however, that are not necessarily complementary to those of their "owners".

Integrity Stims: Usually found in the form of a skin-spray applicator, integrity stims restore 2d6+2 hit points to a subject for each dose applied. Each dose increases the target's System Strain by 1 point, and the stims are useless to those with maximized System Strain. More than one dose can be triggered into a subject in one round, but each dose after the first adds an additional second System Strain point from the sudden overload of stimulants.

Juggernaut Stims: Originally designed for pretech shock troops, this skinspray stimulant charges the user with fearless aggression and indifference to pain. The user immediately gains 3d6 temporary hit points and +2 to hit for a period of ten rounds. At the end of that period, any remaining temporary hit points are lost, and the subject suffers -2 to hit for the next hour as their system recovers. Use of this stim adds 1 point of System Strain.

Micropurgator Stims: A sprayhypo laden with a revivifying cocktail of nanites and support chemicals, a micropurgator stim will remove 1d4 points of accrued System Strain from the user. Only one such stim can be applied to a person within 24 hours.

Mindwall Helmet: A transparent-visored helmet, this headpiece strengthens the integrity of the wearer's neural patterns, making it more difficult for them to be influenced by mind-affecting psionic powers. The wearer gains a +2 saving throw against any such attack, and is automatically alerted by the helmet if made the target of a telepathic power. The helmet does not help against purely physical psionic attacks, such as through telekinetics, and it cannot be worn with powered armor, vacc suits, or an assault suit.

Polymorphic Nanites: Usually found in two-kilo cylinders with integral input-output data ports, polymorphic nanites were a late-Second Wave development that promised to revolutionize manufacturing. When fed a design schematic using standard pretech CAD/CAM protocols, the nanites exude into the desired object, mimicking any necessary physical properties. The nanites can be used to create any object of equivalent or lesser mass, provided a datapad or the equivalent is available to feed them the schematic. The nanites are single-use, but multiple cylinders can be linked together to create larger objects. The workmanship of the nanites is good, but not exceptional; any available schematic of tech level 4 or less can be produced.

Pseudonuke: While conventional TL4 nuke snuffers make dangerous nuclear reactions impossible near spaceships or modern civil defense systems, a pseudonuke is designed with esoteric pretech parts and techniques to bypass TL4 defenses. Most pseudonukes are no larger than a briefcase but can detonate with enough force to wipe out a large city or space station. The handful created before the Scream were deniable Mandate tools to deal with rebel frontier colonies. Those that survive are spectacularly illegal on almost all worlds.

Redivivus Sheath: When found, a redivivus sheath resembles a tightly-rolled body bag with a fist-sized computing module affixed to it. When a freshly-dead human body is sealed into the bag the module releases a cloud of nanites to repair and revive the subject. Revivification will work on any victim no more than five minutes dead, assuming the head is intact and most of their mass is present. Subjects are revived in critically wounded condition with maximized System Strain. The redivivus sheath functions only once before burning out.

System Reset Inductor: An array of pretech pharmaceuticals of truly heroic breadth, a sprayhypo full of system reset inductor is one of the most powerful concoctions ever devised by pretech biochemists. On injection, the subject immediately loses all accrued System Strain points barring those permanently added by cyberware. The user can gain new System Strain normally, but 48 hours after the inductor has been administered, the strain will catch up with them. They fall immediately unconscious with 1 hit point and maximized System Strain, and will remain in a coma for 48 hours before awakening. Use of a second inductor before the first has run its course will inevitably kill the subject within five rounds of application, with no hope of revival by psionic disciplines or conventional medical aid.

Wideawake Serum: Originally designed to facilitate spike drills for single-man ships that couldn't afford a sleeping pilot, wideawake serum gives the user enormous vigor and alertness for up to seven days at a time. The user need not sleep or even rest, but during this time it is impossible to recover accrued System Strain. A successful Heal check at difficulty 10, made at most once per day, can flush the drug from the user prematurely.

MODDING AND BUILDING EQUIPMENT

While truly sophisticated research and design often requires resources beyond the reach of an adventuring party, more modest workshops can allow a talented technician with a healthy supply of after-market parts to improve the quality of their own or their allies' gear. Without a full-fledged R&D department behind them, a PC technician is generally limited to modifying and improving existing gear.

A mod is an adjustment made to a specific piece of tech to make it work better. These mods are finicky, delicate, and often customized to the user. They aren't generally available on the market because they require regular tuning and adjustment by a highly-skilled technician in order to keep them from degrading, or even failing entirely. Mods require costly after-market parts that can be expensive to acquire, and the most sophisticated ones require actual pretech salvage stripped from advanced ancient technology. Normally, only TL4 gear can be effectively modded, as more primitive tech isn't suitable for the advanced components involved.

Installing Mods

Building and installing a mod requires a well-equipped TL4 workshop. It's not necessary to have a full-fledged fabrication plant, but the sort of resources that a professional repair tech or vehicle shop have are necessary to assemble and adjust the tech. Such a shop can usually be rented for 100 credits a day, or bought outright in a city or other urban area for 25,000 credits. A starship's "Workshop" ship fitting will also qualify.

Mods have a minimum Fix skill required to install or maintain them; a *Customized* mod requires Fix-1, for example, while a *Flexible* mod takes Fix-2. Without this skill level, the tech can't build or install the mod, and they can't maintain it properly either.

Mods have a cost in credits or salvage. A tech with access to a normal TL4 parts market can buy components with a credit cost, but certain highly sophisticated mods require pretech components that can only be salvaged from certain ancient Mandate-era technological devices. Not just any device will do for gathering these components; these micronized fusion taps, antigrav nodules, impact flexors, and polymorphic state controllers are found in only certain Mandate tech or in rare ancient caches of unused components. A tech will usually have to find these components as part of an adventure, because those who have them need them for their own purposes and will not part with them for ordinary monetary compensation. The specific details of these parts don't matter for mod use, and they're simply tracked as "salvage". If a mod requires three units of salvage, any three units will work, and it's not normally necessary for a tech to track down specific components.

Mods take time to build and install. It takes one week per minimum skill level of the mod to build and install it in the desired device. Thus, a *Customized* mod takes a week to put in, while a *Flexible* mod takes two. If a tech does nothing other than work, eat, and sleep, they can halve these times, and an additional assistant with at least Fix-0 skill can further halve the time.

Mods must be custom-built to specific objects. A tech cannot build a "generic" mod and then just attach it to a device; it must be carefully designed to fit exactly with that specific item, and sometimes even with a specific user.

Mods and Maintenance

Mods require maintenance to keep functioning correctly. Overclocked hardware, bleeding-edge tech, and experimental adjustments just don't have the field durability of more standard gear, so a tech must apply daily attention to the modded hardware if it's not to fail. A normal TL4 toolbox is required to maintain mods, but no special parts are needed.

A tech's Maintenance score is equal to the total of their Intelligence and Constitution modifiers plus three times their Fix skill level. The smarter and the longer a tech can work, the more maintenance they can perform, but their overall expertise as a technician is the most crucial element. A tech can maintain a number of mods equal to their Maintenance score without cutting into their adventuring time or otherwise encumbering their off-duty hours. This maintenance is assumed to take place during downtime and doesn't need to be tracked specifically in play. If they do nothing but maintenance, they can double their score, but this kind of dedication requires sixteen-hour workdays.

If a mod goes without maintenance for 24 hours, it stops working. If a mod goes without maintenance for a week, the entire device it's attached to stops working, as the untuned mod has made it useless or dangerous to use. Weapons can no longer be used in combat, armor no longer gives protection, seizes up, or is too dangerous to wear, and other devices simply stop functioning. A maintenance backlog on a device can be cleared by an hour of work by a technician capable of maintaining it.

Building Conventional Gear

Sometimes a wrench jockey will want to build their own equipment rather than purchase it off the shelf. This may be because there's no such gear for sale, the equipment is illegal on this world, the tech wants it cheaper than the vendors sell it, or the tech wants to build a custom platform for their favorite mods. The gear built this way must be feasible to create in a workshop; guns, armor, and modestly-sized vehicles are possible, but starship components and other major constructions are not.

A tech requires a TL4 workshop to build most TL4 equipment. More primitive gear can be built with less

elaborate resources at the GM's discretion. The workshop must be at least nominally capable of working with the kind of gear the tech is building. A vehicle repair shop will not have the tools to brew pharmaceuticals, and a back-room electronics shop won't have the lifts to work on armored vehicles. If the tech needs to refit a workshop to work on a particular type of unsupported gear, they can pay half the shop's original price to get the needed tools. Starships with *Workshop* fittings are always sufficient for personal gear modifications.

The tech needs a supply of parts. In any TL4 city or sizable community, the tech can scrounge, barter, or buy what they need from the locals. A tech working in a shop out in the wilds can prepare by taking a few footlockers full of materials that can fit in a vehicle or on pack animals, buying a certain number of credits worth of spare parts and hauling them along. Techs in dire need can strip ancient high-tech ruins, battlefields, and scrap heaps for parts if no better source is available.

Techs must decide whether the device they're building is to be jury-rigged, normal, or mastercrafted. Jury-rigged devices are assembled out of cheap scrap, bottom-tier components, and makeshift kludges. They're much cheaper to make than to buy, but they require constant attention to keep them operating. Normal devices work just as well as anything that you'd buy off the shelf, but the lack of economies of scale and the need to acquire all the parts at retail make them more expensive than buying it off the shelf. Mastercrafted gear is carefully built to support a tech's own innovations and favorite modifications. They are extremely expensive, but much easier to mod and maintain than off-the-shelf tech.

Building the gear usually takes one month for a vehicle and one week for a weapon, suit of armor, or other portable device. Having at least one assistant with Fix-0 will halve this time.

Jury-rigged devices cost one-quarter as much as the normal device and take half the normal time to build. If the tech has access to scrap or salvage, they can assemble it at no cost, but it takes twice the normal time to build it. A jury-rigged device counts as a mod requiring Fix-0 to maintain. If it goes 24 hours without maintenance, it stops working. Jury-rigged devices cannot be modded.

Normal devices cost twice as much as they would off-the-shelf and take the normal amount of time to build. They cannot be built with scrap or salvaged parts unless the GM decides that the salvage is perfectly suited for this use. Drugs and other consumable goods must be built as normal devices rather than jury-rigged or mastercrafted ones.

Mastercrafted devices require costly premade components and cost ten times as much as the normal device, and require twice as much time to build. They are ideal platforms for the tech's own modifications, however, and the first mod installed in the device requires no maintenance.

Sample Mods

The mods listed below are simply a sample of those a GM might approve for their campaign. Weapon and armor mods should not stack beyond a +3 bonus to AC, hit rolls or damage rolls, and any mod improving a skill check shouldn't boost it by more than +1. A mod can only be installed once on any given piece of equipment.

Autotargeting (Fix-2): The weapon has had micronized kinetic targeting aids installed, granting a +1 bonus to hit rolls with it. Costs 4,000 credits.

Boosted (Fix-2): The weapon has been tuned for greater damage output, adding +2 to the damage it does. Costs 2,000 credits.

Bubbleseal (Fix-1): The armor is equipped with automatic pressure seals and emergency oxygen. It can be triggered manually or activates automatically on exposure to low pressure, functioning as a vacc suit for up to one hour. Costs 5,000 credits.

Concealed (Fix-2): The device is disguised as a specific different object of the same general mass. This disguise will fool standard TL4 sensors, but not a close physical inspection of the object. Costs ten times the device's base cost.

Customized (Fix-1): The weapon or armor has been carefully tailored to a single specific user. When used by that person, they get a +1 to hit with the weapon or a +1 Armor Class bonus with armor. Costs 1,000 credits and is inapplicable to shields.

Extended Magazine (Fix-1): The firearm has been adjusted so that its magazine size is doubled. Costs 500 credits.

Flexible (Fix-2): The armor is carefully tailored to a specific wearer with an eye towards reducing its weight and cumbersomeness. Its Encumbrance value is lowered by 1 for that wearer, and increased by 1 for anyone else. Costs 5,000 credits.

High Efficiency (Fix-1): A device with a duration of operation, such as a vacc suit or fueled vehicle, now functions for 50% longer on the same charge. Costs five times the device's usual cost.

Infinite Magazine (Fix-3): The firearm now automatically produces its own physical ammunition. Costs 10,000 credits and two units of pretech salvage.

Infinite Power (Fix-3): A device powered by a Type A power cell now never runs out of power. Costs 5,000 credits and one unit of pretech salvage.

Phasing (Fix-3): The weapon is tuned to partially phase through armor and impeding debris, granting a +1 bonus to hit rolls with it. Costs 10,000 credits and two units of pretech salvage.

Polymorphic Blending (Fix-2): The armor can shift in appearance to that of normal clothing or different-looking armor. Several dozen different appearances can be loaded into it at any one time. The armor functions and encumbers normally regardless of its external appearance. Costs 5,000 credits and one unit of pretech salvage.

STARSHIPS

Countless ships rise from world upon world, the iron dust of new-forged shipyards sent out to make bridges between the stars. For centuries, the privation and chaos that followed the Scream have made any concern beyond bare survival a luxury for all too many worlds. The last century has seen a reawakening, however, as myriad planets finally unlock the secrets of their own worlds and learn to use their native resources to rebuild the long-lost ships of their ancestors. The Silence is ending and worlds are now beginning to reach out to their unknown neighbors.

Different sectors have different degrees of development. In some regions of space, starships have now been manufactured for centuries, with small spacecraft easily obtained by private individuals and modest companies. These sectors have regular commerce between worlds, with interstellar drills no more remarkable than modern air travel. Aliens and offworlder humans are noticed but go without special remark. These sectors often have relatively large stellar polities made up of numerous member stars, ones which often share the same general culture or political form. These sectors may still have backward planets or unknown worlds, but these are the exception.

In most *Stars Without Number* sectors, however, things aren't that developed. Some worlds will have developed or retained functional shipyards and interstellar flight is not anything remarkable to their citizens, but ownership of a starship is still a rare thing. Entire planetary navies might have fewer than a dozen ships, and only powerful and influential worlds will be sporting cruisers or other heavy warships. There is enough commercial traffic to justify starports and trade stations, but free and easy transit between worlds has been lost for centuries, and is only slowly returning to the sector.

These sectors are rich in potential adventure. Even developed worlds may not be completely familiar with their stellar neighbors, and a number of lost worlds and out-of-contact societies can still be found in the sector. Starship captains can never be entirely certain what they're going to meet when they drill into such a system, and no world is strong enough to exert its will carelessly around distant stars.

Acquiring Starships

In most sectors, it's possible to buy civilian starships on any TL4 world. Such civilian ships are almost exclusively fighter or frigate-class hulls, most usually free merchants or in-system shuttles, though a few wealthy worlds offer bulk freighter hulls as well. These ships might be armed to the extent that their buyer's purse allows, but they are no match for real warships, and so few planets worry too much about who might buy them. Conspicuous acquisition of numerous armed merchants, however, might draw unwelcome interest.

Military hulls are a different matter. Even a lowly patrol boat is rarely permitted to a civilian buyer, let alone a fleet cruiser or other ship of the line. Even when these ships can be purchased, crewing them adequately can be far beyond the limits of an adventuring party's purse. Even so, heroes who make the right friends or do the right favors to a planetary government can sometimes get letters of marque that entitle them to purchase hulls that would not normally be allowed into civilian hands.

Buying a ship is only one way to acquire it, however. Many adventurers find it more efficient to liberate a craft from undeserving owners, with an evening's play revolving around the daring deeds and cunning subterfuge needed to acquire or salvage a ship for the party. Of course, the craft acquired by this means are rarely in perfect condition.

The ship and fitting prices that follow in this section assume that starships are uncommon and expensive investments, as they are in most sectors. If you are running a campaign in a region of easier access to ships, you should halve or even quarter the prices.

Navies and Piracy

Most TL4 worlds have some sort of space navy, even if it's only a handful of patrol boats to watch the asteroid mines and monitor orbital space around their homeworld. A typical poor world might have a corvette and a half-dozen patrol boats, while the average TL4 planet sports a fleet cruiser, four corvettes or heavy frigates, and ten patrol boats, and a rich planet might have three times as many ships, possibly even a battleship or carrier to form the heart of its fleet. A third of these ships are usually in dock at any one time.

The threat of piracy varies from system to system. Pirates need a safe place to refit their ships and sell their stolen goods, and they need enough traffic to justify their trade. The ideal pirate system is one containing only a low-tech primitive world that can be raided for slaves and supplies, with a hidden or mobile deep-space repair base for maintenance, and two or more wealthy neighboring systems that send trade through. Such a pirate nest can persist for years, with system governments arguing over who should bear the cost of rooting them out, or too weak to overcome a charismatic pirate leader and their loot-hungry followers.

Very few pirates operate in a system with a strong naval presence. Small ships can sometimes get away with it for a time, hiding out in asteroid belts, striking merchants from ambush, and fleeing to safer systems before help can arrive. Larger pirate flotillas are a more existential threat to a planetary navy, and they are soon dispersed… or made the effective masters of the system as they blow up any ship that could prevent them from obtaining space supremacy.

BUILDING A STARSHIP

Creating a starship in *Stars Without Number* is fairly simple, and requires only a few steps.

First, pick a hull type for the ship from the list below. The type will indicate the price of the base hull with a drive-1 spike drive, along with the available free power and mass.

Second, add fittings, weapons, and defenses from the pages that follow. Each such addition takes up a certain amount of power and mass, and may have a minimum hull size required for installation. Some fittings and defenses cost more in money, power, or mass when installed on larger ships.

Third, decide how many crew members the ship will have. Most merchantmen run with no more than twice the minimum number of crew to save on wages. Warships rarely leave port with less than 75% of the maximum crew allowed. On average, crew members cost 100 credits a day in wages, plus 20 more for necessary food and stores. PCs, naturally, are unlikely to charge themselves wages, but they need to eat.

Fourth, note down the six-month maintenance cost of the ship, which is equal to 5% of its total non-crew cost. If this fee isn't paid, a -1 penalty is applied to all skill checks and hit rolls related to the ship for each maintenance period skipped.

Lastly, fill in a ship record for the craft, marking down the ship's statistics and the attack bonuses for the gunners using the ship's weapons.

The speed of building or modifying a ship will depend on the quality of available shipyards and the political importance of the job. On average, 25,000 credits a day of work or modifications can be done by most shipyards on average-importance jobs. Enough reason to rush can double or even quadruple this amount.

STARSHIP HULLS

Starship hulls are divided into four general hull classes: fighters, frigates, cruisers, and capital ships. The size of each class varies depending on the technological sophistication and available resources of their creators. In some sectors a smuggler's free merchant frigate might measure no more than 34.75 meters from nose to tail, while in another it might be four times as large. As a general proportion, each class' average size is usually from four to eight times larger than the class before it.

Each hull has several base attributes. Individual models might vary slightly, and careful tuning and customization might alter these numbers as described later, but most ships of a given hull type will perform as listed.

Cost is the price of the base hull with a drive-1 class spike drive. Any military hull type is generally unavailable without very good naval contacts with a shipyard's owning government or a carefully-placed favor to those in authority.

Speed is the relative combat speed and maneuverability of a ship. Over long distances a ship's spike drive rating is all that matters, but in the tight quarters of combat this can make a great difference. A ship's Speed is added to all Pilot skill checks made by the craft's pilot, whether in combat or performing other maneuvers.

Armor is the measure of the ship's plating and redundant systems, and is subtracted from any incoming damage from hostile fire or hazardous space environments. Ship-mounted weapons with the Armor Piercing trait may ignore part or all of this rating. Ships generally cannot be harmed by anything short of other ship's guns, vehicle-mounted Heavy weapons or carefully-placed demo charges.

Hit Points reflects the amount of damage the ship can take before it explodes or becomes inoperable.

Crew lists the minimum crew necessary for basic operation and the maximum crew the life support system can sustain for two months. Smaller crews than the maximum will make the ship's life support last proportionally longer. While it's theoretically possible for a lone crewman to make a successful spike drill, the constant vigilance and wakefulness required mandates the use of heavy pharmaceuticals and great desperation. A minimum of three crew are normally required for a relatively safe drill.

Armor Class is a combination of agility and effective ECM denoting the difficulty of landing a solid hit on the ship.

Power is the amount of free power available after the ship's basic operation is taken into account. Fittings and weapons take up some part of this power.

Mass records the amount of free mass left unassigned by the hull's design. This free mass can be filled with fittings, weapons, or cargo holds.

Hardpoints indicate how many weapons a ship can successfully mount. Most weapons take up one hardpoint, though particularly large or power-hungry ones may take up more than that.

Finally, the *class* of the particular hull shows the general size of the ship. Some fittings and weapons have a minimum hull class, beneath which a ship is just too small to successfully install the hardware.

Starship hulls are sturdy enough to ignore damage from small arms or TL3 Heavy weapons. TL4 Heavy weapons or demo charges applied to the exterior of a ship do half damage minus the ship's Armor. If a saboteur gets inside with such weapons, the damage is halved but Armor does not apply. Use of some Heavy weapons in confined areas may be decidedly imprudent.

Hull Types

The hull types listed below are some of the most common models found throughout the remnants of human space. Individual worlds often experiment with different vessels as they gradually develop their own astronautic doctrines, but these models have the benefit of long and proven utility.

Strike Fighter: Small craft, often modified to replace the spike drive with a system drive. Their speed, cheapness, and combat utility make them a popular choice as inexpensive system patrol craft.

Shuttle: The smallest craft that's regularly used for interstellar drills, a shuttle is a cheap means of moving small amounts of precious material or important persons between worlds.

Free Merchant: A hull type much beloved by adventurers, a free merchant has unimpressive combat utility but can carry substantial amounts of cargo while mounting enough weaponry to discourage small-craft piracy.

Patrol Boat: The hull of choice for customs cutters and system law enforcement, the patrol boat is a light frigate built heavy enough to overawe small merchant vessels while still being relatively cheap to build and crew.

Corvette: The smallest true combat frigate, and often simply called a "frigate" by spacers. Corvettes have significantly thicker armor than patrol boats and trade additional crew needs and less maneuverability for more available free mass.

Heavy Frigate: The heaviest starship that most poor or resource-deprived worlds can build, the heavy frigate can carry a significant loadout of weaponry and has enough crew to overwhelm most pirate ships if it comes to a boarding action. While it packs a substantial punch, it lacks the armor of a true cruiser-class warship.

Bulk Freighter: This class of huge cargo ship is found most often in peaceful, heavily-populated sectors.

Fleet Cruiser: The favored ship of the line of most wealthy, advanced worlds, and often the biggest and most powerful ship most planets can build. A cruiser's heavy armor and infrastructural support for heavy guns make it a lethal weapon against frigates and any other ship not optimized for cracking heavy armor. They can prove vulnerable to swarm attacks by fighter-bombers equipped with the right kind of armor-piercing weapons.

Battleship: Dreaded hulks of interstellar war, very few worlds have the necessary technology or economy to support the massive expense of building and crewing a battleship. Those that do gain access to a ship that is largely invulnerable to anything short of specially-designed anti-capital cruisers or hunter-killer frigates.

Carrier: The queen of a fleet, even fewer polities can afford to build one of these huge ships. Carriers can support flights of fighter or frigate-class warships, ones specially equipped to handle particular missions. This versatility allows it to load fighter-bombers for anti-capital missions one month, and then switch to swarms of hunter-killer frigates the next when a hostile system's asteroid outposts need to be destroyed. Stripped of its combat wings, however, a carrier has less individual firepower than a cruiser.

Stations: Almost every space-faring world has at least one space station in orbit. A station has no Speed score, no spike drive, and cannot perform any maneuvers in combat, though its transit jets can slowly move it around a solar system over a matter of weeks. Civilian trade stations allow for docking by bulk freighters and ships not cleared to land on the surface, while military stations strictly forbid any civilian docking. The small station listed here is a Bannerjee-12, a common model found on poor or backwater worlds with little traffic. The large station represents an Arx, a major trade station for a hub world with money to spare.

Hull Type	Cost	Speed	Armor	HP	Crew	AC	Power	Mass	Hard.	Class
Strike Fighter	200k	5	5	8	1/1	16	5	2	1	Fighter
Shuttle	200k	3	0	15	1/10	11	3	5	1	Fighter
Free Merchant	500k	3	2	20	1/6	14	10	15	2	Frigate
Patrol Boat	2.5m	4	5	25	5/20	14	15	10	4	Frigate
Corvette	4m	2	10	40	10/40	13	15	15	6	Frigate
Heavy Frigate	7m	1	10	50	30/120	15	25	20	8	Frigate
Bulk Freighter	5m	0	0	40	10/40	11	15	25	2	Cruiser
Fleet Cruiser	10m	1	15	60	50/200	14	50	30	10	Cruiser
Battleship	50m	0	20	100	200/1,000	16	75	50	15	Capital
Carrier	60m	0	10	75	300/1,500	14	50	100	4	Capital
Small Station	5m	N/A	5	120	20/200	11	50	40	10	Cruiser
Large Station	40m	N/A	20	120	100/1000	17	125	75	30	Capital

STARSHIP FITTINGS

The following list of ship fittings are largely standard TL4 technologies that are available in most sectors. A few items on the list are rare pretech devices that cannot be acquired without special connections or a lucky feat of salvage.

Some costs are marked with an asterisk. These costs are multiplied by 10 when the fitting is installed in a frigate-class hull, by 25 when installed in a cruiser-class hull, and by 100 when installed in a capital ship.

Some power and mass entries are marked with a hashmark. These costs are multiplied by 2 for frigates, 3 for cruisers, and 4 for capital ships, rounded up. Note that you apply these multipliers even if the fitting only works on a large ship; a frigate with a *Drill Course Regulator* pays 250,000 credits, not 25,000.

Advanced research lab: A lab suitable for investigating alien xenolife, planetary geology, esoteric technology, and other mysteries of the cosmos. The lab contains cold sleep pods adequate to contain alien samples, viro-shielded research cells, high-energy lasers, and other requisite tools. When used to investigate some phenomenon or object, any applicable skill rolls are improved by +1 for a frigate lab, +2 for a cruiser lab, and +3 for a capital ship lab.

Advanced nav computer: Forging new spike courses is too much an art to rely on computerized assistance, but an advanced nav computer can help on well-mapped routes. When navigating an interstellar drill course with charts less than a year old, the navigator decreases drill difficulty by 2.

Amphibious operation: This fitting includes the benefits of the *Atmospheric Configuration* fitting, as well as allowing the ship to operate while immersed in a liquid medium. Submerged ships cannot be detected with conventional planetary traffic sensors and require military sonar and naval sensors to fix their position, resources often unavailable on less developed worlds. So long as the ship stays away from military naval craft and bases, it is almost impossible to track while submerged. Only fighter and frigate hull classes can mount this fitting.

Armory: Rather than maintaining lengthy lists of ship equipment, a captain can simply buy an armory. Ships so equipped have whatever amounts of TL4 military-grade weaponry and armor that a crew might require, and integral maintenance facilities for its upkeep. There is enough gear available to outfit the entire crew for normal use, but giving it away or losing it in use may deplete it.

Atmospheric configuration: This fitting must be put in place when the ship is built, and cannot be installed on cruiser-class or larger ships. A ship designed for atmospheric flight can land on most solid or aqueous surfaces.

Auto-targeting system: Some ships run with more guns than crewmen. A single NPC or PC can man one gun per round, firing it as often as the gunnery chief's *Fire One Weapon* or *Fire All Guns* actions allow, but sometimes that's not enough. Installing an autonomic targeting system for a gun allows it to shoot at a +2 hit bonus without human assistance. This system must be installed once for each gun that is to be self-manned.

Automation support: The ship has been carefully fitted to support the use of non-sentient expert system robots in its operation. At least one human, VI, or True AI crew member is necessary to oversee the bots and monitor spike drills, but otherwise crew may be replaced with cheap, basic robots at a cost of 1,000 credits per crew member replaced. Bots don't draw pay, don't take up life support, and their maintenance is assumed to be part of the ship's operating costs. These bots are incapable of any actions unrelated to operating the ship and are treated as level-0 in their skills where relevant.

Boarding tubes: Armored tubes equipped with laser cutter apertures can be used to forcibly invade a hostile ship, provided the target's engines have been disabled. Ships without boarding tubes have to send invaders across empty space to either make an assault on a doubtless heavily-guarded airlock or cut their way in through the hull with laser cutters and half an hour of work.

Cargo lighter: Cruisers and larger craft can't land on planetary bodies, so they require small shuttlecraft for transport. A cargo lighter is only capable of surface-to-orbit flight, which takes roughly twenty minutes either way, but can latch on to a standard pressurized cargo container holding up to 200 tons of cargo and passengers. These containers are usually collapsible and take up no significant space when compressed for storage, assuming they're not simply disposable cargo shells. This fitting can be purchased multiple times.

Cargo space: Free mass can be traded for pressurized cargo space. Tracked by weight for convenience, one cubic meter is usually one ton, with most vehicles requiring ten tons when loaded, tanks taking 25, and aircraft or mechs taking up 50 tons of cargo space. One point of free mass grants 2 tons of cargo space in a fighter, 20 tons in a frigate, 200 tons in a cruiser, and 2000 tons in a capital-class ship. This fitting can be purchased multiple times.

Cold sleep pods: These stasis pods can keep a subject alive for centuries provided that the ship's power doesn't fail. Each installation allows for keeping a number of people equal to the ship's maximum crew in stasis indefinitely. This fitting can be installed multiple times.

Ship Fitting	Cost	Power	Mass	Class	Effect
Advanced lab	10k*	1#	2	Frigate	*Skill bonus for analysis and research*
Advanced nav computer	10k*	1#	0	Frigate	*Adds +2 for traveling familiar spike courses*
Amphibious operation	25k*	1	1#	Fighter	*Can land and can operate under water*
Armory	10k*	0	0	Frigate	*Weapons and armor for the crew*
Atmospheric configuration	5k*	0	1#	Fighter	*Can land: frigates and fighters only.*
Auto-targeting system	50k	1	0	Fighter	*Fires one weapon system without a gunner*
Automation support	10k*	2	1	Fighter	*Ship can use simple robots as crew*
Boarding tubes	5k*	0	1	Frigate	*Allows boarding of a hostile disabled ship*
Cargo lighter	25k	0	2	Frigate	*Orbit-to-surface cargo shuttle*
Cargo space	No cost	0	1	Fighter	*Pressurized cargo space*
Cold sleep pods	5k*	1	1	Frigate	*Keeps occupants in stasis*
Colony core	100k*	4	2#	Frigate	*Ship can be deconstructed into a colony base*
Drill course regulator	25k*	1#	1	Frigate	*Common drill routes become auto-successes*
Drive-2 upgrade	10k*	1#	1#	Fighter	*Upgrade a spike drive to drive-2 rating*
Drive-3 upgrade	20k*	2#	2#	Fighter	*Upgrade a spike drive to drive-3 rating*
Drive-4 upgrade	40k*	2#	3#	Frigate	*Upgrade a spike drive to drive-4 rating*
Drive-5 upgrade	100k*	3#	3#	Frigate	*Upgrade a spike drive to drive-5 rating*
Drive-6 upgrade	500k*	3#	4#	Cruiser	*Upgrade a spike drive to drive-6 rating*
Drop pod	300k	0	2	Frigate	*Stealthed landing pod for troops*
Emissions dampers	25k*	1#	1#	Fighter	*Adds +2 to skill checks to avoid detection*
Exodus bay	50k*	1#	2#	Cruiser	*House vast numbers of cold sleep passengers*
Extended life support	5k*	1#	1#	Fighter	*Doubles maximum crew size*
Extended medbay	5k*	1	1	Frigate	*Can provide medical care to more patients*
Extended stores	2.5k*	0	1#	Fighter	*Maximum life support duration is doubled*
Fuel bunkers	2.5k*	0	1	Fighter	*Adds fuel for one more drill between fuelings*
Fuel scoops	5k*	2	1#	Frigate	*Ship can scoop fuel from a gas giant or star*
Hydroponic production	10k*	1#	2#	Cruiser	*Ship produces life support resources*
Lifeboats	2.5k*	0	1	Frigate	*Emergency escape craft for a ship's crew*
Luxury cabins	10k*	1	1#	Frigate	*10% of the max crew get luxurious quarters*
Mobile extractor	50k	2	1	Frigate	*Space mining and refinery fittings*
Mobile factory	50k*	3	2#	Cruiser	*Self-sustaining factory and repair facilities*
Precognitive nav chamber	100k*	1	0	Frigate	*Allows a precog to assist in navigation*
Psionic anchorpoint	Special	3	0	Frigate	*Focal point for allied psychics' powers*
Sensor mask	10k*	1#	0	Frigate	*At long distances, disguise ship as another*
Ship bay/fighter	200k	0	2	Cruiser	*Carrier housing for a fighter*
Ship bay/frigate	1m	1	4	Capital	*Carrier housing for a frigate*
Ship's locker	2k*	0	0	Frigate	*General equipment for the crew*
Shiptender mount	25k*	1	1	Frigate	*Allow another ship to hitch on a spike drive*
Smuggler's hold	2.5k*	0	1	Fighter	*Small amount of well-hidden cargo space*
Survey sensor array	5k*	2	1	Frigate	*Improved planetary sensory array*
System drive	Special	+1#	+2#	Fighter	*Replace spike drive with small system drive*
Teleportation pads	Special	1	1	Frigate	*Pretech teleportation to and from ship*
Tractor beams	10k*	2	1	Frigate	*Manipulate objects in space at a distance*
Vehicle transport fittings	2.5k*	0	1#	Frigate	*Halve tonnage space of carried vehicles*
Workshop	500*	1	0.5#	Frigate	*Automated tech workshops for maintenance*

Colony core: The ship has been designed to act as the core of a future settlement. Once this fitting is engaged, the ship ceases to be operational as a starship, and builds out into a set of habitats, hydroponic gardens, fusion plants, and living spaces sufficient to support up to five times its maximum crew, including enough fabrication and workshop facilities to keep the settlement operational under normal conditions. The settlement can be a deep-space hab, orbital installation, or planetary settlement. In the latter case, the ship must land to form the settlement; even ships without atmospheric operations can do so, but they can never take off again. Once activated, a colony core cannot be re-packed.

Drill course regulator: Drills along a known spike drive route have no chance of failure so long as the route is no longer than twice the operating pilot's skill level and does not involve course trimming. Thus, a navigator with Pilot-1 skill would always succeed in making a drill of two hexes or less, provided the route was a known one. The drill course regulator requires a sophisticated technical base and compatible metadimensional energy conditions in a given sector; many sectors no longer have this technology or lack the right environment to use it. If the GM prefers a campaign where space travel is always at least somewhat dangerous, they may deny access to this fitting. Ships piloted by exceptionally talented navigators may choose not to mount it even then.

Drive upgrades: A ship can improve its standard-issue drive-1 spike drive with additional phase filters and power throughput refinements. A captain needs buy only the final grade of drive desired. He does not have to buy upgrades sequentially. Drives of rating 4 and higher are generally TL5 artifacts that cannot be built most modern worlds.

Drop pod: Armored and stealthed versions of cargo lighters, these craft are twice as fast, apply a -3 penalty to tracking and targeting skill checks, and can carry up to one hundred troops or passengers. Many are equipped with assorted Heavy weapons to clear the landing zone, and can be treated as flight-capable gravtanks for purposes of combat. This fitting can be purchased multiple times.

Emissions dampers: Stealth systems can mask the ship's energy emissions through careful modulation of the output. All travel times inside a star system are doubled when the system is engaged, but any skill checks to avoid detection gain a +2 bonus.

Exodus bay: These banked rows of compressed cold sleep pods are designed to carry enormous numbers of people in extended hibernation, most often colonists to some new homeworld or escapees from some stellar disaster. A cruiser can carry up to 1,000 colonists in stasis, while a capital ship can handle up to 5,000. Each further time this fit-

ting is selected, these numbers double. These pods put their inhabitants into very deep hibernation so as to minimize the resources necessary to maintain their lives. Bringing them out of this stasis requires a month of "defrost". Crash awakenings have a 25% chance of killing the subject. The pods are rated for 100 years of stasis, but their actual maximum duration is somewhat speculative.

Extended life support: The ship can be designed to accommodate a larger number of crew or passengers. Extended life support can be fitted multiple times; each time, the maximum crew rating of the ship increases by 100% of its normal maximum. Thus, a free merchant who installs this twice can have a maximum complement of 18 people.

Extended medbay: All ships are equipped with basic medical facilities for curing lightly injured crew members and keeping the seriously injured ones stable until reaching a planet. An extended medbay improves those facilities, allowing for the medical treatment of up to the ship's entire maximum crew at once, including the treatment of critically wounded passengers.

Extended stores: A normal complement of ship's stores can keep the maximum crew size supplied for two months. Each selection of *Extended Stores* doubles that time, and can be fitted multiple times.

Fuel bunkers: Most ships require refueling after each drill jump, no matter the distance. Installing fuel bunkers allows the ship to carry one additional load of fuel. This fitting can be installed multiple times for ships that wish to minimize fueling.

Fuel scoops: Fuel scoops allow for the harvesting and extraction of hydrogen from gas giants or the penumbra of solar bodies. The extraction process requires four days of processing and refinement, but completely refuels the ship. Such fittings are common on explorer craft that cannot expect to find refueling stations.

Hydroponic production: Some ships are designed to produce food and air supplies for the crew. Selecting hydroponic production allows for the indefinite supply of a number of crewmen equal to the ship's maximum crew. This option may be taken multiple times for farm ships, in which case each additional selection doubles the number of people the ship can support.

Lifeboats: Selecting this fitting equips the ship with a number of single-use escape craft capable of reaching the nearest habitable planet or station in a star system. If no such destination exists, the boats can maintain their passengers for up to a year in drugged semi-stasis. Lifeboats have fully-functional comm systems and are usually equipped with basic survival supplies and distress beacons. A single selection of this fitting provides enough lifeboats for a ship's maximum crew, with up to twenty people per boat.

Luxury cabins: Each time this fitting is selected, 10% of the ship's maximum crew gain access to luxury cabins of a spaciousness sufficient to please a wealthy star-farer. This fitting comes with the usual zero-gee athletic courts, decorative fountains, fine dining, and artistic fittings.

Mobile extractor: Automated mining and refinery equipment has been built into the ship, allowing it to extract resources from asteroids and planetary surfaces. Careful extraction of specific lodes of valuable minerals can be quite profitable at the GM's discretion, but if the crew is simply melting down available asteroids for raw materials, the unit can refine one ton of usable materials per day worth about 500 credits in most markets. These raw materials can be used to feed a mobile factory, and a ship may have more than one mobile extractor fitted to it to multiply the return if sufficient raw feedstock is available. Operating an extractor requires at least five crew members.

Mobile factory: The ship is equipped with a full-scale TL4 fabrication plant programmed to support its needs. The ship can stock raw materials and parts at 5,000 credits per ton; these parts can then be used to "pay" ship repair or maintenance costs when conventional shipyards are unavailable. The factory can also create and repair vehicles, TL4 equipment, space habs, and planetary structures with these parts at a rate of 10,000 credits worth of construction a day. If a mobile extractor is available, the raw materials processed by the latter unit can be used to feed the factory. Operating a mobile factory requires at least 100 well-trained personnel. Each 10 fewer available doubles repair or maintenance times.

Precognitive nav chamber: An extremely rare example of psitech dating from before the Scream, a precognitive nav chamber allows a character with at least Precognition-2 psionic skill to assist in interstellar drills, sensing impending shear alterations before they happen. The navigator automatically succeeds on any spike drill check of difficulty 9 or less. On a failed check, add 2 to the Spike Drive Mishap roll, limiting the potential damage. On drilling in to the destination system, the psychic has expended all Effort in the process.

Psionic anchorpoint: This pretech relic is unavailable on the open market in most sectors. Once installed in a ship, it can be "imprinted" by up to a dozen psychics. These psychics can sense and affect any object or location within ten meters of the relic after one minute of concentration, provided they are within the same solar system. Thus, teleporters can always teleport next to the anchorpoint, telepaths can always contact anyone within the affected zone, telekinetics can manipulate objects near the relic, and so forth. The relic can be recoded to eliminate existing imprints, but any psychic who gets access to the relic for ten minutes of meditation and focus can imprint on it afterwards. There is no obvious way to tell how many psychics have imprinted to the anchorpoint.

Sensor mask: The ship can disguise its long-range sensor readings, spoofing scans with the ID tags and apparent hull type of any other ship of its choice. To penetrate this masquerade, the scanning entity must beat a Wis/Program skill check against difficulty 10 plus the Program skill of the masking ship's comms officer. Once the ship is close enough to visually identify, the masking is useless.

Ship bays: These sophisticated docking bays provide all the necessary tools and support for launching a starship from the mother craft. They are rarely seen outside of dedicated capital-class carriers, but some cruisers make room to mount a fighter-class attack shuttle. Each bay allows room for one ship of the appropriate hull class. While the carried ship can support its own crew if necessary, most carriers fold their space wing into the mothership's crew roster. This fitting can be taken multiple times.

Ship's locker: Much like an armory, this option allows a captain to lay in a general supply of equipment likely to be useful to explorers and spacemen. Any TL4 equipment on the gear list can be found in the ship's locker in amounts commensurate with the ship's size. A few guns and some basic armor might be included as well, but for serious armament an armory is required. There is enough gear available to outfit the entire crew for normal use, but giving it away or losing it in use may deplete the locker until it is restocked.

Shiptender mount: The ship is designed with symbiosis mounts that allow other ships to "hitch" on the craft's spike drills. Each shiptender mount allows one craft of a hull size smaller than the tender to link up for intersystem drills. Mounts cannot be used for in-system travel. If the linking ship has been designed to be carried by a tender then establishing this link takes one hour. If not, it takes a full day to fit the ship into the mount. Ships can dismount from the tender with an hour's disentanglement. In an emergency, the carried ships can dismount instantly, but the mountings are considered disabled then until repairs are made. Carried ships cannot fight.

Smuggler's hold: Carefully-designed storage space intended to conceal illicit cargo from customs inspection. Each installation of this fitting adds 200 kilograms of cargo space in a fighter, 2 tons in a frigate, 20 tons in a cruiser, or 200 tons in a capital ship. Cargo in a smuggler's hold will never be found by a standard customs inspection. Careful investigation by a suspicious official can find it on a difficulty 10 check using their Wis/Notice skill, and a week-long search one step short of disassembly will find it on a difficulty 7 check.

Survey sensor array: Most ships require only basic analysis of a star system, sufficient to identify population centers, do rough scanning of an object's composition, and chart major navigational hazards. Survey sensor arrays greatly enhance the ship's sensor abilities, allowing for finely-detailed mapping of objects and planets, along with broad-spectrum communications analysis. They also improve attempts to detect other craft when scanning a region for stealthy vessels. Any rolls with survey sensor arrays add +2 to skill checks.

System drive: The ship's standard drive-1 spike drive is removed and replaced with a different propulsion system. The ship is still treated as having a drive-1 for maneuvering and system transit purposes, but it cannot make interstellar drills. This modification lowers the cost of the basic hull by 10% and adds extra power and space based on the size of the hull: 1 power for fighters, 2 for frigates, 3 for cruisers, and 4 for capital ship hulls. Twice this amount of free mass is gained by the process.

Teleportation pads: This TL5 tech is completely unavailable in most sectors and was uncommon even on Mandate-era ships. The pads allow up to a dozen people or 1,200 kilograms of matter to be teleported to and from the surface of a planet or the interior of a another ship, provided it is no more than a few tens of thousands of kilometers distant. Ship-to-ship teleportation is possible only when the receiving ship is cooperating by transmitting accurate coordinate details; otherwise, a friendly, unjammed signal from inside is necessary to lock onto the target point. Planetary teleportations are possible only in the absence of physical barriers between the ship and the target point below. The teleporters may be used once every five minutes. In those rare sectors where this tech is widely available, it costs 200k.

Tractor beams: Gravitic projectors allow the ship to manipulate objects within its immediate area, pushing, pulling, and sliding objects no larger than a ship of one hull class smaller. Targets with ship-scale propulsion can resist the beams, but lifeboats, individual suit jets, or other smaller propulsors are inadequate. The beam can focus on only one object at a time but can move it into the ship's cargo bays or hurl it out of the ship's immediate vicinity within three rounds. The beams can only effectively manipulate objects in very low gravity, and not those on the surface of planets or other objects with significant natural gravity.

Vehicle transport fittings: The ship has been fitted with specialized mounts, bunking, cargo bays, and other facilities to expedite the transport of often-unwieldy vehicles, including mechs and other military craft. Any vehicles carried count as only half their usual cargo tonnage. Assuming trained operators, up to four vehicles can be offloaded or ramped onto the ship per round in cases where speed is critical.

Workshops: On-board workshops can be bought at smaller than maximum sizes than a hull would allow, if additional TL4 tech facilities aren't strictly needed. A frigate-sized workshop is sufficient for modding any personal gear as per the modification rules on page 90. A cruiser-sized workshop handles vehicle modding and starship maintenance, and a capital-class workshop can build vehicles or similar large work from scratch at full cost.

STARSHIP DEFENSES

The defenses listed here are some of the more common ones installed in modern TL4 starships. Most non-warships mount little or nothing in the way of special defenses, preferring to save the hull space for cargo and immediately useful fittings.

Ablative Hull Compartments: By sacrificing empty hull space in a complex system of ablative blast baffles, a capital-class ship can have a large amount of its total mass shot away without actually impinging on its normal function. This grants it a +1 AC bonus and 20 extra maximum hit points.

Augmented Plating: At the cost of a certain amount of speed and maneuverability, a ship can have its armor plating reinforced against glancing hits, gaining a +2 bonus to its AC. This augmentation can decrease a ship's Speed below 0, meaning it will be applied as a penalty to all Pilot tests.

Boarding Countermeasures: The ship has hardened bulkheads, reinforced hatches, and specially-designed automated kill corridors for wiping out intruders. Provided that the ship's bridge is still under control, the operator can prevent entry to the ship by any force that lacks shipyard-grade tools, weapons capable of melting hull plating, or specialized military breaching implements. If intruders do get inside, only well-equipped, specially-trained marines have any real chance of breaching the defenses. Ordinary space pirates or more casual invaders have only a 1 in 6 chance of threatening the bridge crew, though they may cause significant damage in their dying.

Burst ECM Generator: A high-powered secondary ECM generator can be activated to negate any one otherwise-successful hit against the ship. This generator can be activated after the damage has been rolled, but enemy ships rapidly compensate for the new ECM source, and so the generator can only be used effectively once per engagement.

Foxer Drones: These drones are invariably short-lived due to the enormous energy signatures they produce, but until the ship's next turn they grant a +2 AC bonus as their emissions confuse foes. Foxer drones are cheaply constructed and essentially free; the only limit on their number is the amount of free space set aside for holding them.

Grav Eddy Displacer: This system links with a ship's navigational subsystem and randomizes the motion vectors in sympathy with metadimensional gravitic currents. This agility gives any hit on the ship a 1 in 6 chance of being negated entirely.

Hardened Polyceramic Overlay: A complex glazing process can harden the surface of a ship's armor to more effectively shed incoming attacks, decreasing the armor-piercing quality of any hit by 5.

Planetary Defense Array: The ship is equipped with an array of gravitic braker guns and an upgraded nuke snuffer field. While useless in conventional ship-to-ship combat, the array can deflect or dampen meteor impacts, dropped penetrator rods, or other non-powered bombardment techniques, and the snuffer field is powerful enough to prevent nuclear fission reactions over a hemisphere-sized area. A single ship with a PDA can protect against any natural meteor strikes and deny easy terror bombardment of a planet's population. The PDA cannot fully protect against orbital strikes by powered penetrators, but it can nudge them off course and make pinpoint strikes impractical. Most developed planets have much more powerful and effective ground installations, but a PDA-equipped ship is a useful emergency stopgap for poor or primitive worlds.

Point Defense Lasers: Too small to damage ships, these point defense lasers can detonate or melt incoming munitions, improving the ship's defenses against torpedoes, fractal impact charges, and other ammunition-based weapons.

Ship Defense	Cost	Power	Mass	Class	Effect
Ablative Hull Compartments	100k*	5	2#	Capital	*+1 AC, +20 maximum hit points*
Augmented Plating	25k*	0	1#	Fighter	*+2 AC, -1 Speed*
Boarding Countermeasures	25k*	2	1#	Frigate	*Makes enemy boarding more difficult*
Burst ECM Generator	25k*	2	1#	Frigate	*Negate one successful hit*
Foxer Drones	10k*	2	1#	Cruiser	*+2 AC for one round when fired, Ammo 5*
Grav Eddy Displacer	50k*	5	2#	Frigate	*1 in 6 chance of any given attack missing.*
Hardened Polyceramic Overlay	25k*	0	1#	Fighter	*AP quality of attacking weapons reduced by 5*
Planetary Defense Array	50k*	4	2#	Frigate	*Anti-impact and anti-nuke surface defenses*
Point Defense Lasers	10k*	3	2#	Frigate	*+2 AC versus weapons that use ammo*

* Credit costs are multiplied by 10 for frigate-class hulls, 25 for cruisers, and 100 for capital-class hulls
 # These costs are multiplied by 2 for frigates, 3 for cruisers, and 4 for capital hulls.

Starship Weaponry

Space is dangerous, and most ships mount the best weapons their purse and their ship's infrastructure can support. While most worlds limit the purchase of warships by civilians, few place restraints on the type of weapons a civilian ship can mount.

Ship weaponry tends to come in two classes. One class of weapon is damaging and has moderate power and mass demands, but has comparatively weak armor-piercing capabilities. Another class of weapon is expensive, taxing to a ship's systems, and may have somewhat inferior damage, but it has enough armor-piercing to affect a warship of a hull size one step larger than the mounting starship.

The choice of which class of weapon to mount usually depends on the type of opposition the designer expects the ship to face. Most civilian ships favor the former kind, as few expect to engage true warships.

Weapon Qualities

Ammo: The weapon or defense requires ammunition to fire. Each round's cost is listed after the weapon's cost, and a number of rounds equal to the weapon's Ammo rating can be fit into one free mass unit. For example, a torpedo launcher can fit the magazine and loading gear for four torpedoes into one free mass unit, and each torpedo will cost 2,500 credits. For each ship class larger than the minimum required to mount the weapon, double the stored ammo per unit. The weapon itself includes one free mass unit worth of ammunition as part of the installation, so simply mounting a torpedo launcher alone on a frigate gives the ship four rounds of ammo.

AP: The weapon ignores this many points of a target's armor. The *Hardened Polyceramic Overlay* defense upgrade may lessen the effectiveness of this quality. The most a weapon's AP rating can do is reduce a target's effective armor to zero. It cannot add additional damage to a hit.

Cloud: The weapon fires an omni-directional wave or spray of projectiles. It automatically targets all fighter-class ships that have attacked the ship within the past round, and the gunner may make one attack roll against each target. Cloud weapons have no effect on ships larger than fighter-class hulls or intruders who are actually on the hull.

Clumsy: Either through a slow discharge time or unwieldy engineering requirements, this weapon suffers -4 to hit small fighter-class hulls.

Flak: These weapons launch vast numbers of small energy discharges or projectiles, and are particularly dangerous to small ships that rely on speed over thick armor. Against fighter-class hulls, these weapons roll hit rolls and damage rolls twice and take the better result.

Weapon Descriptions

Each weapon listed below has a cost, the damage die it uses on a hit, and the amount of hardpoints, free power, and mass it takes up in a hull. The minimum hull class required to mount it is also listed, as is the minimum tech level to manufacture it.

All ship weapon attack and damage rolls use the better of the gunner's Intelligence or Dexterity modifiers. Most use Shoot as the relevant skill, though Pilot can be used for the guns of a fighter-class ship.

Multifocal Laser: Twinned assay and penetration lasers modulate the frequency of this beam for remarkable armor penetration. These weapons are popular choices for fighters intended for frigate or cruiser engagement.

Reaper Battery: Stepped tapping of the spike drive power plant allows for the emission of a torrent of charged particles. The particles have very little armor penetration, but can fry a small ship's power grid in a strike or two.

Fractal Impact Charge: A spray of penetrator sabots that use fractal surfacing to increase impact. Favored for bomber-class fighter hulls.

Polyspectral MES Beam: A rare example of pretech weaponry, a fighter equipped with a PMB can scratch even a battleship's hull.

Sandthrower: Projecting a spray of tiny, dense particulate matter, sandthrowers are highly effective against lightly-armored fighters.

Flak Emitter Battery: A baseline frigate anti-fighter system, this battery fires waves of lasers or charged particles to knock down small craft.

Torpedo Launcher: Capable of damaging even a battleship, torpedoes are cumbersome, expensive, and often the core of a line frigate's armament.

Charged Particle Caster: A focalized upgrade to the reaper battery, the CPC has a much better armor penetration profile.

Plasma Beam: With superior targeting and a smaller energy drain than a CPC, a plasma beam sacrifices some armor penetration.

Mag Spike Array: A storm of magnetically-accelerated spike charges is almost guaranteed to eradicate any fighter-class craft it hits.

Nuclear Missiles: Useless in ship-to-ship combat or against any other TL4 planet with working nuke snuffers, one of these missiles can still erase an entire lostworlder city without such protection.

Spinal Beam Cannon: One of the first spinal-mount class weapons, the SBC briefly channels the full power of the ship into a charged beam. It lacks the power and penetration of the more advanced gravcannon, but also takes less power to mount.

Smart Cloud: A swarm of self-directed microdrones sweeps over the ship. Their integral beam weaponry is too small to damage larger ships, but they can wipe out an attacking fighter wave.

Gravcannon: Using much the same principles as man-portable grav weaponry, the gravcannon causes targets to fall apart in a welter of mutually-antagonistic gravitic fields.

Spike Inversion Projector: The SIP uses the ship's spike phasing as an offensive weapon, penetrating the target with a brief incursion of MES energies that largely ignore attempts to evade.

Vortex Tunnel Inductor: A capital-class model of the SIP, a VTI is capable of incapacitating a cruiser in two hits. Its bulk limits its utility against fighter-class craft, however.

Mass Cannon: By firing projectiles almost as large as fighter-scale craft, the mass cannon inflicts tremendous damage on a target. Serious ammunition limitations hamper its wider-scale use.

Lightning Charge Mantle: Modulation of the ship's power core emits a cloak of MES lightning. While larger spike drive craft can shunt the energies away harmlessly, fighter-class ships are almost invariably destroyed if hit.

Singularity Gun: One of the few surviving pretech weapons in anything resembling wide currency, this capital-class weapons system fires something mathematically related to a miniaturized black hole at a target.

Ground Weapons vs. Ships

On rare occasions, PCs will have to deal with small arms fire against their spaceship, or evade ground guns when trying to escape a port or land safely on a hostile world.

As a basic rule of thumb, hostile TL3 small arms fire does no damage, TL4 small arms fire does 1d6 damage per ten minutes of persistent gunfire, and Heavy weapons do half their rolled damage, minus the ship's Armor. Multiple Heavy weapons blazing away at a grounded free merchant can reduce it to unflyable scrap in short order, but a peppering of mag rifle fire is unlikely to do serious damage to a ship that decamps with sufficient speed.

It is impossible to miss a grounded ship. The Armor Class of a ship in flight will vary with the situation; AC 10 for hovering nearby, AC 15 for close-to-earth flight, and AC 20 if the ship is simply flying within weapon range.

Active ground-placed anti-ship defenses are a different matter. These massive lasers and energy projectors are absolutely lethal at atmospheric ranges. Avoiding them is a Pilot skill check at a GM-chosen difficulty of 8 to 10 for each round the ship is exposed, suffering 2d10 damage with AP 20 on each miss. A desperate ship can get outside the gun's firing angle if it can survive three rounds of this peril.

Ship Weapon	Cost	Dmg	Power	Mass	Hard.	Class	TL	Qualities
Multifocal Laser	100k	1d4	5	1	1	Fighter	4	AP 20
Reaper Battery	100k	3d4	4	1	1	Fighter	4	Clumsy
Fractal Impact Charge	200k/500	2d6	5	1	1	Fighter	4	AP 15, Ammo 4
Polyspectral MES Beam	2m	2d4	5	1	1	Fighter	5	AP 25
Sandthrower	50k	2d4	3	1	1	Fighter	4	Flak
Flak Emitter Battery	500k	2d6	5	3	1	Frigate	4	AP 10, Flak
Torpedo Launcher	500k/2.5k	3d8	10	3	1	Frigate	4	AP 20, Ammo 4
Charged Particle Caster	800k	3d6	10	1	2	Frigate	4	AP 15, Clumsy
Plasma Beam	700k	3d6	5	2	2	Frigate	4	AP 10
Mag Spike Array	1m/5k	2d6+2	5	2	2	Frigate	4	Flak, AP 10, Ammo 5
Nuclear Missiles	50k/5k	Special	5	1	2	Frigate	4	Ammo 5
Spinal Beam Cannon	1.5m	3d10	10	5	3	Cruiser	4	AP 15, Clumsy
Smart Cloud	2m	3d10	10	5	2	Cruiser	4	Cloud, Clumsy
Gravcannon	2m	4d6	15	4	3	Cruiser	4	AP 20
Spike Inversion Projector	2.5m	3d8	10	3	3	Cruiser	4	AP 15
Vortex Tunnel Inductor	5m	3d20	20	10	4	Capital	4	AP 20, Clumsy
Mass Cannon	5m/50k	2d20	10	5	4	Capital	4	AP 20, Ammo 4
Lightning Charge Mantle	4m	1d20	15	5	2	Capital	4	AP 5, Cloud
Singularity Gun	20m	5d20	25	10	5	Capital	5	AP 25

Example Starships

Below are the final statistics for some of the more common starship models in post-Silence human space. Each entry includes the default NPC crew skill modifier and the normal number of Command Points each one gets each round under NPC crews.

Costs are listed for the ship itself, for its six-month maintenance, and for the yearly employment of its standard crew complement. PCs naturally need not draw this pay, though they'll still need to lay out 20 credits a day per head for food and other basic supplies.

Strike Fighter

HP:	8	Power:	5/1 free
AC:	16	Mass:	2/0 free
Armor:	5	Crew:	1/1
Speed:	5	Hull Class:	Fighter
Crew Skill:	+2	NPC CP:	4
Weapons:	Reaper Battery (+4/3d4, Clumsy)		
Defenses:	None		
Fittings:	Spike Drive-1 Atmospheric Configuration		
Cost:	305K base price, 15,250 maintenance, 43,800 yearly crew cost for 1 pilot		

The standard drill-capable fighter craft of most TL4 polities, this model retains a spike drive instead of replacing it with a cheaper systems drive. While the lone pilot would have to be desperate and heavily drugged to make an entire spike drill solo, it remains an option when no larger craft is available.

This particular model is equipped with a reaper battery for dealing with small, lightly-armored civilian ships. "Bomber"-type fighters usually replace this with a fractal impact charge to threaten larger warships, while fighters built to dogfight their peers favor fitting a multifocal laser.

Shuttle

HP:	15	Power:	3/2 free
AC:	11	Mass:	5/0 free
Armor:	0	Crew:	1/20
Speed:	3	Hull Class:	Fighter
Crew Skill:	+1	NPC CP:	4
Weapons:	None		
Defenses:	None		
Fittings:	Spike Drive-1 Atmospheric Configuration Extended Life Support, 6 tons cargo		
Cost:	210K base price, 10,500 maintenance, 43,800 yearly crew cost for 1 pilot		

This craft is a conventional civilian shuttle, albeit one with a spike drive sufficient to get it to a neighboring system and enough passenger space to make it a minimally-acceptable transport for brave VIPs and light cargo. If used as an inter-system transport, however, at least three crew will be needed to safely navigate a drill.

While cheap and flexible, the shuttle is entirely unarmed and acutely vulnerable to piracy or hostile warships. In such cases the pilot's only recourse is to surrender or hope the small craft's nimble maneuver drives can keep it away from the attacker long enough to get to safety.

Free Merchant

HP:	20	Power:	10/0 free
AC:	14	Mass:	15/0 free
Armor:	2	Crew:	1/6
Speed:	3	Hull Class:	Frigate
Crew Skill:	+1	NPC CP:	4
Weapons:	Multifocal Laser (+3/1d4, AP 20) Sandthrower (+3/2d4, Flak)		
Defenses:	None		
Fittings:	Spike Drive-1, 160 tons of cargo space Atmospheric Configuration Fuel Scoops, Fuel Bunker		
Cost:	775K base price, 38,750 maintenance, 131,400 yearly crew cost for 3 crew		

A mainstay of freebooting merchant-adventurers throughout human space, the standard free merchant is an extremely versatile craft, capable of hauling significant amounts of cargo to neighboring systems while requiring very few hands to operate it. Only one crew member is needed for in-system flight, though spike drills require three for normal margins of safety.

The standard free merchant is not a warship, but its sandthrower is enough to discourage pirate shuttles and the other small or fragile craft that wreckers or primitive worlds tend to favor. The multifocal laser is ideal for a highly-skilled gunner who can snipe out important systems on an attacking vessel, but the ship lacks the armor and durability to stand up to a true warship. Of course, with a sufficiently expert crew, even a corvette might be threatened by the well-aimed guns of a small craft like this.

Patrol Boat

HP:	25	Power:	15/1 free
AC:	14	Mass:	10/0 free
Armor:	5	Crew:	5/20
Speed:	4	Hull Class:	Frigate
Crew Skill:	+2	NPC CP:	5
Weapons:	Plasma Beam (+4/3d6, AP 10)		
Defenses:	None		
Fittings:	Spike Drive-2 Atmospheric Configuration Extended Stores, Boarding Tubes Armory, Ship's Locker, Survey Sensors		
Cost:	3.523M base price, 176K maintenance, 657K yearly crew cost for 15 crew		

Corvette

HP:	40	Power:	15/0 free
AC:	13	Mass:	15/0 free
Armor:	10	Crew:	10/40
Speed:	2	Hull Class:	Frigate
Crew Skill:	+2	NPC CP:	5
Weapons:	2 Plasma Beams (+4/3d6, AP 10) Sandthrower (+4/2d4, Flak)		
Defenses:	Hardened Polyceramic Overlay		
Fittings:	Spike Drive-2, Cargo Lighter Extended Stores, Boarding Tubes Armory, Ship's Locker, Fuel Bunker		
Cost:	5.973M base price, 298K maintenance 1.314M yearly crew cost for 30 crew		

Heavy Frigate

HP:	50	Power:	25/0 free
AC:	15	Mass:	20/0 free
Armor:	10	Crew:	30/120
Speed:	1	Hull Class:	Frigate
Crew Skill:	+2	NPC CP:	5
Weapons:	2 Plasma Beams (+4/3d6, AP 10) Torpedo (+4/3d8, AP 20, Ammo 4)		
Defenses:	Hardened Polyceramic Overlay		
Fittings:	Spike Drive-2, Drop Pod, 16 Torpedoes Fuel Scoops, Fuel Bunker, Armory Ship's Locker, Boarding Tubes		
Cost:	9.783M base price, 489K maintenance 3.942M yearly crew cost for 90 crew		

Patrol boats are often the largest ships fielded by poor or backward frontier worlds that lack the shipyard facilities or available resources to build bigger military craft. Even so, the ability to field two patrol boats for the yearly maintenance cost of one corvette often appeals even to richer worlds that need more coverage than their available craft can provide.

Patrol boats are the smallest independent warships fielded by most navies, as fighters are not normally considered capable of extended independent operation. They have considerable spike drive reach and are faster in-system than most of their potential targets. While their single mounted gun is vulnerable to being disabled by expert enemy gunners, the relatively thick armor of the ship and skilled damage control crew can mitigate that danger. A few patrol boats replace their survey sensor array with a sandthrower to up-gun the ship, but most prefer the additional edge in scanning potential smugglers.

The usual ship of the line of most modestly-funded frontier navies, a corvette is a true warship, albeit of a minimal size. While it is unable to land on worlds with standard gravity, its cargo lighter allows crew and cargo transit from the surface of a world, and its extended stores allow for more than four months of field operation under normal crew parameters.

Most pirates flying reworked free merchants or stolen patrol boats will turn tail as soon as a corvette shows up in the region. Good armor, multiple ship-killing guns, and trained boarding marines make a corvette a death sentence to most stellar ruffians, and even when a pirate wolf pack can bring one down, it usually comes at the cost of crippling damage.

The model depicted here is standard for anti-piracy and basic system defense missions. Against cruiser-class warships, however, this corvette's weapons have insufficient armor penetration to seriously threaten such a major warship.

Sometimes confusingly called a "light cruiser", a heavy frigate pushes the engineering parameters of a frigate hull to the maximum available to most TL4 worlds. Equipped with a torpedo launcher capable of threatening even cruiser-class enemies, the heavy frigate can intimidate any ship of its weight class. Its heavy crew complement and military drop pod fitting allow it to quickly dispatch well-armed marines to hot spots throughout a solar system.

However, despite the large weapon loadout, the heavy frigate remains a frigate. Its armor is significantly inferior to that of a true cruiser-class warship, and most frigates built for same-class engagements can be a meaningful threat to it. It comes into its own as a bludgeon against the other small warships likely to be fielded by a peer star-faring polity.

Bulk Freighter

HP:	40	Power:	10/2 free
AC:	11	Mass:	25/0 free
Armor:	0	Crew:	10/40
Speed:	0	Hull Class:	Cruiser
Crew Skill:	+1	NPC CP:	4

Weapons:	Plasma Beam (+3/3d6, AP 10)
Defenses:	None
Fittings:	Spike Drive-2, Cargo Lighter Fuel Bunker, Ship's Locker 3,400 tons of cargo space
Cost:	6.088M base price, 304K maintenance 657K yearly crew cost for 15 crew

Found only in rich, peaceful regions of space, the bulk freighter is capable of hauling thousands of tons of goods between star systems. While it's equipped with enough of a sting to discourage small-ship piracy, it's woefully inadequate to handle a warship, or even an up-gunned free merchant.

Some adventurers do find use for a bulk freighter hull, however, trading off some of its massive cargo space for more fittings and using customized modifications to allow the ship to support heavier power demands. While the end result is no match for a true cruiser, the sheer mass of the freighter can make it a dangerous opponent in the right hands.

Fleet Cruiser

HP:	60	Power:	50/4 free
AC:	14	Mass:	30/0 free
Armor:	15	Crew:	50/200
Speed:	1	Hull Class:	Cruiser
Crew Skill:	+2	NPC CP:	5

Weapons:	Gravcannon (+5/4d6, AP 20) Smart Cloud (+5/3d10, Cloud, Clumsy) 2 Multifocal Laser (+5/1d4, AP 20)
Defenses:	Hardened Polyceramic Overlay
Fittings:	Spike Drive-3, Drop Pod Armory, Ship's Locker, Boarding Tubes Fuel Scoops, Advanced Nav Computer 60 tons of cargo space
Cost:	17.17M base price, 858K maintenance 6.58M yearly crew cost for 150 crew

The archetypal warship of post-Silence humanity, the fleet cruiser is a ship-eating monster compared to its smaller brethren in the navy. Only prosperous polities can build such powerful ships, and even they sometimes find it more practical to have a flexible fleet of small craft rather than a few heavily-armed cruisers.

The chief advantage of a fleet cruiser is in its heavily-armored hull. Only special hunter-killer ships fitted with armor-piercing weaponry have any real chance of penetrating the cruiser's thick skin. Those weapons are almost always more bulky and power-hungry than their peer weapons, so enemy polities must usually choose between building small ships that are very effective at defeating other small ships, or building hunter-killers that can threaten cruisers but are at a disadvantage against their less specialized brethren.

Battleship

HP:	120	Power:	75/8 free
AC:	17	Mass:	50/0 free
Armor:	20	Crew:	200/1,000
Speed:	0	Hull Class:	Capital
Crew Skill:	+3	NPC CP:	6

Weapons:	Vortex Tunnel (+6/3d20, AP 20, Clumsy) Light. Charge Mant. (+6/1d20, AP 5 Cloud) 2 Multifocal Lasers (+6/1d4, AP 20) Gravcannon (+6/4d6, AP 20)
Defenses:	Hardened Polyceramic Overlay Ablative Hull Compartments
Fittings:	Spike Drive-3, Drop Pod Armory, Ship's Locker, Boarding Tubes Fuel Scoops, Advanced Nav Computer Ship bay/Fighter w/Shuttle Fuel Bunkers, 200 tons of cargo
Cost:	79.06M base price, 4M maintenance 35M yearly crew cost for 800 crew

Built off the biggest hull class that TL4 polities can create, only the richest modern worlds can afford to fabricate these massive engines of war. Even those worlds with adequate resources to do so often balk at expending such a tremendous amount of money on a single ship.

Those that do build battleships do so for a reason. The tremendous weight of fire these ships put out can pop a cruiser in a single firing pass, and its reinforced hull plating shrugs off all but the heaviest armor-piercing blows. Where cruisers often require hunter-killer frigates to take them out, battleships commonly require hunter-killer *cruisers* to disable them.

The main weakness of a battleship is the fact that it is only a single ship… a single, *extremely expensive* ship. It can only attack or defend a single location at a time, and an enemy that has the time and resources to build specialized anti-capital ships with AP weaponry and expendable crews can bring the battleship down for far less money than it cost to build it.

Building a Ship

A fortunate adventurer has won the favor of a powerful shipping magnate, and has earned one million credits worth of astronautic work. The player thinks it's an excellent chance to have a ship built to fit the adventuring party's needs.

She starts by looking over the ship hulls and quickly sees that a free merchant hull is the best she can afford. A shuttle hull might work, but such a ship is too fragile for her liking. The hull itself costs 500,000 credits and comes with a drive-1 spike drive.

It also has free Power and Mass scores of 10 and 15 respectively. The player can fill that space with fittings and defenses as she wishes.

First, she looks at weaponry. She wants enough firepower to discourage small ships, but she can't mount weapons that require a cruiser or capital hull, and a plasma beam is far too expensive. She could settle for a multifocal laser, which is cheap, but she decides to up-gun to a fractal impact charge, trusting in the party's Warrior to aim it well. It costs 200k credits, 5 power, 1 mass, and 1 free hardpoint. It can store up to 8 charges in the launcher since a frigate-class hull is one larger than the minimum needed to mount it. The charges themselves will cost her another 4,000 credits.

Next, she thinks about better engines. She briefly considers a drive-3 upgrade, but it would take 4 points of Power and Mass, leaving her almost no Power left for other fittings. She settles for a drive-2 upgrade for 100k credits, 2 Power, and 2 Mass.

She takes a moment to think about adding some hardened polyceramic overlay to the merchant as a defense, but the ship's Armor is so low that it doesn't seem worth the effort to harden it.

The PCs will need to land, so she adds an atmospheric configuration at 50k and 2 Mass. She wants fuel scoops so she doesn't have to trust to local refueling stations, so that's 50k, 2 Power, and 2 Mass. Prudence recommends a fuel bunker in case she needs to drill out before refueling, adding 25k and 1 Mass.

She's so far spent 929,000 credits, 9 Power, and 8 Mass. To spare bookkeeping, she puts in a ship's locker for 25k, but an armory is too expensive; the PCs will just have to track their own weapons and ammo. The remaining Mass is turned into 140 tons of cargo space. Thus, the final ship costs 954,000 credits and uses 9 Power, and 15 Mass. At a rate of 25,000 credits of shipyard work a day, it'll take the yards about 39 days to build, giving the party time to think about how they'll pay for maintenance…

Carrier

HP:	95	Power:	50/9 free
AC:	14	Mass:	100/0 free
Armor:	10	Crew:	200/1,500
Speed:	0	Hull Class:	Capital
Crew Skill:	+3	NPC CP:	6

Weapons:	Gravcannon (+6/4d6, AP 20)
Defenses:	Hardened Polyceramic Overlay Ablative Hull Compartments
Fittings:	Drive-3, Drop Pod, 1000 tons cargo Armory, Ship's Locker, Workshop Fuel Scoops, Advanced Nav Computer Lifeboats, Fuel Bunkers 20 Ship Bay/Fighter w/Fighters 5 Ship Bay/Frigate w/Corvettes
Cost:	126.88M base, 6.35M maintenance 43.8M yearly crew cost for 1,000 crew

The queen of every navy that has one, a carrier is the pinnacle of TL4 shipbuilding technology and a massive credit sink for any polity rich or desperate enough to build one. Every fully-equipped carrier holds more firepower than most modern navies can assemble, and a single carrier is more than enough to crush most TL4 naval task forces.

The carrier itself is only the vector for its tremendous payload of ships, both small fighters and corvette-type daughter craft. The ability to quickly alter the flight wings of a carrier allows a rich planet to tailor its loadout to the specific needs of a campaign, whether it's destroying the interstellar commerce and asteroid mines of an enemy polity or going head-to-head against their cruiser line of battle. Many polities further optimize their carrier-loaded ships by removing their spike drives and replacing them with system drives, relying on the carrier to get them into position. Of course, if the mothership is destroyed in hostile territory, these orphans are doomed.

While a carrier has a belly full of death, the ship itself is lightly gunned and has significantly weaker armor than its battleship brethren. Any polity rich enough to build a carrier knows well enough to equip it with an escort of other ships to screen it from hostile attentions. Lightly-armed as it is, a wing of fighter-bombers can leave it a burning hulk if it's caught out without protection.

MODIFYING AND TUNING STARSHIPS

Most ships are maintained in the condition they came from the shipyard, with the crew and the engineers working to keep things aligned with the shipwright's specifications. Such rigid conformity with standard techniques ensures easy repair, cheap maintenance, and the ready ability to switch crews without requiring laborious retraining or familiarization. Not all engineers value these qualities so highly, however, and some prefer to install their own improvements.

A ship's engineer can alter the wiring, internal structure, or other specifications of a starship, either to improve overall performance or make tradeoffs that are useful to their needs. Making these modifications isn't cheap, and they often require the strategic deployment of rare pretech ship components.

Engineers with sufficiently vast resources, shipyard access, and available pretech components can completely re-engineer a ship to integrate their improvements in the basic hull structure. These improvements no longer require their special attention to keep them operational, allowing the engineer to focus on other modifications or allow less talented crewmen to keep the ship in fighting trim.

Mods and Maintenance

Every engineer has a Maintenance score, the same used for installing equipment mods as described on page 90. The score is equal to their Intelligence modifier plus their Constitution modifier plus three times their Fix score. Any mod maintenance is counted against this Maintenance score, whether for equipment or starships.

An engineer can maintain a number of mods at once equal to their Maintenance score. If a ship mod is neglected for one week of active use, it breaks down. Any fittings or functions dependent on the mod also become inoperable until a sufficiently skilled engineer spends at least 8 hours repairing the mod, a process which requires time but no significant additional parts. Ships parked at a station or landing strip don't count as "active" for this purpose, so the ship's engineer can go off for a week's adventure or shore leave without returning to a broken-down starship.

More than one engineer can work to maintain a ship's modifications, provided the maintenance officer has a Fix skill score as high as that needed to install the mod in the first place. This also assumes that the chief engineer and any assistants work together closely to properly teach the structure and quirks of the modification. The difficulty of maintaining this close teamwork and sourcing exotic parts to maintain a non-standard modification is one reason why very few NPC ships have mods. While they're possible for elite craft and idiosyncratic prototypes, most military ships or corporate traders have too much of a logistical burden to support these odd alterations.

Installing Mods

Every starship mod requires a certain amount of refitting work and after-market parts, along with a potential need for one or more pretech components. These pretech components are not normally for sale, and are usually found only through salvage during adventuring or as rewards for favors performed for important personages. While they vary in structure and appearance, for convenience's sake it's assumed that a given component can serve in installing any mod.

Building the mod can be done at a rate of one day's work for the crew per 5,000 credits in mod cost, or one day per 25,000 credits if a shipyard's services are available. Mods can also be torn out, a process taking less than a day that reclaims any pretech components used in their construction but wastes any credit investment in parts.

Mod installation does not require a full shipyard, but it does assume the full crew of the ship is assisting the engineer in stripping components, welding in new fittings, and hauling heavy parts. A lone engineer can't make mods to anything larger than a frigate-class hull, and that might take a week's painstaking labor for every 5,000 credits of cost.

Redesigning Ships

An engineer with vast amounts of money, components, and shipyard support can completely rebuild a ship hull to include a mod as part of its basic structure, or redesign an existing hull schematic to include the mod. This is much more expensive than a quick after-market addition, but the mod becomes part of the basic ship itself and requires no further Maintenance.

To rebuild a ship with a mod, the engineer must spend five times the usual cost in credits and twice as many pretech components as usually required by the mod. A shipyard is mandatory for such extensive redesign, and can do the work at a rate of 25,000 credits worth each day.

To build an entirely new hull that includes the mod as part of its design, only the normal price of the mod must be paid in credits and components. By integrating the modification into the ship's basic blueprints, the engineer makes it much easier to install and maintain it. Of course, the entire hull must then be built from scratch at a shipyard, also at the usual rate of 25,000 credits of work done per day.

There's a limit to the amount of flexibility an engineer has in such designs, however. A ship can only be rebuilt or redesigned with a number of mods equal to twice the engineer's Fix skill score. Further mods can be bolted on afterwards, but these will require Maintenance to keep in operating order, just as with any other mod.

Example Starship Mods

The following modifications aren't the only alterations that a canny engineer can install on a starship, but they're among the most common. Each one is listed with the minimum Fix skill required to install or maintain the mod.

The credit price for most is expressed in a percent of the base hull cost; thus, to install a power trunk streamlining mod with a 10% cost in a free merchant hull would cost 50,000 credits, or 10% the cost of the base hull. In a battleship hull, that same mod would cost 6,000,000 credits.

The pretech component cost is given in components per hull class. Thus, if a mod requires one component per hull class, it would take one component for a fighter-class hull, two for a frigate, three for a cruiser, and four for a capital-class hull. These pretech components are usually rare and restricted enough that they cannot be purchased on the open market. PCs need to find them during their adventures, acquire them through favors to powerful persons, or intentionally seek them out in salvage adventures.

Most mods can be installed only once, though a few of them labeled otherwise can be duplicated as far as the ship's infrastructure can support them.

Cargo Efficiency Bays (Fix-1): The ship's internal structure is adjusted to optimize available cargo space. The ship's total free Mass is decreased by 10%, rounded up, but, each point of Mass dedicated to cargo space counts as two points. Cost: 10% of hull, 1 component/hull class

Compact Magazines (Fix-1): The ship can carry twice as much ammunition as its available weapons and magazine space would normally allow. Cost: 5% of hull, no components

Drill Velocity Upgrade (Fix-2): The ship's spike drive is counted as one level better when determining spike drill transit speed and maximum drill range, up to a maximum of drive-6. Cost: 10% of hull, 1 component/hull class

Emergency Drill Activation (Fix-3): The ship can engage its spike drives even when in dangerous proximity to a planetary body. When engaged, it can drill out in a single round. Doing so increases the difficulty of any spike drive skill check by +2 if in-system or +4 if actually landed. Drilling out from the surface will destroy everything within 200 meters of the ship. The mod can be used only once every four weeks. Cost: 20% hull, 2 components/hull class

Emergency Thruster Boost (Fix-1): Retune the engines for emergency power. Once per space combat, gain a +2 bonus to Speed for three rounds. Cost: 10% of hull, no components

Engine Optimization (Fix-2): The engines have been optimized for realspace maneuverability. The ship's Speed increases by 1. Cost: 10% of hull, 1 component/hull class

Eternal Reactor (Fix-2): The ship's fuel tanks are replaced with effectively everlasting pretech energy cores. It no longer needs to refuel for drills or operation. Cost: 5% of hull, 2 components/hull class

Extended Mass Support (Fix-1): The engineer trims back the power core to allow for more ship mass. Lose up to ten points of free Power; gain half as many points of free Mass, rounded down. This mod can be installed multiple times. Cost: 10% of hull, one component

Low Emissions (Fix-1): Any sensor checks to detect the ship have their difficulty increased by +2. Cost: 10% of hull, 1 component/hull class

Nemesis Tracker (Fix-3): The ship's targeting computers are augmented with pretech prediction software. Once per ship combat, a gunner on the ship can take an Instant action to cause a weapon shot to hit, regardless of the hit roll. Cost: 5% of hull, 2 components/hull class

Oversized Mountings (Fix-2): Choose a specific weapon or fitting that normally requires a hull size one step larger than the ship the mod is installed on. The ship can mount that fitting. Cost: 15% of hull, 1 component/hull size

Power Trunk Streamlining (Fix-1): Sacrifice free hull space for superior power core efficiency. Lose up to five points of free Mass; gain twice as many points of free Power. This mod can be installed multiple times. Cost: 10% of hull, one component

Q-Ship Cladding (Fix-1): Some or all of ship's weapons are concealed from external observation and standard scans when they are not deployed for combat. The ship itself can be made to look like a merchant or freighter of its size class. Cost: 5% of hull, no components

Regenerative Armor (Fix-3): The ship's Armor score increases by 5 points. Cost: 15% of hull, 2 components/hull class

Reinforced Armor (Fix-1): The ship's Armor score increases by the Fix skill of the installing engineer. The ship loses one point of Power and one point of Mass. Cost: 5% of hull

Specialized Mountings (Fix-1): Choose a specific weapon or fitting when this mod is installed. The chosen fitting requires only half the normal Power and Mass per fitting installation, rounded down to a minimum of 1. Cost: 10% of hull, no components

Volley Capacitors (Fix-2): The ship's weaponry has been altered for rapid firing. Once per combat, the ship's gunner gets 4 Command Points that must be spent on gunnery actions. Cost: 10% of hull, no components

Weapon Overcharge (Fix-2): One weapon of the engineer's choice has been overcharged. It requires 50% more Power than a usual installation, but rolls its damage twice and takes the better result each time. This mod may be installed more than once. Cost: 5% of hull, no components

SPACE TRAVEL

Interstellar travel takes place through metadimensional space, a higher-order continuum "understood" by only a handful of brilliant researchers and astronautic engineers. Fortunately, it is not necessary to have an intuitive understanding of the place in order to operate a spike drive starship. While modern postech spike drives are neither as powerful nor as efficient as the exquisite creations of the Terran Mandate, most TL4 worlds can still put together the necessary components to get a ship from one stellar system to another.

Within the gravity well created by a stellar body, a spike drive provides sub-light propulsion sufficient to get the ship to most system locations within a few days at most. Only at the edge of a solar system, where the gravitic influence of the star dwindles away to almost nothing, can the spike drive be fully engaged to catapult the ship into metadimensional space. This gravitic transition zone is critical for providing the necessary step-up and step-down for a spike drive. Without such a transition, a ship can neither climb into metadimensional space nor come down from those elevated dimensional frequencies. Only a star is sufficient to provide enough of a gravitic gradient; random interstellar rocks and debris don't exert enough of an influence to form a usable transition zone.

Ships are generally unable to "overshoot" a transition zone. If a ship is coming into a system from a spike drive course to the stellar northwest of the star, it will appear at the northwest edge of the solar system. Its pilot can't choose to "overshoot" that region, traveling across the solar system to come down on the southeastern edge of the star's transition zone. This property allows a solar system's owner to fortify probable transit paths into the system, placing defenses and picket ships in the path of likely arrivals.

This can be a difficult and expensive process if the star is in a crowded stellar neighborhood. The transit paths from each potential destination are different; if a star has two other systems to its east, it has to fortify two different arrival zones if it wants to be confident of detecting incoming ships from both stars. If an exceptionally powerful spike drive allows an intruder to drill in from a more-distant star, the local polity might have no local sensors at all in the region, having never anticipated that a ship might come directly from such a distant location.

These relatively-fixed arrival zones only apply to ships arriving at a star. A ship can *leave* from any location on the rim, traveling toward any destination within reach of its spike drive. Thus, a ship that's able to skulk past a system's frontier sensors can usually find an empty region of space in the transition zone to skip out undetected. It also has no obligation to be on the "correct side" of the star to go leaping off toward a particular stellar destination.

Making Spike Drills

Interstellar spike drills are dangerous. Some sectors have the technology and friendly-enough metadimensional weather to make standard drill paths relatively safe for travel. Ships in these favored sectors can move between connected worlds with no significant chance of disaster. Other sectors are not so fortunate, nor are those ships that must forge through uncharted metadimensional space to reach their destination. Careless navigation or sheer bad luck can result in these ships being snuffed out by an unexpected surge of metadimensional energy or lost in the storms of hyperdimensional space.

To make a successful spike drill, the target system must be within range. A spike drive has a hex range equal to its rating; a drive-3 can reach a star three hexes away on the sector map. Note that these sector maps are abstractions rather than strict 2D maps. A star three hexes away might be a vast distance away, but connected by a friendly stretch of metadimensional space. Conversely, an "empty" adjacent hex might have a star in it, but it's surrounded by killing waves of impenetrable dimensional disruption. Because of this, conventional astronomical mapping isn't overly useful to transit. The astronomers might know that there's a star only a few light years away, but if the navigators can't find a metadimensional path to it, it might as well be on the far side of the galaxy.

A spike drill requires one load of fuel. Most ships can hold a single load of fuel at any one time. All can be refueled from the appropriate refineries or starport tending services, while others can use fuel scoop fittings to refuel from a star or gas giant. Other ships have fuel bunkers that can hold more than one load of fuel, for quick double-drills when speed is vital. Normal intra-system maneuvering uses no significant amount of fuel, and refueling costs a flat 500 credits per load.

A spike drill requires time. A safe drill procedure requires half an hour to enter metadimensional space, though this process can be rushed at greater risk. The transit time is six days per hex traveled, divided by the spike drill rating. Thus, a drive-3 crossing two hexes would take four days, while a drive-1 moving to an adjacent hex would take six days. Daring navigators can "trim the course", accepting greater risks in transit in order to increase their effective drive rating by 1 for purposes of determining the speed of travel, though this bonus doesn't increase the drive's maximum range.

A spike drill needs a course record, or "rutter" to guide the pilot. Ideally, this is an up-to-date and recent record of the metadimensional currents and energetic weather between the origin and destination of their course, one reported by a recent traveler. The older and staler the readings of the rutter, the more dangerous

the drill. Most rutters for commonly-traveled routes are freely available, and significant trade corridors usually have ones only a few days old available to any pilot making the drill. Rutters charting heretofore-unknown paths between stars are often kept jealously secret by their owners, and may require an adventure or a favor to obtain.

Attempting to drill to a star without any rutter at all is insanely dangerous, the work of near-suicidal crew of adventurers willing to risk everything in order to obtain a secret route to some hopefully-unplundered world. Only a masterful interstellar navigator has any real hope of surviving such a blind drill.

Finally, a spike drill needs a pilot. Only a human or other sentient-grade intellect is capable of dealing with the dangerously unpredictable perils of metadimensional space, as expert systems and other "dumb" robots simply can't handle the random dangers. Most ships require at least three crew members to cover all the bridge watches necessary, though only one of these crew needs to be an actual pilot. In desperate circumstances, a lone pilot can use drugs to stay awake for as much as a week in order to single-handedly steer a ship to its destination.

If all these ingredients are in place and the ship is at the edge of the solar system, a ship's navigator can make an Int/Pilot skill check to make a successful spike drill, the process taking 30 minutes. If rushed, it takes only one ship combat round to execute. The base difficulty is 7, modified by the available rutter, the distance drilled, rushed procedures, and whether or not the navigator is trimming the course to speed up the transit. If the final difficulty is 6 or less, the drill is too safe and simple to have any risk of failure.

Spike Drills

Base difficulty for a spike drill	7
The course is totally uncharted	+6
The rutter's more than 5 years old	+2
The rutter's from 1 to 5 years old	+1
The rutter's less than a year old	+0
The rutter's less than a month old	-2
The drill's distance, per 2 full hexes	+1
Trimming the course	+2
The drill activation was rushed	+2

If the roll fails, something has gone wrong on the drill, and a roll on the failed navigation results are necessary. These mishaps don't normally result in the summary death of the crew, but they often force the navigator to make emergency course changes or drill exits that might leave the ship in a dangerously unfriendly region of space.

Intra-System Travel

Traveling inside a solar system is much safer and more rapid than interstellar travel. Barring unusual perils or mechanical failure, such journeys can be made without Pilot skill checks or risk of dramatic mishaps.

For convenience, space within a solar system is broken up in *regions*. Each region is simply a place of interest within the system; planets are regions, fortified arrival zones are regions, particular pirate lairs in the asteroid belts are regions, and so forth. Any particular place of interest and its satellite areas can be treated as a single region.

The base travel time for moving inside a region is six hours. Thus, in six hours a ship could travel from a planetary starport to a site on the planet's moon, or to a distant science station orbiting around the planet, or to a distress beacon in space near that world. Any place within that region can be reached within six hours, or faster at the GM's discretion.

The base travel time for moving between regions is forty-eight hours. A ship in orbit around one planet could thus travel to an entirely different planet, or to the transition zone at the rim of the system, or to a ship detected deep within system space, or to an asteroid pirate base, or to any other point of interest in the solar system.

Base travel time is divided by the ship's spike drive rating. Thus, a ship with drive-3 could reach another region in the system in only 16 hours. Bold navigators can "trim the course" to increase their effective spike drive rating by 1 by making a successful Pilot check at difficulty 9. On a failure, the travel actually takes twice as long as usual.

3d6	Spike Drill Mishap
3	Catastrophic dimensional energy incursion. Ship emerges around a star within 1d6 hexes of the target destination with drive and all systems destroyed.
4-5	Shear surge overwhelms internal systems. Ship emerges around star nearest to drill origin. 50% chance for each system to be disabled until repaired. If the spike drive is disabled, treat as if a 3 were rolled.
6-8	Power spike. One system disabled until repaired, ship stuck in transit for full base time before being able to make another Pilot check. If the spike drive fails, treat as if a 3 were rolled.
9-12	Ship off course. Spend base time in transit, then make another Pilot check.
13-16	Ship off course, but detected early. Make another Pilot check.
16-17	Drill successful, but takes twice base time.
18	Drill successful and on time, by blind luck.

Sensors and Detection

Adventurers often find it necessary to be very discreet about their comings and goings within a solar system, as do pirates, hostile warships, smugglers, and other nefarious sorts. Space is wide and dark, and if a ship is careful to avoid inhabited regions it can often escape notice by a system's inhabitants.

Hiding and Seeking

As a general matter it is very difficult to spot a ship in deep space when it doesn't wish to be spotted. Once a ship's energy signature is identified, however, it becomes much easier to follow the ship's movement; such a positional fix is called a *detection lock*, and once a ship has been locked by an observer it can be tracked at any distance in the system.

Fixing a lock on a target requires the observer to be in the same region of space and to win an opposed Int/Program skill check against the ship's comms officer. If the observer wins the opposed roll, they get a detection lock on the ship. If they lose or tie, they remain oblivious to the ship's presence and can try again in 24 hours. The active sensors used to form a detection lock can be detected by the target; they know they've been made. If the observing ship uses passive sensors, the lock is undetectable, but it's more difficult to obtain.

The observer takes bonuses and penalties to their opposed skill check based on the circumstances as listed below. This can alter their die roll substantially, and make concealment almost impossible for ships not specially equipped for stealth. The modifiers below are common ones, but particular regions of space may have their own hazards or complications, with some making detection so difficult that they become favorite lairs for pirates and malcontents.

Observer is...	Mod	Target Ship is...	Mod
Fighter	+0	Fighter	+3
Frigate	+1	Frigate	+2
Cruiser	+2	Cruiser	+1
Capital	+3	Capital	+0
Minor Outpost	+2	Station	-2
Major Station	+4	Avoiding planetary population centers	+2
Planet	+5		
Passive sensors	-2		

The larger the ship, the better the sensors it will have, but the easier it is to spot it in space. Minor outposts would reflect small deep-space habs or listening posts, while major space stations would include most military stations and other significant fortifications. Ships that carefully avoid population centers when landing on a world can mitigate some of the danger of a planetary sensor network, leaving smugglers and pirates to prefer landing in remote, little-inhabited areas.

To break a lock, a tracked ship needs to leave the region. As soon as it does, the observer and the ship repeat their opposed skill check. If the observer wins, it continues to track the ship, while a tie or loss means the ship slips the lock. Any observers in the destination region can attempt to pick up the ship immediately and then once every 24 hours, but the original observer is out of luck. Provided a ship is willing to escape to the region of deep space above or below the solar ecliptic, it's extremely unlikely that there'll be anything there to spot them. Of course, such escape also means staying clear of potential refuges. A ship that flees to the "edge of the system" region can drill out to safety from there, and unless they pick a chunk of the rim monitored by the locals, they can do so with impunity. Very few worlds can monitor the entire system perimeter.

When rolling for observation, only roll once for any given group, outpost, or planet, using the best modifiers available. Thus, if a battle squadron including a cruiser and three frigates rolls to observe, the GM would use the skill bonus and +2 modifier for the cruiser's crew. If a separate pirate ship was in the same region, the GM would roll for them as well, because they're a separate force in the region.

Pursuit and Escape

Adventurers have a habit of drawing unfriendly attention from hostile ships. While escape from a combat engagement is a matter of maneuver jets and good piloting, long-range chases rely more on a ship's spike drives to provide raw motive power.

A pursuer must be in the same region of space to pursue and must have a detection lock. Of course, if the pursued lacks a detection lock on the pursuer, they'll have no idea that they're being chased.

Both ships make Int/Pilot opposed skill checks, each adding their spike drive rating to the roll. If the pursuer wins or ties, they force an engagement and the ships are moved into combat range. If the pursued ship wins, it gets six hours of distance, modified by any difference in spike drive ratings; a drive-1 ship being chased by a drive-2 ship would have three hours, for example. It can use this time to reach a particular point inside the region, or can put it toward an attempt to escape the region entirely. Ships with spike drive-1 engines need 48 hours to enter a new region, so they are unlikely to avoid a determined pursuer; one with spike drive-3, on the other hand, can make the escape in only 16 hours. Some pilots may attempt to speed this up by trimming their course.

A pursuing ship can also use this six hours to aim toward a different region, if it thinks it knows where the ship is running. Assuming they can keep the detection lock when the pursued ship slips over the sub-stellar border, they can end up close on their prey's heels.

Scanning Planets and Ships

Short-range scans of ships and planetary objects are relatively simple affairs. Any scan of a ship within combat range will reveal the ship's hull type, obvious weaponry and damage, and registered ID code. A scan of a planet in orbit will always reveal basic information on atmosphere, geology, advanced energy-using surface communities, other ships in orbit, and any surface features designed to attract orbital interest.

Comms officers can attempt to interrogate the scans, asking one question before rolling an Int/Program skill check against difficulty 8. On a success, the question is answered, while a failure means that the data is inconclusive and no further questions can be asked of it that day. Each question after the first success that same day is asked at a cumulative +1 difficulty modifier. Questions should be simple and direct.

When scanning a ship, a comms officer might ask whether particular fittings or weapons have been mounted, where good boarding points might be on the hull, whether the ship looks to be the product of a particular world or culture, or simply to question whether anything looks odd about the ship's readings. The sensors can probe a meter or so beneath the hull skin, but they can't intrude on a ship's computer network or provide a map of interior spaces.

When scanning a planet, a comms officer can ask about apparent capitals or spaceports, major industrial sites, unusual planetary weather patterns, unique allergens or atmospheric hazards, current local news transmissions, or identify hidden or low-tech communities that are large but do not have clear energy signatures.

If they have the *Survey Sensor Array* fitting, they can do orbital visual spying accurate enough to read newsprint, in addition to asking questions about subterranean spaces, visible surface life forms of interest, crude maps of the interior spaces, and interesting energy readings.

MAINTENANCE AND REPAIR

Ships are expensive things to keep flying, and many adventuring crews find themselves taking somewhat dubious work just to get enough money to keep their ship in the air.

Spares, Repairs and Refueling

Most ships have their repairs and maintenance done at a shipyard, but a ship can perform field maintenance and repair if they have the necessary parts. One ton of cargo space can hold 10,000 credits worth of spare parts. Any time required is quadrupled, however.

Ship fuel costs a flat 500 credits per load.

Six-Month Maintenance

Every ship needs to spend 5% of its total non-crew cost every six months in order to pay for basic maintenance. Each such period that is skipped applies a -1 penalty to all ship skill checks and hit rolls. At -4, the ship gains a 10% chance per month of breaking down entirely until backlogged maintenance is repaired. At a shipyard, this maintenance takes a day for a fighter hull, a week for a frigate or cruiser, and a month for a capital ship.

Repairing Hulls and Systems

Fixing ship hit points can be done at a cost of 1,000 credits per point, with up to the presiding engineer's Fix skill repaired in points each day. A disabled system can be jury-rigged back to functionality for one-tenth the system's cost and one day's work per 25,000 credits so spent. A jury-rigged system that is disabled again is destroyed. Full repairs of a disabled system cost one-quarter of its original price.

Repairs made during combat do not need to be re-done or paid for afterwards, as they were performed before the damage could become critical and lasting.

Sneaking In

The free merchant *Grendel* has just drilled into a new system using charts her captain stole from an unfortunate pirate.

As it happens, a small pirate base is positioned in the region, placed there by its inhabitants to keep an eye on any traffic from the adjacent system. They get a chance to detect the *Grendel*, and roll the pirate comm officer's skill bonus of +2 plus another +2 for being a minor outpost, and a -2 for using passive sensors to avoid alerting targets. Their total is 12. The *Grendel*'s comms officer is good, however, and gets a +2 for being a frigate-class ship. His Int/Program skill roll is a 13, meaning the base has not detected the ship.

Now the free merchant gets a chance to spot the station, also using passive sensors at a -2 penalty. The outpost is a very visible space station, and takes -2 on its opposed roll, while the frigate gains a +1 on its check. The base rolls a 7 and the *Grendel* rolls an 8. The frigate has a detection lock on the pirate base.

Her captain decides to sneak further into the system. She can't be sure the station hasn't spotted her, but it's made no obvious sign of it and she wants to investigate the local planets and their inhabitants. The *Grendel*'s drive-2 engine can cross over to a planet's region with 24 hours of travel.

This will give the station one more chance to lock the ship, since it can try again in 24 hours. Even if it does successfully lock the free merchant, however, the captain bets they can lose it when they transfer out of the solar region. The pirate base might broadcast an alert to any other local allies, however, which could make things awkward.

SPACE COMBAT

The clash of ships in the void, the flash of silent explosions and soundless death… these things are familiar to interstellar adventurers, and a natural hazard of the profession. While most adventurers seek to avoid such hull-melting conflagrations of war, sometimes the choice is not their own. When two or more ships close to combat range with the intent to kill, it's time to fight.

The Combat Round

Space combat begins with a normal initiative roll, one made by each ship involved in the combat. Each rolls 1d8 modified by the Intelligence or Dexterity modifier of the pilot, and they take their turns in order, with PCs winning ties. Once every ship has had a turn, the round starts over from the top. Initiative is not rerolled. A round of ship combat takes about 15 minutes, but Experts and Warriors can only use their special class abilities to reroll skill checks or ensure automatic hits once per engagement.

On its turn, a ship's captain decides in which order its various departments will act: bridge, gunnery, engineering, comms, and captain. Each department then chooses actions, choosing either from their specific department or a general action available to all departments. A department head can choose actions from only one category; they can't pick from both. Some of these actions generate **Command Points**, allowing other departments to spend these points taking actions that require them. When all departments have acted, the next ship in order can go.

If the ship is an NPC ship, the GM can abbreviate the process, giving it a fixed number of Command Points based on its general crew quality, with the ship being able to take whatever actions it needs using that total. Fighters and civilian ships usually have 4 Command Points, military or pirate ships have 5, native spacers and highly-trained warships have 6, and the finest NPC crews in space can muster 7 points.

Ship Departments

For purposes of interstellar combat, every ship is assumed to have five departments: bridge, gunnery, engineering, comms, and captain. A ship with too few crew to actually man these departments may have to double-up on staffing, but these five functions are the ones that are critical during space combat, and every ship has to be able to act on them.

The **bridge** is where the ship's piloting and navigation is done. This might be no more than the cramped cockpit of a starfighter or it might be a cavernous central control node in the bowels of a battleship. The bridge department handles attempts to escape combat, perform evasive maneuvers, or pursue a fleeing enemy.

The **gunnery** department is in charge of the ship's weaponry. If it's used to blow pieces out of something unfriendly, it's in the charge of the gunners who man this department. They're the ones who fire a ship's guns and make the targeting calculations necessary to snipe specific systems and weapons on a hostile target.

Engineering keeps the ship flying when enemies are carving chunks out of her hull. They can perform damage control, boost the engines to speed a ship's maneuvers, and execute emergency repairs to get a damaged system back online before it's too late.

The **comms** department doesn't just handle inter-ship communications, but it also manages sensors, electronic warfare, and combat hacking duties. Their crew can baffle enemy targeting attempts, fool hostile sensors, and choke enemy computers with ECM.

The **captain** is master of the ship and directs the other departments. On a warship, this discipline might be taut and automatic. On a ship piloted by PCs, obedience may be less certain. Regardless, the captain can boost the effectiveness of other departments, direct crew for perilous but necessary tasks, or convert otherwise-crippling hits into more manageable crises.

For player-run ships, every PC should be put in charge of one of these departments, preferably the one that best suits their character's skills. If a PC is totally incompetent for space combat, they can be given temporary control of the NPC officer who actually is in charge of the department, and can run that NPC as their character during the fight. If the ship is so small that there is no NPC available to run the department, then the PC is treated as a supernumerary officer, and can only take actions from the general action list available to all departments.

Sometimes there are fewer PCs than there are departments. In that case, double-up the duties of two or more departments on a single PC. That PC can still only take actions from one departments per turn; any departments they don't take an action from are assumed to use the *Do Your Duty* action, adding 1 Command Point to the ship's available total. Thus, if a PC was in charge of both the bridge and the comms, she could take actions either from the bridge list, the comms list, or the general list of actions. If she didn't pick any action from the bridge or comms list, the neglected department would simply use *Do Your Duty* to add +1 Command Point to the ship's available total. For a single-seat fighter, the lone crewman might have all five departments on his head. Such a pilot would be able to take actions from any single department each round with the other four providing 4 Command Points to fuel that action.

Sometimes the PCs may want to swap departments in mid-battle for some reason, or to replace a department head who has been incapacitated. They may do so at the start of any given combat turn provided that the department heads involved do not object.

Actions and Command Points

At the start of every ship's turn, the captain decides the order in which the departments will take their action. In the chaos of combat, she can give directions to the heads, but they are not obligated to follow them.

When a department's turn comes up, the PC in charge chooses actions, either from their department list or the general action list. Some actions may require skill checks to execute properly, while others are automatically successful. Some actions may require Command Points to be spent in order to attempt them, while others give Command Points. A few prohibit the PC from doing any other action that round.

Barring these actions, a department head can take as many actions as they have Command Points to spend on them. A gunnery chief with 4 Command Points, for example, could use the *Fire One Weapon* action twice, spending 2 Command Points each time, or he could use the *Fire All Guns* action once, spending 3 Command Points and leaving 1 left. The department head does not need to get permission to spend points from the rest of the crew; if he decides to burn the points to open fire when the rest of the crew wanted him to save them, that's too bad for the rest of the crew. A traitorous or uncooperative department head can only be stopped by PC intervention with the *Deal With a Crisis* action.

After every department has acted, all excess Command Points are lost. Ships normally start their turns with 0 Command Points.

Attacks and Damage

When a ship fires a weapon, it can choose any target involved in the combat. Either the gunnery department head, an NPC, or a nominated PC may make the attack, but a given gunner can man only one gun a round. The gunnery head is always the one to spend Command Points to fire, but their nominees may be the ones actually manning the guns and rolling the attacks.

The gunner rolls a normal hit roll, using their base attack bonus plus the better of their Intelligence or Dexterity mods, plus their Shoot skill. If flying a fighter-class ship, Pilot may be used in place of Shoot. Foci that normally give bonuses to Shoot attacks, such as *Gunslinger*, do not apply to ship combat unless specifically noted as doing so. The luck ability of the Warrior class may be used once per fight to hit with ship guns, but cannot be used to negate a hit against their ship.

If the hit roll equals or exceeds the target ship's Armor Class, the attack is a success and the attacker may roll damage, again modified by the better of the gunner's Intelligence or Dexterity modifiers. This damage is lessened by the target's Armor score, which may in turn be negated by a gun's Armor-Piercing quality. A successful hit by a plasma beam, for example, does 3d6 damage plus the gunner's attribute modifier, with an Armor Piercing quality of 10. Against a free merchant with an Armor score of 2, the full damage of the beam gets through, as the AP 10 cancels out all the merchant's Armor.

Armor can negate all damage from a hit if it's strong enough. If Armor completely negates the attack, the hit cannot disable systems.

Sufficiently skilled gunners can use the *Target System* action to aim a shot at a particular weapon system, engine, or other fitting that seems vulnerable to the GM. On such a hit, the damage is halved, rounded up, before Armor is applied. If any damage gets through, that system is disabled and cannot be used until it is repaired. Engines lose one drive rank instead, so that a drive-2 spike drive becomes a drive-1 until repaired. Disabled systems hit again or drives reduced below drive-0 are destroyed, and cannot be repaired during combat. A ship with destroyed engines cannot perform any bridge actions and may be boarded at an attacking ship's leisure, assuming its guns are also disabled.

If a ship is reduced to zero hit points, fighter-class hulls are instantly destroyed with all hands. Larger ships are mortally damaged. Such crippled ships can take no action and will explode within 2d6 minutes unless the chief engineer succeeds in an Int/Fix skill check against difficulty 10. On a failure, the explosion is inevitable, while on a success the ship merely becomes a burnt-out hulk with all systems destroyed. If sufficiently vast amounts of repair supplies are still intact in the hold, a determined crew might be able to jury-rig the maimed ship into temporary operation.

Ship Crises

Instead of accepting some particularly gruesome hit or disabling attack, a PC ship can instead choose to accept a **Crisis**. The attack or the disabling hit is then negated, with no damage done. Instead, the GM rolls on the Crisis table to find out what dire event happened as a consequence of the hit, instead of the ship damage.

Some of these Crises are continuing. They will continue to plague the ship until a PC can solve them with the *Deal With a Crisis* general action. Usually this involves a skill check at difficulty 10, but multiple PCs can choose to take the *Deal With a Crisis* action to cooperate in resolving the problem that round.

Some of these Crises are acute. The PCs must resolve them before the end of the ship's next turn or else something very bad will happen.

A ship can accept only one Crisis per round, not including the *Into the Fire* or *Keep it Together* captain actions which may be taken at the captain's discretion. Thus, if the ship is hit twice, only one of those hits can be converted into a Crisis unless the captain uses one of these actions. A ship accepts a Crisis if any of the department heads requests it, even if the rest of the heads don't want one. Thus, if the ship's main gun is hit, the gunnery chief can request a Crisis to prevent the hit even if the rest of the crew was against it.

To simplify ship combat, NPC ships do not normally accept more than one Crisis per space combat, at most. They usually just take the damage or negative effects of hits straight until facing imminent ruin.

Handling Crises

To resolve a Crisis, a PC needs to take the *Deal With a Crisis* general action on their department turn. They must explain what they are doing to solve the problem to the GM, who will then tell them what combination of attribute and skill they should roll. The usual difficulty of resolving a crisis is 10, though the GM may increase or decrease that difficulty by up to 2 points either way depending on how bad the Crisis is and how useful the PC's plan is to resolve it.

If the PC succeeds in the roll, the Crisis is ended. Continuing Crises no longer apply their penalty to the ship, and acute Crises are defused before disaster can strike. If they fail, a continuing Crisis is unchanged and an acute one is yet unresolved.

More than one PC can try to resolve a Crisis, either making an independent attempt if they have a relevant skill, or using their talents to aid the main responder with the usual rules for aiding another's skill check.

The *Deal With a Crisis* general action can also be used to get a scene's worth of general activity aboard the ship. If a xenomorphic monster suddenly breaches the ship's hull during a battle with its alien mothership, two of the PCs might take the *Deal With a Crisis* action to spend a scene battling the beast in the guts of the ship while the rest of the party tries to keep the ship fighting.

Running a Crisis

When a Crisis hits a ship, the GM should describe it in a concrete way. A *Crew Lost* crisis, for example, may be described as "A damage control squad has been trapped in the engine room and temperatures are rising dangerously high." A *Hull Breach* might be described as "That last hit drove a support column through a capacitor bank; it's about to explode." It should be described as a specific problem that threatens the ship.

In turn, when a PC chooses to *Deal With a Crisis*, they should indicate what it is exactly that they're trying to do. A PC with Fix might declare that they're trying to pump coolant into the engine room, or a telekinetic PC might try to forcibly eject the capacitor bank before it can explode.

Don't worry about being too technically precise with descriptions, or painstakingly deciding whether the ship has available coolant supplies or whether the capacitor is one ton or two. Decide whether or not the plan the PC is declaring is plausible or not in the general sense, and set the difficulty accordingly.

Extremely good plans or applicable abilities might make the Crisis resolution check as easy as difficulty 8, while a very marginal plan that doesn't seem likely to help might be difficulty 12. Whatever you do, keep it quick; don't drag it out in play.

SHIP COMBAT ACTIONS

Every PC can take one or more actions per ship round. PCs who are department heads can pick actions from their department. Any PC can pick from the general actions. Some actions prohibit any other act that round.

Most actions have a cost in Command Points. Usually, some PCs choose to *Do Your Duty* or go *Above and Beyond* to generate Command Points, while others then spend them on actions for their department. All unspent Command Points are lost at the round's end.

NPC ships usually have a base number of Command Points they can spend each round, and may pick actions freely to spend them. For simplicity, NPC ships can't usually generate more Command Points with their actions and can't normally take Captain actions.

Bridge Actions
Escape Combat (4 CP): Roll an opposed Int/Pilot or Dex/Pilot skill check plus your ship's Speed against the fastest opponent's skill check plus their ship's Speed. On a win, all enemy ships gain one point of Escape. If an enemy ship gets three points, after three uses of this maneuver, your ship gets away from that ship and is no longer in combat with it.

Evasive Maneuvers (2 CP): Roll Int or Dex/Pilot against difficulty 9 to add your Pilot skill to the ship's AC until its next turn. Usable once per round at most.

Pursue Target (3 CP): Opposed Int/Pilot or Dex/Pilot skill check plus Speed against the target ship's skill check plus Speed. On a win, you shed one point of Escape rating the target ship may have on you.

Captain Actions
Into the Fire (0 CP): Accept a *Crew Lost* Crisis and gain your Lead skill plus one in Command Points. You may do this at most once per round.

Keep It Together (0 CP): Nullify a successful enemy hit and roll a Crisis instead. You can use this action in Instant response to an enemy hit but you may only use it once per round.

Support Department (0 CP): Choose a department. One action that department takes will require 2 fewer Command Points. You can do this once per round.

Comms Actions
Crash Systems (2 CP): Roll an opposed Int/Program check against a targeted ship. On a success, it starts its next turn with a Command Point penalty equal to your Program skill.

Defeat ECM (2 CP): Roll an opposed Int/Program against a targeted ship. On a success, any attacks this round by your ship against the target get a hit bonus equal to twice your Program skill.

Sensor Ghost (2 CP): Succeed on a difficulty 9 Int/Program check to gain your Program as an AC bonus until the next turn. Usable once per round at most.

Engineering Actions
Boost Engines (2 CP): Roll Int/Fix versus difficulty 8. On a success, the ship's Speed is increased by 2 until the start of the ship's next turn.

Damage Control (3 CP): Roll Int/Fix versus difficulty 7. On a success, repair a number of lost hit points equal to your Fix skill times 2 for fighter hulls, 3 for frigates, 4 for cruisers, and 6 for capital-class hulls. Each attempt of this action after the first in a fight increases its difficulty by a cumulative +1.

Emergency Repairs (3 CP): Roll Int/Fix versus difficulty 8. On a success, a disabled system is repaired or a damage-degraded drive has its rating increased by 1. Destroyed systems cannot be fixed this way.

Gunnery Actions
Fire All Guns (3 CP): Gunners fire all weapons mounted on the ship, designating targets as they wish.

Fire One Weapon (2 CP): A gunner fires a single ship's weapon of their choice.

Target Systems (1 CP): A *Fire One Weapon* action you take this round may target a ship's weapons, engine, or fittings the GM decides are vulnerable. Such targeted attacks take -4 to hit. On a hit, do half damage before applying Armor. If damage gets through the system is disabled or drive is degraded by 1 level. Disabled systems hit again are destroyed. You may take this action more than once to aim additional shots you may fire.

General Actions
All these general actions are exclusive; if you take one of these actions you can do nothing else in the round, either before or after you take the action.

Above and Beyond (0 CP): Push yourself to help the ship or its crew. Pick an attribute and skill check and explain how you're using it to help the ship. If the GM agrees, roll it against difficulty 9. On a success, gain your skill level in Command Points plus one. On a failure, take -1 Command Point.

Deal With a Crisis (0 CP): Explain what you are doing to solve a Crisis and roll the relevant skill check. The difficulty is usually 10, plus or minus 2 depending on the situation and the effectiveness of your action. On a success, the Crisis is resolved. You may also use this action to aid another PC in resolving a Crisis, or to take one scene's worth of other actions around the ship.

Do Your Duty (0 CP): The ship gains 1 Command Point. PCs who head more than one department can act only in one of them; the rest automatically take this action. If invoked by a PC, they must name some plausible act the PC is doing to be useful, and can't do the same act two rounds in a row.

Ship Crises

Once per round, a ship may choose to accept a Crisis instead of taking an enemy hit. They must choose to do so immediately after damage is rolled, and only one player needs to request the Crisis to get it even if the rest of the party doesn't want it. Once the Crisis is accepted, the hit is negated and the GM rolls on the table.

The captain may also choose to voluntarily accept a Crisis through their *Keep It Together* or *Into the Fire* department actions. Use of these actions doesn't count against the one-voluntary-Crisis-per-round maximum.

Some Crises are continuing. They will apply a penalty to the ship that continues until some PC successfully performs a *Deal With a Crisis* action.

Other Crises are acute. They inflict no immediate negative consequence, but if the PCs don't resolve it by the end of the next combat round, an unpleasant consequence will ensue. The Crisis is then removed.

The same Crisis rolled more than once will stack on the ship, though hits to empty cargo holds or dry fuel tanks may not be much of a problem to the ship.

Dealing With a Crisis

Any PC can *Deal With a Crisis* by taking that general action and describing what they're doing to solve the problem. They then roll an applicable skill check against difficulty 10, possibly modified by up to plus or minus two depending on the GM's judgment of their general plan and its likelihood of being helpful. On a success, the Crisis is resolved. All Crises are considered resolved at the end of an engagement.

Crises

Armor Loss: The hit melted an important patch of ship armor, cracked an internal support, or exposed a sensitive system. Until resolved, the ship's Armor rating is halved, rounded down.

Cargo Loss: The hit has gored open a cargo bay, threatening to dump the hold or expose delicate contents to ruinous damage. If not resolved by the end of the next round, lose d10*10% of the ship's cargo.

Crew Lost: Brave crew risk their lives to keep damaged systems operating. Describe the danger they face. If the Crisis is not resolved by the end of the next round, 10% of the ship's maximum crew are incapacitated, not counting any *Extended Life Support* fittings. Half these crewmen are dead or permanently disabled, and the other half return to duty in a week. *Extended Medbay* fittings halve the number of dead and crippled. If the ship has run out of NPC crew when it takes this Crisis, a random PC must roll a Physical save; on a success, they lose half their hit points, while on a failure, they are mortally wounded. If not stabilized by the end of the ship's turn through some PC taking a *Deal With A Crisis* action to heal them, they will die.

d10	Ship Crisis	Type
1	Armor Loss	Continuing
2	Cargo Loss	Acute
3	Crew Lost	Acute
4	Engine Lock	Continuing
5	Fuel Bleed	Acute
6	Haywire Systems	Continuing
7	Hull Breach	Acute
8	System Damage	Continuing
9	Target Decalibration	Continuing
10	VIP Imperiled	Acute

Engine Lock: The ship's engine has been jammed or control circuits have gone non-responsive. Until resolved, no bridge actions can be taken, though the pilot can still perform general actions.

Fuel Bleed: The ship's fuel tanks have been holed or emergency vents have been force-triggered by battle damage. If not resolved by the end of the next round, the ship will jettison all fuel except the minimal amount needed for in-system operation.

Haywire Systems: Critical command links have been damaged or disordered by the hit. Until resolved, the ship starts each round at -2 Command Points. Multiple such Crises can stack this penalty, crippling a ship until the Crises are resolved.

Hull Breach: The hull has been damaged in a way that is currently non-critical but is about to tear open an important compartment or crumple on vital systems. If not resolved by the end of the next round, the ship will take damage: 1d10 for fighter-class hulls, 2d10 for frigates, 3d10 for cruisers, and 4d10 for capital hulls, all ignoring Armor.

System Damage: One of the ship's systems has been cooked by the hit. The GM randomly picks a weapon, fitting, or engine; that system is disabled as if hit with a targeted shot, with drives suffering a 1 point drive level decrease. Disabled systems hit by this Crisis or drives reduced below drive-0 are destroyed and cannot be repaired during combat.

Target Decalibration: The gunnery computers are hopelessly confused and cannot lock the ship's weaponry on a target until this Crisis is resolved.

VIP Imperiled: Shipboard damage threatens a random PC or important NPC. That victim must immediately roll a Physical saving throw; on a success, they lose half their hit points, and on a failure they are mortally wounded. NPC crew can make a free attempt to stabilize the downed VIP using their usual NPC skill bonus. If the NPC fails, and no PC takes a *Deal With a Crisis* action to successfully stabilize them by the end of the ship's turn, they die.

The Thunder of the Guns

The free merchant *Grendel* finds herself engaging the *Sacred Wrath*, a patrol boat of the Luminous Hegemony determined to stop the *Grendel* before it can deliver its cargo of military supplies to the rebel outpost that contracted the ship. Captain Wilhelmina Stokes knows she's substantially outclassed by the patrol boat, but she trusts her comrades and is determined to blast her way through.

The combat begins with an initiative roll. The *Grendel's* pilot rolls 1d8 plus the best of his Intelligence or Dexterity modifiers, getting a 6. The *Wrath's* pilot rolls a 4, so *Grendel* goes first.

Grendel starts her turn with 0 Command Points. Captain Stokes decides that she'll act first among the crew, and uses the *Support Department* action to aid the gunnery department; one action the gunner takes will be 2 Command Points cheaper than usual.

The ship still has no Command Points, however, so Captain Stokes tells the comms chief to go next. Feeling daring, the comms chief decides to go *Above and Beyond* to help the ship, overclocking the ship's computing core. The GM decides this is an Int/Program skill check, so the comms chief rolls it against difficulty 9. He fails his first roll, but uses his Expert class reroll benefit to try again, and gets it the second time. The ship gains 3 Command Points for the comms chief's Program-2 skill.

Stokes considers letting the gunner blaze away now, but she wants to go for a real torrent of fire to open the fight, so she asks the bridge pilot to act next to build more Command Points. He chooses to *Do Your Duty*, adding 1 CP and declaring that he's lining the ship up for the shot.

Three Command Points aren't enough for the captain, so despite the gunner's entreaties, she chooses for the engineer to go next. She also plays it safe, deciding to *Do Your Duty* and feed power to the guns.

Lastly, there's a sixth PC in the crew, a storyteller with absolutely no applicable space-faring skills. Even though he is no department head, the captain nominates him to act next, since every PC gets to act each round. Able to take only general actions, the storyteller chants a mighty lay of battle to encourage his comrades on to glory. The GM lets him roll a Cha/Perform skill check to go *Above and Beyond*, and he succeeds, adding 3 more Command Points from his Perform-2 skill.

Now, at last, with 8 Command Points, the captain gives the gunner her signal. The gunner decides that it's absolutely critical to defang the patrol boat before it can open up with its plasma beam. He chooses to *Target Systems* with his attack, spending 1 CP. He knows the free merchant's sandcaster has no chance of piercing the patrol boat's armor, but his multifocal laser can cut through the ship's plat-

ing. Thus, instead of trying to fire the sandcaster this round, he decides to blaze away exclusively with the laser, using the *Fire One Weapon* action. Firing one weapon costs 2 Command Points and he has 5 left, plus the captain's *Support Department* action to give him a zero-cost shot.

The gunner is a grizzled Warrior and uses his class ability to make the first shot an automatic hit. He rolls 1d4 for damage, +1 for his Dexterity modifier, and gets a 3. The multifocal laser's armor-piercing quality of 20 overwhelms the patrol boat's Armor of 5, but since he's *Targeting Systems*, his damage is halved, rounded up. The patrol boat takes 2 hit points of damage… but its plasma beam is now disabled until the boat's crew can perform repairs.

The gunner's not satisfied; he wants that gun wrecked. He *Fires One Weapon* again for 2 CP, *Targeting Systems* once more for 1 CP, rolling a hit roll at -4 and using his Shoot skill and Dexterity attribute to modify his attack bonus. He hits with a 15 and does another 2 damage, destroying the gun.

The GM decides that the patrol boat's captain is willing to go to extremes to prevent this, and lets him accept a Crisis instead. The GM rolls 1d10 and gets the *Hull Breach* crisis; if the boat can't resolve it by the end of the next round, it'll take 2d10 hit points of damage that ignores Armor, but for now the gunner's second hit is negated. The gunner has 2 CP left, so he burns those and his captain-supplied free shot on two more attacks, both of which miss. The round ends, and if the *Grendel* had any CP left it would lose them now.

Being a properly-trained military crew, the *Sacred Wrath* has 5 Command Points. Her captain knows that her absolute priority is getting her gun back online, so he spends 3 points to do *Emergency Repairs* from the engineer actions. The GM rolls her crew's default +2 skill bonus and gets a 9, enough to fix the plasma beam and remove its disabled status.

That leaves the NPC ship with 2 Command Points left, which is just enough to open fire. The gunner blasts away with the plasma beam, using his hit bonus of +4 to get a 17, enough to hit the *Grendel*. The plasma beam does 12 points of damage to the free merchant, its AP 10 defeating the target's Armor.

Captain Stokes can't handle a hit like this and immediately accepts a Crisis. The GM rolls an *Armor Loss* result, halving the *Grendel's* already-sad Armor.

The next round then begins. The PCs have the edge, as the *Wrath* is going to need to *Deal With a Crisis* or take a heavy hit at round's end. If the *Grendel's* gunner can't shut down that plasma beam, however, the free merchant runs the risk of eating more hits than it can survive… or trying to evade those hits and rolling a Crisis her crew can't handle.

THE HISTORY OF SPACE

The default setting of **Stars Without Number** is a far future age in which the sprawling, glorious domain of human space has been reduced to a scattering of squabbling powers and long-lost worlds. The ancient domain of humanity has shrunken with the collapse of the psi-powered Jump Gates that once stitched the remote regions of the frontier into the teeming worlds of the human core.

Now, almost six hundred years after the catastrophe that ended the Golden Age of Man, new hope rises from the wreckage of a fallen empire.

In the Beginning

Humanity's interstellar history began in a musty insta-fab laboratory on a remote coast in northern Greenland in the year 2108. A small army of jury-rigged microfab plants and hotwired autofacs had been churning for years, painstakingly realizing the plans of their creator. Dr. Tiberius Crohn was an insular lunatic of the first water, a laughingstock among physicists and a regular font of absurd claims. Were it not for his admitted talent at wrangling autofacs he would likely have vanished into the twenty-second century's faceless proletarian mass without so much as a ripple.

His talents had gotten him the parts and resources to establish his laboratory in the radioactive wilds of Greenland, not far from the hot zone left by a missile from the Russo-European War. The glow masked the peculiar emissions from his test units, but in 2108 his work finally reached fruition. Crohn had invented the spike drive, the faster-than-light engine that would lift humanity to the stars.

Even now, a thousand years later, researchers still wonder how Crohn managed to devise the mathematics and theories that supported the spike drive's creation. Widespread claims of "alien influence" were debunked by later Mandate historians, but rumors of these "Mentors" are still stock space legends.

Some of the axioms involved defied all perceptible reality, and the theories made certain assumptions about the fabric of the universe that spun off at least a dozen new religions within the first two hundred years of the discovery. The spike drive was a window on a universe far stranger and vaster than experimenters had thought possible.

Through a delicate gravitic twisting of the universal substrate beneath a ship, the spike drive drove it "upward" through a spectrum of dimensional frequencies. The ship vanished from mundane, "luminal" space and was thrust into the metadimensions. These inchoate realms of vast energy currents and formless masses were extremely hostile to unprepared ships, but their gravitic currents propelled a ship at speeds impossible in the mundane universe. Suitably massive objects such as stars cast a "shadow" into these meta-dimensions, forming both navigational beacons and anchor-points that enabled transit up and down the dimensional spectrum. So long as a spike drive had a star to launch from and a star to bring it down, it could ride the metadimensional currents in a headlong rush of superluminal speed.

The initial transit along a course was always the most dangerous. The metadimensional currents were unmapped on those routes, and a navigator had to make regular course corrections in hope of finding a current that would bring them to their course before the spike drive's protective bubble broke down in the metadimensional environment.

Once the initial journey had been made, course rutters could be shared with other ships. So long as ships regularly made the transit, any shifts in the currents could be recorded. If a route lay fallow for too long, however, the slow creep of currents would render the rutters worse than useless, and a fresh course would need to be plotted by some brave crew.

Crohn's discovery was announced by the sudden launch of his retrofitted spacecraft-laboratory from the Greenland hot zone. A number of orbital weapons platforms attempted to bring it down, but the spike drive provided such a wildly anomalous maneuver profile that the tracking algorithms were hopelessly confused. Earthside watch stations followed him out to the edge of the solar system, dutifully recording his ship's impossible velocity. At the very rim of the system the sensors picked up a strange gravitic surge, and he was gone.

He returned thirteen days later, broadcasting a radio transmission that not only included data on Alpha Centauri that could only have been acquired through on-site surveying, but also included the necessary data for the reconstruction of the spike drive. Between the observations of the tracking stations and the content of the signal, there was no doubt of it; mad old Crohn had actually done it.

Even today, no one is entirely certain how he managed it. A prototype spike drive would have required six days of metadimensional travel to reach Alpha Centauri and drill down into mundane space. Crohn claimed to be alone aboard the ship, but such would have required him to remain awake and navigating the uncharted drill course for six straight days, all without any hint of prior experience. The creed that later became known as the *Book of the Sky* refers to it as "the Night Journey of the Prophet Tiberius" and considers it the founding event of the faith.

Tiberius himself promptly drilled back out into metaspace once his transmission had been sent. He was never seen again. To this day, thirteen known religious sects are convinced that he was translated directly into the presence of God as a fitting reward to the opener of the celestial ways.

The First Wave of Colonization

Exclusivity was impossible with this new discovery. Overnight, every industrialized nation on Earth began a frantic rush to build spike drive-equipped starships, each nation fearing to be left behind in claiming the stars above. Paradoxically, earthside tensions faded rapidly as the disposition of this spit of land or that patch of oil seemed to be trivial compared to the wealth that awaited in the sky.

Initial exploration revealed that the spike drives had a maximum range before the corrosive effect of the metadimensional environment fatally degraded their protective bubbles of mundane space. It was necessary to hop from star to star, reaching more distant stellar bodies by progressive advance. In the course of these explorations numerous exotic planetary bodies were discovered. The first one habitable by human beings was a barren mudball with an oxygen-rich atmosphere discovered in 2113. Dubbed Renaissance by its Greater European discoverers, it drove the other Terran nations outward in an even greater frenzy of exploratory acquisitiveness.

Pan-Indian scouts discovered the first life-bearing world in 2150. The primordial soup that covered the water world of Pranashakti served as a research subject for a generation of xenobiologists. The excitement was only heightened when an American survey craft discovered the ancient alien ruins on the mist-shrouded moon called Typhon. Their creators had vanished more than 40,000 years ago, but the scanty remains showed evidence of a technologically sophisticated culture possessing a humanoid anatomy not wholly unlike that of humankind.

This First Wave of colonization sent humanity in a steadily expanding sphere from the green fields of Terra. By 2200, most habitable worlds within a year's spike drive travel had at least a handful of human inhabitants. Numerous political and religious splinter groups took to the heavens once asteroid mining brought the price of a spike drive-equipped starship within the reach of a large corporation. Humanity was growing beyond the reach of its leaders.

Retrenchment and the Mandate

The governments of Terra grew increasingly concerned with their far-flung colonists. Even the fastest spike drive courier couldn't reach the Rim worlds in less than four months, and projecting military force at such a distance was beyond the power of all but the strongest nations. Rather than let their colonists slip entirely out of their control, the greater powers on Terra agreed to form the Terran Mandate, an organization dedicated to policing human space and exerting the authority of Terran governments over the far-flung colony worlds.

Furthermore, expansion beyond the current Rim worlds was forbidden. Splinter groups, cults, and microcultures were required to live within the pale and were forbidden to colonize worlds of their own for reasons of "social harmony" and "interstellar security". More than a few of these groups defied the new Mandate and sought worlds beyond their reach in the far dark. Deprived of the usual sources of support, most were never heard from again.

Even with these new limits, the Terran Mandate was hard-pressed to contain the colonial worlds. There was little in the way of actual fighting between the colonies, as few had the ships or manpower to spare, but here and there the more zealous splinter groups or dedicated ideologues could not bear to live in peace with their neighbors. The Mandate kept a loose sort of discipline over the Rim worlds but by the year 2260 direct control was tenuous at best.

MES and the Psionic Authority

It was during the peak of the First Wave, in 2240, that the first instances of a frightening new syndrome appeared in the children of starship crew members. Perhaps one in ten thousand of these children would begin to exhibit strange and inexplicable powers. Some time around puberty, abilities manifested that ranged from an intuitive vision of the immediate future, to inexplicable mind-reading, to powers of superluminal teleportation. Children who exercised these abilities invariably suffered progressive and permanent neural damage leading either to death or permanent insanity. A dozen uses, two dozen… sooner or later the damage overwhelmed the victim. Only by completely avoiding use of these powers could a child's mind be saved.

Dubbed "Metadimensional Extroversion Syndrome", or "MES" by researchers, these subjects were gathered for extensive testing and examination. Parents were told that the children would be taught ways of controlling and suppressing their abilities, but most modern researchers believe that some among the children were used as guinea pigs in terrible experiments meant to quantify this new power. Whatever the means, the investigators soon learned that "Messes" were actually serving as living channels for waves of metadimensional energy.

The power was shaped and focused by the wielder's neural pathways. Mere meat was never meant to endure the kind of energies that boiled through a Mess, and neural pathways were left scorched or burnt out entirely by use of the powers. Every test was destructive. The only question was whether repeated use of the powers would kill the Mess' body first or take their sanity. Researchers also discovered that once the energies had finally burnt out a victim's mind, the charred brain pathways were effectively immune to further damage. An insane Mess, or "feral" could use their powers with impunity, and usually did.

It wasn't until 2275 that these shadowy researches finally bore fruit. The damage to a Mess's mind could not be avoided, but by individualized programs of meditation, focus, and mental training, the damage

could be routed through less critical areas of the brain. A properly-trained "psychic", as they were now called, could use their powers extensively before the charge threatened to overflow their existing channels and they were required to rest and recuperate.

Formulating these programs of study required a trained psychic mentor to shape the basic curriculum into the correct sequence of meditations for a given pupil. Despite the best efforts of researchers, it proved impossible to impart this education through recorded means of instruction. A living, psychically-active metapsion tutor properly educated in the training protocols was mandatory in teaching new psychics.

In an attempt to control the provision of psychic mentors, the Terran Mandate inaugurated the Psionic Authority. The PA grew to be a quiet but pervasive organization throughout human space, taking young MES sufferers into its care for training. The rarity of MES left psychics largely as figures of mystery and no little fear to less gifted humans. Psychics could often make vast sums of money with their powers, but many worlds established sharp restrictions on psychic activities… and then often employed government-sponsored psychics who could ignore the strictures.

First Contacts

As these changes rippled through human culture, the species found itself no longer alone in the cosmos. The steady expansion of human space discovered more than empty ruins on several habitable worlds. The Young Races such as the Kont and Ualub were found inhabiting their ancestral worlds, diligently building their way towards Bronze Age technologies. Some species seemed to be the decaying remnants of a former empire, such as the handful of used-up worlds that housed the weary race of Mettau and their cities of dancing glass. These Elder Races had all had their time in the sun, tens or hundreds of thousands of years ago, only to fall prey to internecine strife, vainglorious experimentation, or sheer cultural ennui.

Some of these alien races were strong and vigorous still, though usually fresh from their own technological youth. A few short, sharp border wars usually settled matters in humanity's favor, and even those wars that were not so successfully prosecuted lost mankind only a few worlds within easy reach of their rivals. More often, these races formed uneasy trade pacts with humanity, exchanging examples of strange alien technology and art for the science of human worlds.

The majority of sentient alien species that humanity discovered shared roughly similar humanoid dimensions. Called "the Like" by xenobiologists, controversy still bubbles over the seeming prevalence of humanoid form among alien races. Some scientists suggest that the humanoid shape is simply the one most suitable to the expression of sentience. Others find this explanation too simplistic, and believe that humanoid shapes are simply most suitable to the kind of human-habitable biomes that draw the most interest from human explorers. Further exploration might reveal legions of supercondensed life forms in the core of gas giant worlds, or flocks of hydrogen-based webs floating in the darkness between stars.

Some species owe nothing to human form. These Others are alien in a way that no oxygen-breather could possibly be. Some are composed of silicon or alien earth compounds, such as the "lithomorphs" and their planetoid-ships. Others are congeries of spherical atmosphere-bubbles, or sentient interference-patterns set up in the oceans of an ammonia-covered liquid world. The Others are almost invariably too different in mind and needs for humans to communicate with them. Their acts of violence are inexplicable and seemingly random, and their purposes defy human comprehension. Psychics who attempt to contact the mind of an Other risk their sanity under waves of awareness utterly unlike the thoughts of a fleshly brain.

Pretech, Psitech, and the Gates

Psionic Authority researchers had not halted their study of MES energies after their initial training breakthroughs. Official histories credit the discoveries to the courage of a few psychics willing to conduct destructive, dangerous experiments on their own minds. Legends speak more of criminal psychics and bewildered young Messes "encouraged" to cooperate in experiments that eventually claimed their sanity or their lives.

Whatever the source of the data, the Psionic Authority was able to formulate new techniques of psychic power. These abilities were usually very subtle and esoteric, microscopic adjustments of ambient universal constants that allowed for the manufacture of materials and products that were simply impossible to create with technology bound to the mundane world's laws. Atoms and molecules danced to the will of these fabricator psychics, and new wonders were born from the factories of humanity.

The introduction of psychic fabrication marked the development of "pretech", the high science and artifice of the Golden Age of Man. Pretech artifacts were marvelous works, most of them performing some miracle of energy manipulation or material science. Pretech spike drives doubled the maximum reach of a drill course, and pretech drugs and biotech gave humankind several centuries of hale good health before age might claim them.

The greatest accomplishment of pretech, however, was in the development of "psitech", a complex melding of psychofabricated pretech components and psionically-active materials. Psitech devices could channel and amplify a psychic's abilities to a remarkable degree. Psitech was never common, given the rarity of psychics themselves, but it found regular employment in pretech manufactories.

The greatest accomplishment of psitech, in turn, was the development of the Jump Gates. These mas-

sive rings of psitech resonators floated at the far rim of a solar system, wide enough to receive the slowboat freighters that lumbered out from planetary orbits. With the help of a choir of master psychic teleporters, these ships would be hurled for scores of light years across the galaxy, emerging from a Jump Gate held in waiting at their destination point. The weeks or months of spike drive travel that would otherwise be required were compressed into a few days.

The Jump Gates quickly replaced spike drive travel throughout the core regions of human space. The only check on their expansion was finding the necessary number of master teleporters to power them, and the great expense of shipping components out to more distant worlds unable to fabricate them on-site. By 2450, almost all core and Rim worlds were served by Jump Gates. The ease and cheapness of mass interstellar transport caused some worlds to specialize as agricultural planets and other worlds to rely on interstellar food imports.

By 2600, spike drives were antiquated technology, found almost exclusively along the frontier of human space where Jump Gates were too expensive and economies too primitive to justify their use.

The Second Wave

By then, the Second Wave of human colonization had reached its peak. The development of the Jump Gates had allowed the Terran Mandate to project its military strength far more easily, and the prohibitions on expansion had been loosened. By 2600, the frontier of human space extended almost ten years of spike drive travel away from Terra. Even after taking Jump Gates as far as possible, a fast pretech courier ship required a year to reach the farthest colonial worlds.

The Jump Gates allowed for massive numbers of colonists to flee the stultifying bonds of stratified Terran society. Over four billion people left Terra over the course of the Second Wave, most of them sent gladly by governments that were more than willing to dispose of their more troublesome subjects. It wasn't until late in the Second Wave that the Terran Mandate began to realize that it simply didn't have the manpower necessary to police the colonial worlds. Even with the overwhelming technological advantage of Terran fleets, there were simply too many colonies and too many colonists to maintain direct control.

The colonies realized this as well, starting around 2450. There was rarely an explicit rebellion against the Mandate; most often it was a disobedience of slow decay, with tax shipments becoming intermittent and then absent, and Mandate orders obeyed first slowly and then not at all. The Mandate fleet struck a few of the most valuable recalcitrants, but it was a rear-guard action. The Terran Mandate had grown itself beyond its ability to maintain control.

In the wild void of the frontier, spike drive armadas and petty stellar kingdoms formed to settle ancient arguments between ideologies, religions, and simple differences of ambition. Maltech research began to take root on more isolated worlds, with forbidden research into unbraked AIs, replicant nanotech, and weapons of planetary destruction. Some worlds began to experiment with human genomic modification beyond anything that convention had permitted. These eugenics cultists sought the wholesale improvement of the human genetic legacy despite the terrible costs in maladaptive mutation and instability. Forces of the Terran Mandate's Perimeter agency tried to contain these researches, but often were simply too few and too poorly supported to do more than report on events.

The Golden Age of Man was already strained by the pressures of these squabbling worlds and a Mandate grown senile. Its deathblow was yet to come.

The Scream and the Silence

In 2665 a massive wave of metadimensional energy washed over human space. Spike drive craft in metaspace were annihilated instantly, and in the blink of an eye, every psychic in human space immediately suffered the consequences of catastrophic psychic burnout. The majority died instantly, with the handful that remained raving in the grip of incurable madness.

Later reconstruction placed the origin of this "Scream" somewhere in the Veil Nebula, but no records exist of any successful investigation. Too much collapsed too quickly for any sort of exploratory expedition to be sent. Humanity was suddenly stripped of every psychic resource. Without living mentors, new generations of psychics could not be trained without recreating the entire laborious research corpus of the now-erased Psionic Authority. It would take generations to mold functional mentors out of the untrained mass of native psychics.

There was no time to recreate the necessary training. The Jump Gates were dead, and the core worlds of human space collapsed with them. Countless colonies that relied on the bulk produce of agricultural worlds were left starving within months, their shipyards overrun by the desperate and ruined in the convulsive fighting over the few remaining spike drive ships. There was no possible way to feed a world of millions with the limited freight capacity of spike drive ships; only the Jump Gates and their massive slowboat freighters could move such masses of cargo, and the slowboats were too big to be retrofitted with spike drives… even if they could cross the stars quickly enough to make a difference, which they could not.

Echoes of the disaster rippled outward. The frontier regions were still too poor and primitive to afford Jump Gates, so the worlds that remained on the edge of human space were forced to supply their own population with food and other necessities. Some of these worlds relied on small shipments of vital supplies from the core worlds. These luckless planets died when their motherworlds perished. Others were more self-reliant,

but few of these had the necessary resources to build spike drive ships of their own. Those few worlds that were able to construct the ships struggled as their psi-tech became useless and their shipments of vital core world components stopped.

Human space had collapsed into a welter of isolated worlds. Interstellar travel fell to the handful of spike drive ships that could be kept running on scavenged components and half-derelict spaceyards. The Silence had begun.

The Silence Ends

For almost six hundred years, humanity has been slowly recovering from the consequences of the Scream. Many frontier worlds have collapsed into barbarism and balkanized warfare. These "lost worlds" have sufficient resources for agriculture and life, but lack the fossil fuels or radioactives necessary to bootstrap modern technology. Some have even forgotten their origins or have had them obscured in the haze of legend and myth.

Other worlds have been more fortunate. These planets have been lucky enough to have the resources necessary to sustain a rough and ready level of technology. Their fusion plants are bulkier than the pretech that existed before the Scream, their spike drive engines are slower and more unstable, and the medical technology is working well if it can give the population even a hundred years of good health before death claims them. Still, these worlds have managed to devise methods for doing without the esoteric disciplines of the psychic fabricators and are slowly ramping up their production of spike drive ships as their techniques improve. This "postech" may be inferior, but after the Silence it can be replicated in a way that pretech cannot.

A few worlds have even managed to rediscover the basic techniques of psychic mentorship. The fabulously subtle and sophisticated disciplines necessary for recreating the old pretech manufactories are still long-lost, but these new academies are at least able to teach their students how to channel their powers in relatively safe and useful ways. Some worlds guard these secrets jealously, but others make substantial profit out of training foreign psychics sent by neighboring worlds. A few academies operate without any governmental supervision at all, willingly teaching their secrets to anyone with the money or a compatible ideology.

Stellar domains have begun to form around the most powerful worlds. Projecting more than a few tens of thousands of troops to a neighboring world is far beyond the abilities of most planets, so these domains tend to be loose confederacies of like-minded worlds, or else sparsely-populated colonies held under the ruthless control of a vastly larger and more powerful neighbor. Most of these domains are held together by a glue of ideology and trade benefits, and border skirmishes are becoming more common between rival space empires.

The alien neighbors of humanity have not been idle during the Silence. The Scream appears to have affected psychically-active races as badly as the humans were wounded, but those species that were not so vulnerable have expanded into human space at several points on the frontier. Some have even gone so far as to seize human worlds for their own. In a few unfortunate regions of human space, entire sectors have been conquered by alien powers.

Now, in the year 3200, the fragile web of interstellar commerce and exploration has been reformed. Countless worlds remain locked in the darkness of the Silence, awaiting the bold merchants or reckless explorers willing to return them to the embrace of interstellar humanity. And if these brave souls should be rewarded with the ancient wealth in salvage and data so long trapped on these worlds, who is to say that they do not deserve it?

A TIMELINE OF THE FUTURE

2108: The spike drive is discovered by crank scientist Dr. Tiberius Crohn. Humanity moves almost overnight from a handful of science stations on the solar system's inner worlds to all-out interstellar exploration. Numerous Terran governments seek the resources of new worlds.

2110: Several scout craft are lost while learning the limits of the spike drive. The dangers of excessive frequency climbing are recorded by survivors.

2113: The first habitable extrasolar world is discovered by the scout ship *Magellan*. The ship's patrons promptly claim the world for Greater Europe and name it Renaissance.

2120: Pranashakti, the first life-bearing alien world, is discovered by a Pan-Indian scout ship. The organisms consist solely of plant analogues and some primitive marine life, but a generation of xenobiologists finds work in analyzing it all.

2130: The development of asteroid mining technology provides vast amounts of raw materials to Earth's orbital shipyards and factories. Ship prices plunge, and numerous smaller organizations and states become capable of stellar exploration.

2150: The ruins of an advanced alien species are discovered on Typhon, an otherwise unremarkable gas giant moon. Archaeologists date the ruins to approximately 40,000 BCE. Dubbed "the Watchers" for the eye-like circular motifs on the ruins, few details are learned about the species.

2200: The First Wave of human expansion reaches its peak. Most habitable planets within a year's travel time from Earth have been successfully colonized, many by small religious or ideological groups. Terran nations begin to forbid further exploration for fear of being unable to maintain control over their offworld colonies over such distances. The Terran Mandate is organized by Earth's superpowers in order to ensure that Terran control of the colonies continues.

2240: "Metadimensional Extroversion Syndrome" begins to manifest in certain fifth-generation spacers. Occurring most often around puberty, the abilities exhibited by MES victims seem flatly impossible by normal scientific measure: telepathy, teleportation, precognitive flashes, and other abilities that defy understanding. The syndrome is inevitably fatal unless the victim avoids all use of their uncanny abilities.

2260: Some colony worlds begin to grow restive, and there are incidents of skirmishing and piracy on the frontier. Few disputes are over resources, but ideological and religious conflicts become more common. The Terran Mandate struggles to deal with the twelve-month message delay between Earth and the farthest colony worlds.

2275: Researchers on several deep-space colonies begin to develop methods for controlling the advance of MES, allowing its victims to use their abilities without inflicting permanent brain damage on themselves. The lives lost in this research are never fully numbered, but Terran governments rapidly move to control the research and training under the aegis of the "Psionic Authority".

2280: Properly-trained MES carriers, known commonly as "psychics",or more casually, as "Messes", begin to use their abilities to assist governments and private enterprise. Numerous fields begin to benefit from the assistance of MES subjects, ranging from telepathic mental health providers to precognitive industrial managers. The Psionic Authority begins to experiment with more focused, industrially-useful psionic disciplines. Again, the cost in lives is undisclosed.

2315: The Psionic Authority perfects the first jump gate. A massive ring of psitech placed at the periphery of the solar system, the gate employs a choir of over fifty master teleporters to instantly translate ships to a matching gate at Renaissance. Gate dispersal is slowed by a lack of master teleporters, but eventually the transit time between Earth and the frontier is reduced to two days. The Earth nations lift the ban on further exploration now that their effective control is enhanced.

2330: The Second Wave of human colonization begins. Spike drive ships become all but unknown within the core worlds as the jump gates allow cheaper system ships to travel between the older colonies.

2350: Psitech-enhanced manufactory abilities and precognitive surveyors vastly increase the rate of viable colonization. Almost two billion humans leave Earth for the wealth and freedom of the colony worlds. The Terran Mandate begins to realize that they now lack the manpower necessary to maintain control over so many colonies, even with the reduced transit time.

2400: Obedience to Terran governments is now a polite fiction on the frontier, in those cases when it is acknowledged at all. The first stellar unions begin to form. Some neighboring worlds resort to war, but most colonists see no need for fighting with so many unexploited resources.

2425: The Terran Mandate has become deeply corrupt and hopelessly decadent. Its Directors concern themselves exclusively with their own interests, rivalries, and ideological obsessions. Only the AI Maestros of Earth act as a check on their actions, as the Directors are unable to effectively control the Mandate without the help of their AI adjuncts. These AIs struggle to maintain a basic level of probity among their creators.

2450: The Second Wave is at its peak; it is the Golden Age of Man. The Terran Mandate has largely given up on exerting control over the frontier colonies, and now concentrates simply on neutralizing threats to the core worlds. Every description of human civilization and ideology can be found somewhere in human space, and cultures experiment with new forms of social organization. Psitech supplements normal technology to produce enormous abundance for even the poorest worlds with access to core technology.

2460: Human gengineering becomes common on some worlds as societies attempt to improve their members. Advances in longevity and health spread widely, but attempts to significantly improve human capabilities invariably bring serious drawbacks from system strain and unanticipated side effects. Still, some of the more zealous cultures are willing to accept these consequences in pursuit of the "perfect human".

2500: Jump Gates begin to reach the frontier. Major systems are the first to receive them, while most of the minor worlds are still reliant on spike drive ships. The furthest reaches of the frontier now extend ten years of spike drive travel from Earth. Population growth levels off and begins to decline with the increasing wealth of the colonies and their progressive self-absorption.

2550: Certain remote sectors of space have begun to embrace both gengineering and advanced AI integration to recreate humanity in ways more suitable to local ambitions. Some of these sectors continue to interact with their baseline human neighbors, while other transhumans are dangerously aggressive in their proselytization.

2600: Spike drive ships are now somewhat antiquated, serving a vastly reduced exploratory effort and as militia ships for the defense of local systems. Almost all core systems of importance are now linked with jump gates. Psitech has permeated even very basic technology on these worlds. Large-scale war between worlds is almost unknown.

2665: The Scream erupts from somewhere within the Veil Nebula. Reconstructions of the event suggest that it was some form of faster-than-light psychic emanation, the wave propagating from one end of human space to the other within seventeen minutes. The Scream inevitably rendered a psychic either dead or hopelessly insane. The Jump Gate network collapses. A period of stellar isolation and chaos begins, now commonly called "the Silence".

2665: On Earth, the maddened arch-psions known as the Crazed annihilate the planet's infrastructure, destroy many AI Maestros, and pervert the Highshine nanite recovery system. The solar system's defense grid is activated and made universally hostile to all starships. Earth vanishes from all surviving records, its present condition unknown.

2700: Countless core worlds die as they are cut off from vital food and technical supplies. Psitech manufactories are crippled, and only a relative handful of spike drive ships can be fabricated before the industrial base erodes. These ships band together for security while searching for resupply and become the progenitors of today's Scavenger Fleets.

2705: Frontier worlds fare better than core planets. More spike drive ships are available, and those worlds that have yet to receive Jump Gates were still devoting effort to autonomous agriculture and industry. Even so, the sudden loss of every human psychic leaves their psitech equipment and industries largely useless. Many frontier worlds devolve to survival-level subsistence.

2710: The last easily-salvaged remnants of Mandate pretech begin to wear out or become used up. The most useful or effective tech was often explicitly designed to be irreplaceable by frontier worlds in order to maintain the Mandate core's monopoly on the technology. With the core worlds dead or consumed by struggle, this technology can now be found only in lost caches and Mandate ruins. Some worlds go to desperate extremes to maintain vital pretech infrastructure, utilizing dangerous methods or unstable repurposed tech.

2900: Attempts are made to recover the techniques of psychic training. The complete absence of any experienced psychic trainers hampers this effort, and the cost in psychic lives to recreate this training is enormous. A few worlds are successful in developing crude training programs, but most societies abandon the effort in the face of more immediate planetary needs.

3050: The Silence starts to lift. Those worlds that did not experience a terminal collapse after the Scream finally begin to perfect techniques of large-scale manufacturing that do not rely on psitech. Even the most sophisticated training programs can no longer replicate the narrow and esoteric talents of pre-Silence psychic fabricators.

3100: Spike drive ships begin the remapping of drill courses between stars. With almost five centuries of neglect, the pre-Silence rutters have become useless. The steady shifting of dimensional layers has rendered old course soundings dangerously inaccurate. All of the drill courses must be rediscovered through trial and potentially fatal error. Few Scavenger Fleets cooperate in sharing their course data due to fears of competition.

3150: Stellar unions start to form around the strongest worlds. Exploration continues, often in the hands of small traders and scout crews who are willing to risk all for the chance to open a route to an unplundered tomb world. Warfare erupts between unions contesting control over lost worlds and space installations.

3200: The present day.

SECTOR CREATION

Every self-respecting sci-fi game needs to be able to provide a stock of interesting alien worlds. Even if a campaign should happen to take place largely on a single world, the backdrop of foreign spheres adds context and additional adventure hooks to the game.

Most campaigns are going to involve substantial world-hopping, however, and the GM needs to be ready to deal with this. This chapter will give you the tools you need to fashion a sector of the void that will be worth the reckless daring of a band of heroic PCs.

The Nature of Sectors

In the former days of the Mandate, human space was generally divided into administrative sectors, each one the particular responsibility of some fragment of the ancient Terran bureaucracy. By the end of the Second Wave, these responsibilities were almost entirely fictitious, as the Mandate Fleet lacked the manpower necessary to exert Old Earth's will on its scattered progeny. Even so, the centuries-old grind of bureaucratic procedure still dutifully labeled each fragment of distant space with its own identity.

Sectors were established on the basis of metadimensional proximity rather than simple spatial propinquity. Individual stars in a sector might be spread out over dozens of light years, but the metadimensional currents between them were strong enough to allow quick travel among them, when a physically-neighboring star might require impossibly lengthy drills through metadimensional space to reach it.

Settlers in these far sectors often adopted Mandate sector nomenclature simply out of convenience. The sectors that Fleet scout ships and far trader adventurers mapped out were composed of stars "close" enough to allow for trade with their ramshackle spike drives and colonial cargo haulers, and their density allowed for trade and assistance between nearby friendly worlds. Those with a more isolationist bent sought out sectors with far-scattered stars that couldn't be bridged by the less sophisticated drives that most colonists used.

Most sectors had limited contact with other regions of space. While "bordering" stars could sometimes allow drills into a neighboring sector, large patches of unfriendly metadimensional space often strictly limited the available paths into or out of a sector. Some sectors were entirely inaccessible by anything but top-grade Mandate spike drives capable of leaping the broad gaps around them, and some entire regions were isolated by a few narrow bridgepoints into the cluster.

As a consequence, modern human space varies wildly in every respect. Some regions have sophisticated interstellar trade and wide-reaching empires, while others are struggling to rise from primitive barbarism. A lost bridgepoint can separate whole empires, leaving both entirely ignorant of each other… for the moment.

Sectors In Your Game

From a campaign perspective, sectors limit the scope of material you need to take into account in your game. While it's perfectly possible to run a game with multiple interconnected sectors, the sheer bulk of worlds can make that a painful prospect for most GMs. A single sector of 21-30 worlds is more than enough for most parties to explore.

Sectors and interstellar regions also provide you with a convenient explanation for running dramatically different campaigns. Players who want to run a space-operatic game set in a region of easy spaceflight and consistent high-tech marvels can do so, while a group that wants a harder sci-fi experience in a sector without psionic powers or exotic energy weapons can have their play as well. The vast sweep of human space has room for your preferred tropes without having to fight the setting. No matter what you want to play, there's *some* chunk of human space that has it.

A sector provides the basic background for the adventures the PCs encounter, as every world needs to have some kind of adventure-worthy content if it's to justify its drain on a GM's creativity and focus. Creating worlds purely for pleasure or aesthetic satisfaction is entirely valid, but as a working GM, you also need material you can *play*. This chapter will show you how to maximize the return on your effort, and get the most playable content out of the least amount of work.

This is a necessity in any system, but it is especially important if you're going to be running a sandbox game. A GM who tries to flesh out every nook and cranny of the dozens of worlds they create will be rapidly exhausted by the effort, and might still lack the content they need to actually run a game during the next session of play. A GM needs to have a plan and an appropriate set of tools if they are to deal with the challenge in a comfortable, straightforward way.

When building a sector, you can generally assume that it's isolated from any neighboring regions. There might be a few connections along the "borders" of the sector, still-remembered spike drive paths into the next collection of worlds, but you've got enough to build if you just focus on a single sector at a time.

You are advised to carefully read the following pages and take heed of the advice on how much content you should create for each world. A GM would not be a GM if they did not take pleasure in creating wondrous new worlds to explore, but the most enthusiastic demiurge still has a limited amount of creative energy, time, and focus to spend on a campaign. If you follow the steps in the following pages, you'll be able to ensure a playable amount of gaming content for your next session before you start spending your effort on more decorative elements of your creation.

CREATING A STELLAR SECTOR

Once you've decided to forge your own piece of the infinite void, you'll want to grab a sheet of large-hex hex paper from one of the many templates available on-line. First you'll make a stellar map of the sector on this sheet, and then you'll individually flesh out the worlds to whatever degree of fineness your needs require.

One crucial thing to remember at this stage of creation is that *you do not have to create everything*. You don't need to answer every question about the sector or have every world in adventure-ready condition. Right now you're just laying down broad strokes and rough colors to the sector, and when it comes time to do detail work you'll save it for the worlds that matter most to your immediate needs.

Every GM has a limited supply of time, energy, and creative inspiration. If you try to fabricate an entire complete sector in one go, with interesting planets and meaningful interstellar intrigue and easy adventure hooks all over the place, you're likely to exhaust yourself before you even get to play.

Instead, you should follow a simple guiding principle whenever building anything for your campaign, whether a stellar sector or an adventure outline.

Am I having fun? If you're enjoying yourself, then you can keep building. We follow this hobby because it's fun, and if you're enjoying the process then you should let yourself have your indulgence.

Am I going to need this for the next session? If what you're creating is something you know you're going to need for the next game session, then you should finish it. Don't let this feeling of obligation extend to every detail, however; it can be easy to imagine situations where you'll need to elaborate some NPC or organization or location, but if you respond to every such possibility you'll never get away from the drawing board.

If you're not having fun and you don't need it for your next game session, *stop it*. You're going to exhaust yourself on minutiae and trivia and not have the energy to do the parts you really do need, or the vigor needed to actually run this for the group.

With that principle kept firmly in mind, it's time to start building the sector.

Place the Stars

The standard sector map is a grid of hexagons 8 wide by 10 high, with hex templates easily acquired from the net. Roll 1d10 and add 20 to determine the total number of stars in the sector, or simply choose a number that suits.

For the first twenty or so stars, roll 1d8 and 1d10 together to determine the column and row in which to place the star. If the hex is already occupied, place it adjacent in the direction of the nearest edge.

Some columns have "half-hexes" in them, and only 9 full hexes; if you roll a 10 for such a column, either reroll or place it at the bottom-most full hex.

Once you've placed the randomly-positioned stars, add the remainder to connect any stellar clumps or groupings. Remember that standard postech spike drives can't reach more than 3 hexes, so any cluster that can't be reached with such a drill will be inaccessible to anything but pretech-grade drives.

The stellar map you've just created is an abstraction, one reflecting the eddies and currents of metadimensional space. The individual stars might look adjacent on the map, but some may be vast distances apart. If you'd prefer to use more realistic star maps, you can grab some three-dimensional star map off the web and convert a convenient number of light years into a single "hex" of distance for spike drive purposes.

Lay Down the Primary Worlds

With the stars placed, it's time to place the primary inhabited worlds. While it's possible to declare that a star is orbited only by barren rocks, such stars are more difficult to make useful as places of adventure and gameable fun.

Right now, assume that each inhabited system has a single primary world. The original colonists would have naturally sought out the best, most habitable world for their founding. As a consequence, however nasty the primary world is, the others in the system are probably even worse. If you wish to add additional planets to the system later, you can do so, but for now you'll want to focus on just one.

Start by rolling two *world tags* for each planet. World tags are simple tropes that reflect the most important qualities about the world, or at least those qualities most important to adventurers. A list of a hundred potential world tags starts on page 132.

It's most convenient to roll world tags for each planet before moving on to the other elements of the world, so you spend less time flipping back and forth between the sections. Don't worry about making the tags make sense yet. Just note them down and go on.

Next, roll the atmospheres for each world. In this and the following steps, you can either reroll results that make no sense in light of the world tags you've generated, or simply pick a result that fits. If you're feeling more adventurous, however, you can try to think of an explanation that reconciles seemingly incommensurate results.

After you roll atmospheres for each planet, repeat the process for temperature, biosphere, population, and tech level. Optionally, you can go on to add additional planets or points of interest to each system.

Finally, tack on a name for the planet and give it a sentence worth of description. You don't need to flesh it out fully right now. Just note down whatever rough idea of it comes to mind from its world tags, population, and other planetary qualities.

Mark Polities and Trade Routes

Identify the star systems that are in contact with each other and draw lines of communication between them. Remember that any gap of 4 or more hexes can't be crossed without pretech spike drives, so any contact between distant clusters will have to be through an intermediate world.

Worlds in contact with each other may not necessarily be friendly, but they do know about each other and have at least a basic understanding of local conditions. Some provision is usually made for foreign visitors from these other worlds, even if it's nothing more than a strictly-monitored starport housing unit.

If two or more planets seem like they ought to belong to the same interstellar polity, sketch out a "border" around the grouping. Most TL4 worlds would be very hard-pressed to mount an effective interstellar invasion of a peer world, so these polities have likely formed out of diplomatic or cultural ties, or consist of a local hegemon exerting its rule over planets too weak or primitive to resist their influence.

Many sectors will have no multi-system governments of any kind. The individual worlds might be too independent, or the recovery of spaceflight technology may have been too recent to allow for ties of mutual governance to form yet. Such disjointed sectors can make life easier for the typical band of PCs, as escape into a new system means escape from the legal jurisdiction of a world they may have recently offended.

Build Out the Important Worlds

Most of the worlds in your sector don't need anything more than what you've already given them. A few worlds need more elaborate detail, however, and for these you'll want to make use of a separate planetary record sheet for the world.

Only detail worlds that you're going to need for the next session. In this case, that means you should detail the world that the campaign starts on and those worlds that the PCs might end up traveling to at the end of the first session. For most purposes, this just means the starting world and its immediate neighbors.

First, pick a rough cultural template for the world. Maybe it has a Latin American flavor, or was founded by Russian colonists, or was an outpost of Byzantine Empire enthusiasts. This culture has doubtless changed drastically since its initial founding, but it gives you a baseline for assigning names to people and places, identifying the common language spoken on the planet, and giving you enough information to describe local foods, architectural styles, and small slice-of-life elements.

You can always take the time to create an entirely new hybrid culture, but whatever you make or choose should be clear enough in your mind to let you give quick answers to sudden questions about cultural values or local habits. Again, it's not critical to worry about historical accuracy; these worlds have had centuries to form their own worldviews and local customs.

Next, use the world tags to create adventure components. Each tag includes different example Enemies, Friends, Complications, Things, and Places. Take an Enemy from both world tags or create one for each, and merge them together into a single antagonist. Thus, a *Feral World* with *Heavy Industry* might have a cannibal oligarch who literally lives on the flesh and blood of his slave laborers. Give this Enemy a name and a sentence of description.

Repeat the process for a Friend, a Complication, a Thing, and a Place. You don't necessarily need to use both tags in every instance, and you'll likely want to make up your own components inspired by the tags, but you should have at least one item in each category written down on the planetary record. You'll use these raw elements later to create a starting adventure for your band of star-faring freebooters.

Lastly, take a few minutes to answer some critical questions about the planet, noting the answers down in the cultural section of the sheet.

What does this world have that the PCs might care about? Does it export a valuable and portable commodity, or provide a special tech, or have unique job opportunities for expendable offworlder adventurers?

What is the biggest conflict on the world right now? Is it a social struggle between classes, tension with offworlder merchants or visitors, a war going on among local governments, or some other big crisis? Every world should have at least one obvious conflict that the PCs might choose to engage or be pulled into.

What do they think about outsiders? Are they comfortable with offworlders, do they view them with unusual mistrust, or are they outright xenophobic?

What is law enforcement like? Are there special laws that might tangle the PCs? If the PCs break a law, what kind of enforcement can they expect?

Where do the PCs land? What's the name of the major starport on the world, and does the starport have any special deficiencies or unique opportunities?

You can flesh out a world beyond these questions if you wish, but they provide a bare minimum of data.

Choose Factions and Relations

Lastly, look at what you've created and determine the relationships between the starting world and its neighbors. Also, decide on the relationships between any polities you've established. Open interstellar warfare is very hard for a lone TL4 world to sustain, but a powerful planet or combine might be able to do it. More likely are cold wars of spies and saboteurs.

You may decide to establish one or more Factions to help give some independent motion to the sector's background. Two or three Factions are plenty for the start of a campaign, and you should feel free to make new ones or let old ones fall inactive as the game progresses. Rules for Factions start on page 210.

And with that, your sector is ready for play. The Adventure Creation chapter gives the next step.

ASSIGNING WORLD TAGS

The first step in world creation, and perhaps the most important, lies in assigning "tags" to the world. Tags are brief conceptual tropes that set the world off from planets of otherwise similar population and characteristics. You can either pick from the tag table to select qualities that sound interesting for a world, or else roll percentile dice to select them randomly.

In general, you should pick or roll two tags for any given world. Using a single tag can leave a planet feeling somewhat flat and one-dimensional, while using three or more can end up muddying the feel of the world. The goal of the tags is not to automatically combine into some intricately sophisticated world model, but to provide some clear, bright elements to relate to the PCs. Tags can randomly give you "desert planet torn by civil war", from which you can then create "an arid world riven by factional disputes between fragmented clans, the families based around ownership of irreplaceable pre-Scream moisture collectors".

Tags are meant to simplify your life as a GM. They provide quick, simple hooks for adventure and cultural characterization to help distinguish the myriad worlds of your campaign from each other.

Each tag includes associated entries for *Enemies*, *Friends*, *Complications*, *Things*, and *Places* that fit with that tag. GMs can combine the elements of the two tags to create ones flavored specifically for that world. For example, two random tags for a world might be "Regional Hegemon" and "Psionics Fear". Combining the "Colonial Official" and "Mental Purity Investigator" entries from the enemies lists of those tags, we come up with Heinrich Stalt, Imperial Mind Proctor, a grim inquisitor dispatched to the worlds under Imperial "protection" to purge them of the awful curse of psionically-active monsters.

These NPCs, objects, places, and situations can be used as raw grist for generating your adventures or be slotted into the scenario seeds provided later in the Adventure Generation chapter. Of course, not every Enemy will be intrinsically hostile to the PCs, nor every Friend necessarily a sympathetic figure.

Naturally, you should feel free to come up with your own tags as well. Almost any science-fiction trope that you enjoy can be turned into a tag, and characteristic elements can be blended into the list of raw adventure components.

d100	Tag	d100	Tag	d100	Tag	d100	Tag
1	Abandoned Colony	26	Flying Cities	51	Misandry/Misogyny	76	Rigid Culture
2	Alien Ruins	27	Forbidden Tech	52	Night World	77	Rising Hegemon
3	Altered Humanity	28	Former Warriors	53	Nomads	78	Ritual Combat
4	Anarchists	29	Freak Geology	54	Oceanic World	79	Robots
5	Anthropomorphs	30	Freak Weather	55	Out of Contact	80	Seagoing Cities
6	Area 51	31	Friendly Foe	56	Outpost World	81	Sealed Menace
7	Badlands World	32	Gold Rush	57	Perimeter Agency	82	Secret Masters
8	Battleground	33	Great Work	58	Pilgrimage Site	83	Sectarians
9	Beastmasters	34	Hatred	59	Pleasure World	84	Seismic Instability
10	Bubble Cities	35	Heavy Industry	60	Police State	85	Shackled World
11	Cheap Life	36	Heavy Mining	61	Post-Scarcity	86	Societal Despair
12	Civil War	37	Hivemind	62	Preceptor Archive	87	Sole Supplier
13	Cold War	38	Holy War	63	Pretech Cultists	88	Taboo Treasure
14	Colonized Population	39	Hostile Biosphere	64	Primitive Aliens	89	Terraform Failure
15	Cultural Power	40	Hostile Space	65	Prison Planet	90	Theocracy
16	Cybercommunists	41	Immortals	66	Psionics Academy	91	Tomb World
17	Cyborgs	42	Local Specialty	67	Psionics Fear	92	Trade Hub
18	Cyclical Doom	43	Local Tech	68	Psionics Worship	93	Tyranny
19	Desert World	44	Major Spaceyard	69	Quarantined World	94	Unbraked AI
20	Doomed World	45	Mandarinate	70	Radioactive World	95	Urbanized Surface
21	Dying Race	46	Mandate Base	71	Refugees	96	Utopia
22	Eugenic Cult	47	Maneaters	72	Regional Hegemon	97	Warlords
23	Exchange Consulate	48	Megacorps	73	Restrictive Laws	98	Xenophiles
24	Fallen Hegemon	49	Mercenaries	74	Revanchists	99	Xenophobes
25	Feral World	50	Minimal Contact	75	Revolutionaries	00	Zombies

Abandoned Colony

The world once hosted a colony, whether human or otherwise, until some crisis or natural disaster drove the inhabitants away or killed them off. The colony might have been mercantile in nature, an expedition to extract valuable local resources, or it might have been a reclusive cabal of zealots. The remains of the colony are usually in ruins, and might still be dangerous from the aftermath of whatever destroyed it in the first place.

E   Crazed survivors, Ruthless plunderers of the ruins, Automated defense system

F   Inquisitive stellar archaeologist, Heir to the colony's property, Local wanting the place cleaned out and made safe

C   The local government wants the ruins to remain a secret, The locals claim ownership of it, The colony is crumbling and dangerous to navigate

T   Long-lost property deeds, Relic stolen by the colonists when they left, Historical record of the colonization attempt

P   Decaying habitation block, Vine-covered town square, Structure buried by an ancient landslide

Alien Ruins

The world has significant alien ruins present. The locals may or may not permit others to investigate the ruins, and may make it difficult to remove any objects of value without substantial payment. Any surviving ruins with worthwhile salvage almost certainly have some defense or hazard to explain their unplundered state.

E   Customs inspector, Worshipper of the ruins, Hidden alien survivor

F   Curious scholar, Avaricious local resident, Interstellar smuggler

C   Traps in the ruins, Remote location, Paranoid customs officials

T   Precious alien artifacts, Objects left with the remains of a prior unsuccessful expedition, Untranslated alien texts, Untouched hidden ruins

P   Undersea ruin, Orbital ruin, Perfectly preserved alien building, Alien mausoleum

Altered Humanity

The humans on this world are visibly and drastically different from normal humanity. They may have additional limbs, new sensory organs, or other significant changes. Were these from ancestral eugenic manipulation, strange stellar mutations, or from an environmental toxin unique to this world?

E   Biochauvinist local, Local experimenter, Mentally unstable mutant

F   Local seeking a "cure", Curious xenophiliac, Anthropological researcher

C   Alteration is contagious, Alteration is necessary for long-term survival, Locals fear and mistrust non-local humans

T   Original pretech mutagenic equipment, Valuable biological byproduct from the mutants, "Cure" for the altered genes, Record of the original colonial genotypes

P   Abandoned eugenics laboratory, An environment requiring the mutation for survival, A sacred site where the first local was transformed

Anarchists

Rather than being an incidental anarchy of struggling tribes and warring factions, this world actually has a functional society with no centralized authority. Authority might be hyper-localized to extended families, specific religious parishes, or voluntary associations. Some force is preventing an outside group or internal malcontents from coalescing into a power capable of imposing its rule on the locals; this force might be an ancient pretech defense system, a benevolent military AI, or the sheer obscurity and isolation of the culture.

E   Offworlder imperialist, Reformer seeking to impose "good government", Exploiter taking advantage of the lack of centralized resistance

F   Proud missionary for anarchy, Casual local free spirit, Curious offworlder political scientist

C   The anarchistic structure is compelled by an external power, The anarchy is enabled by currently abundant resources, The protecting force that shelters the anarchy is waning

T   A macguffin that would let the possessor enforce their rule on others, A vital resource needed to preserve general liberty, Tech forbidden as disruptive to the social order

P   Community of similar-sized homes, Isolated clan homestead, Automated mining site

Anthropomorphs

The locals were originally human, but at some point became anthropomorphic, either as an ancient furry colony, a group of animal-worshiping sectarians, or gengineers who just happened to find animal elements most convenient for surviving on the world. Depending on the skill of the original gengineers, their feral forms may or may not work as well as their original human bodies, or may come with drawbacks inherited from their animal elements.

E Anthro-supremacist local, Native driven by feral urges, Outside exploiter who sees the locals as subhuman creatures

F Fascinated genetic researcher, Diplomat trained to deal with normals, Local needing outside help

C The locals consider their shapes a curse from their foolish ancestors, Society is ordered according to animal forms, The locals view normal humans as repulsive or inferior

T Pretech gengineering tech, A "cure" that may not be wanted, Sacred feral totem

P Shrine to a feral deity, Nature preserve suited to an animal type, Living site built to take advantage of animal traits

Area 51

The world's government is fully aware of their local stellar neighbors, but the common populace has no idea about it- and the government means to keep it that way. Trade with government officials in remote locations is possible, but any attempt to clue the commoners in on the truth will be met with lethal reprisals.

E Suspicious government minder, Free merchant who likes his local monopoly, Local who wants a specimen for dissection

F Crusading offworld investigator, Conspiracy-theorist local, Idealistic government reformer

C The government has a good reason to keep the truth concealed, The government ruthlessly oppresses the natives, The government is actually composed of offworlders

T Elaborate spy devices, Memory erasure tech, Possessions of the last offworlder who decided to spread the truth

P Desert airfield, Deep subterranean bunker, Hidden mountain valley

Badlands World

Whatever the original climate and atmosphere type, something horrible happened to this world. Biological, chemical, or nanotechnical weaponry has reduced it to a wretched hellscape. Some local life might still be able to survive on its blasted surface, usually at some dire cost in health or humanity.

E Mutated badlands fauna, Desperate local, Badlands raider chief

F Native desperately wishing to escape the world, Scientist researching ecological repair methods, Ruin scavenger

C Radioactivity, Bioweapon traces, Broken terrain, Sudden local plague

T Maltech research core, Functional pretech weaponry, An uncontaminated well

P Untouched oasis, Ruined city, Salt flat

Battleground

The world is a battleground for two or more outside powers. They may be interstellar rivals, or groups operating out of orbitals or other system bodies. Something about the planet is valuable enough for them to fight over, but the natives are too weak to be anything but animate obstacles to the fight.

E Ruthless military commander, Looter pack chieftain, Traitorous collaborator

F Native desperately seeking protection, Pragmatic military officer, Hapless war orphan

C The war just ended as both sides are leaving, The natives somehow brought this on themselves, A small group of natives profit tremendously from the fighting

T A cache of the resource the invaders seek, Abandoned prototype military gear, Precious spy intelligence lost by someone

P Artillery-pocked wasteland, Reeking refugee camp, Burnt-out shell of a city

Beastmasters

The natives have extremely close bonds with the local fauna, possibly having special means of communication and control through tech or gengineering. Local animal life plays a major role in their society, industry, or warfare, and new kinds of beasts may be bred to suit their purposes.

E Half-feral warlord of a beast swarm, Coldly inhuman scientist, Altered beast with human intellect and furious malice

F Native bonded with an adorable animal, Herder of very useful beasts, Animal-revering mystic

C The "animals" are very heavily gengineered humans, The animals actually run the society, The animals have the same rights as humans

T Tech used to alter animal life, A plague vial that could wipe out the animals, A pretech device that can perform a wonder if operated by a beast

P Park designed as a comfortable home for beasts, Public plaza designed to accommodate animal companions, Factory full of animal workers

Bubble Cities

Whether due to a lack of atmosphere or an uninhabitable climate, the world's cities exist within domes or pressurized buildings. In such sealed environments, techniques of surveillance and control can grow baroque and extreme.

E Native dreading outsider contamination, Saboteur from another bubble city, Local official hostile to outsider ignorance of laws

F Local rebel against the city officials, Maintenance chief in need of help, Surveyor seeking new building sites

C Bubble rupture, Failing atmosphere reprocessor, Native revolt against officials, All-seeing surveillance cameras

T Pretech habitat technology, Valuable industrial products, Master key codes to a city's security system

P City power core, Surface of the bubble, Hydroponics complex, Warren-like hab block

Cheap Life

Human life is near-worthless on this world. Ubiquitous cloning, local conditions that ensure early death, a culture that reveres murder, or a social structure that utterly discounts the value of most human lives ensures that death is the likely outcome for any action that irritates someone consequential.

E   Master assassin, Bloody-handed judge, Overseer of disposable clones

F   Endearing local whose life the PCs accidentally bought, Escapee from death seeking outside help, Reformer trying to change local mores

C   Radiation or local diseases ensure all locals die before twenty-five years of age, Tech ensures that death is just an annoyance, Locals are totally convinced of a blissful afterlife

T   Device that revives or re-embodies the dead, Maltech engine fueled by human life, Priceless treasure held by a now-dead owner

P   Thronging execution ground, extremely cursory cemetery, Factory full of lethal dangers that could be corrected easily

Cold War

Two or more great powers control the planet, and they have a hostility to each other that's just barely less than open warfare. The hostility might be ideological in nature, or it might revolve around control of some local resource.

E   Suspicious chief of intelligence, Native who thinks the outworlders are with the other side, Femme fatale

F   Apolitical information broker, Spy for the other side, Unjustly accused innocent, "He's a bastard, but he's our bastard" official

C   Police sweep, Low-level skirmishing, "Red scare"

T   List of traitors in government, secret military plans, Huge cache of weapons built up in preparation for war

P   Seedy bar in a neutral area, Political rally, Isolated area where fighting is underway

Civil War

The world is currently torn between at least two opposing factions, all of which claim legitimacy. The war may be the result of a successful rebel uprising against tyranny, or it might just be the result of schemers who plan to be the new masters once the revolution is complete.

E   Faction commissar, Angry native, Conspiracy theorist who blames offworlders for the war, Deserter looking out for himself, Guerrilla bandit chieftain

F   Faction loyalist seeking aid, Native caught in the crossfire, Offworlder seeking passage off the planet

C   The front rolls over the group, Famine strikes, Bandit infestations are in the way

T   Ammo dump, Military cache, Treasure buried for after the war, Secret war plans

P   Battle front, Bombed-out town, Rear-area red light zone, Propaganda broadcast tower

Colonized Population

A neighboring world has successfully colonized this less-advanced or less-organized planet, and the natives aren't happy about it. A puppet government may exist, but all real decisions are made by the local viceroy.

E   Suspicious security personnel, Offworlder-hating natives, Local crime boss preying on rich offworlders

F   Native resistance leader, Colonial official seeking help, Native caught between the two sides

C   Natives won't talk to offworlders, Colonial repression, Misunderstood local customs

T   Relic of the resistance movement, List of collaborators, Precious substance extracted by colonial labor

P   Deep wilderness resistance camp, City district off-limits to natives, Colonial labor site

Cultural Power

The world is a considerable cultural power in the sector, producing music, art, philosophy, or some similar intangible that their neighbors find irresistibly attractive. Other worlds might have a profound degree of cultural cachet as the inheritor of some venerable artistic tradition.

E   Murderously eccentric artist, Crazed fan, Failed artist with an obsessive grudge, Critic with a crusade to enact

F   Struggling young artist, Pupil of the artistic tradition, Scholar of the art, Offworlder hating the source of corrupting alien ways

C   The art is slowly lethal to its masters, The art is mentally or physically addictive, The art is a fragment of ancient technical or military science

T   The instrument of a legendary master, The only copy of a dead master's opus, Proof of intellectual property ownership

P   Recording or performance studio, Public festival choked with tourists, Monument to a dead master of the art

Cyborgs

The planet's population makes heavy use of cybernetics, with many of the inhabitants possessing at least a cosmetic amount of chrome. This may be the result of a strong local cyber tech base, a religious injunction, or simply a necessary measure to survive the local conditions.

E   Ambitious hacker of cyber implants, Cybertech oligarch, Researcher craving fresh offworlders, Cybered-up gang boss

F   Charity-working implant physician, Idealistic young cyber researcher, Avant-garde activist

C   The powerful and dangerous come here often for cutting-edge implants, The cyber has some universal negative side-effect, Cyber and those implanted with it are forbidden to leave the planet as a tech security measure

T   Unique prototype cyber implant, Secret research files, A virus that debilitates cyborgs, A cache of critically-needed therapeutic cyber

P   Grimy slum chop-shop, Bloody lair of implant rippers, Stark plaza where everyone is seeing things through their augmented-reality cyber

Cybercommunists

On this world communism actually works, thanks to pretech computing devices and greater or lesser amounts of psychic precognition. Central planning nodes direct all production and employment on the world. Citizens in good standing have access to ample amounts of material goods for all needs and many wants. Instead of strife over wealth, conflicts erupt over political controls, cultural precepts, or control over the planning nodes. Many cybercommunist worlds show a considerable bias toward the private interests of those who run the planning nodes.

E   Embittered rebel against perceived unfairness, Offworlder saboteur, Aspiring Stalin-figure

F   Idealistic planning node tech, Cynical anti-corruption cop, Precognitive economist

C   The pretech planning computers are breaking down, The planning only works because the locals have been mentally or physically altered, The planning computers can't handle the increasing population within the system

T   Planning node computer, Wildly destabilizing commodity that can't be factored into plans, A tremendous store of valuables made by accident

P   Humming factory, Apartment block of perfectly equal flats, Mass demonstration of unity

Cyclical Doom

The world regularly suffers some apocalyptic catastrophe that wipes out organized civilization on it. The local culture is aware of this cycle and has traditions to ensure a fragment of civilization survives into the next era, but these traditions don't always work properly, and sometimes dangerous fragments of the past emerge.

E   Offworlder seeking to trigger the apocalypse early for profit, Local recklessly taking advantage of preparation stores, Demagogue claiming the cycle is merely a myth of the authorities

F   Harried official working to prepare, Offworlder studying the cycles, Local threatened by perils of the cycle's initial stages

C   The cycles really are a myth of the authorities, The cycles are controlled by alien constructs, An outside power is interfering with preparation

T   A lost cache of ancient treasures, Tech or archives that will pinpoint the cycle's timing, Keycodes to bypass an ancient vault's security

P   Lethally-defended vault of forgotten secrets, Starport crowded with panicked refugees, Town existing in the shadow of some monstrous monument to a former upheaval

Desert World

The world may have a breathable atmosphere and a human-tolerable temperature range, but it is an arid, stony waste outside of a few places made habitable by human effort. The deep wastes are largely unexplored and inhabited by outcasts and worse.

E Raider chieftain, Crazed hermit, Angry isolationists, Paranoid mineral prospector, Strange desert beast

F Native guide, Research biologist, Aspiring terraformer

C Sandstorms, Water supply failure, Native warfare over water rights

T Enormous water reservoir, Map of hidden wells, Pretech rainmaking equipment

P Oasis, "The Empty Quarter" of the desert, Hidden underground cistern

Dying Race

The inhabitants of this world are dying out, and they know it. Through environmental toxins, hostile bio-weapons, or sheer societal despair, the culture cannot replenish its numbers. Members seek meaning in their own strange goals or peculiar faiths, though a few might struggle to find some way to reverse their slow yet inevitable doom.

E Hostile outsider who wants the locals dead, Offworlder seeking to take advantage of their weakened state, Invaders eager to push the locals out of their former lands

F One of the few youth among the population, Determined and hopeful reformer, Researcher seeking a new method of reproduction

C The dying culture's values were monstrous, The race's death is somehow necessary to prevent some grand catastrophe, The race is somehow convinced they deserve this fate

T Extremely valuable reproductive tech, Treasured artifacts of the former age, Bioweapon used on the race

P City streets devoid of pedestrians, Mighty edifice now crumbling with disrepair, Small dwelling full of people in a town now otherwise empty

Doomed World

The world is doomed, and the locals may or may not know it. Some cosmic catastrophe looms before them, and the locals have no realistic way to get everyone to safety. To the extent that the public is aware, society is disintegrating into a combination of religious fervor, abject hedonism, and savage violence.

E Crazed prophet of a false salvation, Ruthless leader seeking to flee with their treasures, Cynical ship captain selling a one-way trip into hard vacuum as escape to another world

F Appealing waif or family head seeking escape, Offworld relief coordinator, Harried law officer

C The doom is false or won't actually kill everyone, The doom was intentionally triggered by someone, Mass escape is possible if warring groups can somehow be brought to cooperate

T Clearance for a ship to leave the planet, A cache of priceless cultural artifacts, The life savings of someone trying to buy passage out, Data that would prove to the public the end is nigh

P Open square beneath a sky angry with a foretaste of th impending ruin, Orgiastic celebration involving sex and murder in equal parts, Holy site full of desperate petitioners to the divine

Eugenic Cult

Even in the days before the Silence, major improvement of the human genome always seemed to come with unacceptable side-effects. Some worlds host secret cults that perpetuate these improvements regardless of the cost, and a few planets have been taken over entirely by the cults.

E Eugenic superiority fanatic, Mentally unstable homo superior, Mad eugenic scientist

F Eugenic propagandist, Biotechnical investigator, Local seeking revenge on cult

C The altered cultists look human, The locals are terrified of any unusual physical appearance, The genetic modifications- and drawbacks- are contagious with long exposure

T Serum that induces the alteration, Elixir that reverses the alteration, Pretech biotechnical databanks, List of secret cult sympathizers

P Eugenic breeding pit, Isolated settlement of altered humans, Public place infiltrated by cult sympathizers

Exchange Consulate

The Exchange of Light once served as the largest, most trusted banking and diplomatic service in human space. Even after the Silence, some worlds retain a functioning Exchange Consulate where banking services and arbitration can be arranged.

E Corrupt Exchange official, Indebted native who thinks the players are Exchange agents, Exchange official dunning the players for debts incurred

F Consul in need of offworld help, Local banker seeking to hurt his competition, Exchange diplomat

C The local Consulate has been corrupted, the Consulate is cut off from its funds, A powerful debtor refuses to pay

T Exchange vault codes, Wealth hidden to conceal it from a bankruptcy judgment, Location of forgotten vault

P Consulate meeting chamber, Meeting site between fractious disputants, Exchange vault

Fallen Hegemon

At some point in the past, this world was a hegemonic power over some or all of the sector, thanks to superior tech, expert diplomacy, the weakness of their neighbors, or inherited Mandate legitimacy. Some kind of crash or revolt broke their power, however, and now the world is littered with the wreckage of former glory.

E Bitter pretender to a meaningless throne, Resentful official dreaming of empire, Vengeful offworlder seeking to punish their old rulers

F Realistic local leader trying to hold things together, Scholar of past glories, Refugee from an overthrown colonial enclave

C The hegemon's rule was enlightened and fair, It collapsed due to its own internal strife rather than external resistance, It pretends that nothing has happened to its power, It's been counter-colonized by vengeful outsiders

T Precious insignia of former rule, Relic tech important to its power, Plundered colonial artifact

P Palace far too grand for its current occupant, Oversized spaceport now in disrepair, Boulevard lined with monuments to past glories

Feral World

In the long, isolated night of the Silence, some worlds have experienced total moral and cultural collapse. Whatever remains has been twisted beyond recognition into assorted death cults, xenophobic fanaticism, horrific cultural practices, or other behavior unacceptable on more enlightened worlds. These worlds are almost invariably quarantined by other planets.

E Decadent noble, Mad cultist, Xenophobic local, Cannibal chief, Maltech researcher

F Trapped outworlder, Aspiring reformer, Native wanting to avoid traditional flensing

C Horrific local "celebration", Inexplicable and repugnant social rules, Taboo zones and people

T Terribly misused piece of pretech, Wealth accumulated through brutal evildoing, Valuable possession owned by luckless outworlder victim

P Atrocity amphitheater, Traditional torture parlor, Ordinary location twisted into something terrible.

Flying Cities

Perhaps the world is a gas giant, or plagued with unendurable storms at lower levels of the atmosphere. For whatever reason, the cities of this world fly above the surface of the planet. Perhaps they remain stationary, or perhaps they move from point to point in search of resources.

E Rival city pilot, Tech thief attempting to steal outworld gear, Saboteur or scavenger plundering the city's tech

F Maintenance tech in need of help, City defense force pilot, Meteorological researcher

C Sudden storms, Drastic altitude loss, Rival city attacks, Vital machinery breaks down

T Precious refined atmospheric gases, Pretech grav engine plans, Meteorological codex predicting future storms

P Underside of the city, The one calm place on the planet's surface, Catwalks stretching over unimaginable gulfs below.

Forbidden Tech

Some group on this planet fabricates or uses maltech. Unbraked AIs doomed to metastasize into insanity, nation-destroying nanowarfare particles, slow-burn DNA corruptives, genetically engineered slaves, or something worse still. The planet's larger population may or may not be aware of the danger in their midst.

E Mad scientist, Maltech buyer from offworld, Security enforcer

F Victim of maltech, Perimeter agent, Investigative reporter, Conventional arms merchant

C The maltech is being fabricated by an unbraked AI, The government depends on revenue from maltech sales to offworlders, Citizens insist that it's not really maltech

T Maltech research data, The maltech itself, Precious pretech equipment used to create it

P Horrific laboratory, Hellscape sculpted by the maltech's use, Government building meeting room

Former Warriors

The locals of this world were once famed for their martial prowess. They may have simply had a very militaristic culture, or were genetically engineered for combat, or developed high-tech weaponry, or had brilliant leadership. Those days are past, however, either due to crushing defeat, external restrictions, or a cultural turn toward peace.

E Unreformed warlord leader, Bitter mercenary chief, Victim of their warfare seeking revenge

F Partisan of the new peaceful ways, Outsider desperate for military aid, Martial genius repressed by the new dispensation

C Neighboring worlds want them pacified or dead, They only ever used their arts in self-defense, The source of their gifts has been "turned off" in a reversible way

T War trophy taken from a defeated foe, Key to re-activating their martial ways, Secret cache of high-tech military gear

P Cemetery of dead heroes, Memorial hall now left to dust and silence, Monument plaza dedicated to the new culture

Freak Geology

The geology or geography of this world is simply freakish. Perhaps it's composed entirely of enormous mountain ranges, or regular bands of land and sea, or the mineral structures all fragment into perfect cubes. The locals have learned to deal with it and their culture will be shaped by its requirements.

E Crank xenogeologist, Cultist who believes it the work of aliens

F Research scientist, Prospector, Artist

C Local conditions that no one remembers to tell outworlders about, Lethal weather, Seismic activity

T Unique crystal formations, Hidden veins of a major precious mineral strike, Deed to a location of great natural beauty

P Atop a bizarre geological formation, Tourist resort catering to offworlders

Freak Weather

The planet is plagued with some sort of bizarre or hazardous weather pattern. Perhaps city-flattening storms regularly scourge the surface, or the world's sun never pierces its thick banks of clouds.

E Criminal using the weather as a cover, Weather cultists convinced the offworlders are responsible for some disaster, Native predators dependent on the weather

F Meteorological researcher, Holodoc crew wanting shots of the weather

C The weather itself, Malfunctioning pretech terraforming engines that cause the weather

T Wind-scoured deposits of precious minerals, Holorecords of a spectacularly and rare weather pattern, Naturally-sculpted objects of intricate beauty

P Eye of the storm, The one sunlit place, Terraforming control room

Friendly Foe

Some hostile alien race or malevolent cabal has a branch or sect on this world that is actually quite friendly toward outsiders. For whatever internal reason, they are willing to negotiate and deal honestly with strangers, and appear to lack the worst impulses of their fellows.

E Driven hater of all their kind, Internal malcontent bent on creating conflict, Secret master who seeks to lure trust

F Well-meaning bug-eyed monster, Principled eugenics cultist, Suspicious investigator

C The group actually is as harmless and benevolent as they seem, The group offers a vital service at the cost of moral compromise, The group still feels bonds of affiliation with their hostile brethren

T Forbidden xenotech, Eugenic biotech template, Evidence to convince others of their kind that they are right

P Repurposed maltech laboratory, Alien conclave building, Widely-feared starship interior

Gold Rush

Gold, silver, and other conventional precious minerals are common and cheap now that asteroid mining is practical for most worlds. But some minerals and compounds remain precious and rare, and this world has recently been discovered to have a supply of them. People from across the sector have come to strike it rich.

E Paranoid prospector, Aspiring mining tycoon, Rapacious merchant

F Claim-jumped miner, Native alien, Curious tourist

C The strike is a hoax, The strike is of a dangerous toxic substance, Export of the mineral is prohibited by the planetary government, The native aliens live around the strike's location

T Cases of the refined element, Pretech mining equipment, A dead prospector's claim deed

P Secret mine, Native alien village, Processing plant, Boom town

Great Work

The locals are obsessed with completing a massive project, one that has consumed them for generations. It might be the completion of a functioning spaceyard, a massive solar power array, a network of terraforming engines, or the universal conversion of their neighbors to their own faith. The purpose of their entire civilization is to progress and some day complete the work.

E   Local planning to sacrifice the PCs for the work, Local who thinks the PCs threaten the work, Obsessive zealot ready to destroy someone or something important to the PCs for the sake of the work

F   Outsider studying the work, Local with a more temperate attitude, Supplier of work materials

C   The work is totally hopeless, Different factions disagree on what the work is, An outside power is determined to thwart the work

T   Vital supplies for the work, Plans that have been lost, Tech that greatly speeds the work

P   A bustling work site, Ancestral worker housing, Local community made only semi-livable by the demands of the work

Hatred

For whatever reason, this world's populace has a burning hatred for the inhabitants of a neighboring system. Perhaps this world was colonized by exiles, or there was a recent interstellar war, or ideas of racial or religious superiority have fanned the hatred. Regardless of the cause, the locals view their neighbor and any sympathizers with loathing.

E   Native convinced that the offworlders are agents of Them, Cynical politician in need of scapegoats

F   Intelligence agent needing catspaws, Holodoc producers needing "an inside look", Unlucky offworlder from the hated system

C   The characters are wearing or using items from the hated world, The characters are known to have done business there, The characters "look like" the hated others

T   Proof of Their evildoing, Reward for turning in enemy agents, Relic stolen by Them years ago

P   War crimes museum, Atrocity site, Captured and decommissioned spaceship kept as a trophy

Heavy Industry

With interstellar transport so limited in the bulk it can move, worlds have to be largely self-sufficient in industry. Some worlds are more sufficient than others, however, and this planet has a thriving manufacturing sector capable of producing large amounts of goods appropriate to its tech level. The locals may enjoy a correspondingly higher lifestyle, or the products might be devoted towards vast projects for the aggrandizement of the rulers.

E   Tycoon monopolist, Industrial spy, Malcontent revolutionary

F   Aspiring entrepreneur, Worker union leader, Ambitious inventor

C   The factories are toxic, The resources extractable at their tech level are running out, The masses require the factory output for survival, The industries' major output is being obsoleted by offworld tech

T   Confidential industrial data, Secret union membership lists, Ownership shares in an industrial complex

P   Factory floor, Union meeting hall, Toxic waste dump, R&D complex

Heavy Mining

This world has large stocks of valuable minerals, usually necessary for local industry, life support, or refinement into loads small enough to export offworld. Major mining efforts are necessary to extract the minerals, and many natives work in the industry.

E   Mine boss, Tunnel saboteur, Subterranean predators

F   Hermit prospector, Offworld investor, Miner's union representative

C   The refinery equipment breaks down, Tunnel collapse, Silicate life forms growing in the miners' lungs

T   The mother lode, Smuggled case of refined mineral, Faked crystalline mineral samples

P   Vertical mine face, Tailing piles, Roaring smelting complex

Hivemind

Natives of this world exist in a kind of mental gestalt, sharing thoughts and partaking of a single identity. Powerful pretech, exotic psionics, alien influence, or some other cause has left the world sharing one identity. Individual members may have greater or lesser degrees of effective coordination with the whole.

E   A hivemind that wants to assimilate outsiders, A hivemind that has no respect for unjoined life, A hivemind that fears and hates unjoined life

F   A scholar studying the hivemind, A person severed from the gestalt, A relative of someone who has been assimilated

C   The hivemind only functions on this world, The hivemind has strict range limits, The hivemind has different personality factions, The hivemind only happens at particular times, The world is made of semi-sentient drones and a single AI

T   Vital tech for maintaining the mind, Precious treasure held by now-assimilated outsider, Tech that "blinds" the hivemind to the tech's users

P   Barely tolerable living cells for individuals, Workside where individuals casually die in their labors, Community with absolutely no social or group-gathering facilities

Holy War

A savage holy war is raging on this world, either between factions of locals or as a united effort against the pagans of some neighboring world. This war might involve a conventional religion, or it might be the result of a branding campaign, political ideology, artistic movement, or any other cause that people use as a substitute for traditional religion.

E   Blood-mad pontiff, Coldly cynical secular leader, Totalitarian political demagogue

F   Desperate peacemaker, Hard-pressed refugee of the fighting, Peaceful religious leader who lost the internal debate

C   The targets of the war really are doing something diabolically horrible, The holy war is just a mask for a very traditional casus belli, The leaders don't want the war won but only prolonged, Both this world and the target of the war are religion-obsessed

T   Sacred relic of the faith, A captured blasphemer under a death sentence, Plunder seized in battle

P   Massive holy structure, Razed community of infidels, Vast shrine to the martyrs dead in war

Hostile Biosphere

The world is teeming with life, and it hates humans. Perhaps the life is xenoallergenic, forcing filter masks and tailored antiallergens for survival. It could be the native predators are huge and fearless, or the toxic flora ruthlessly outcompetes earth crops.

E   Local fauna, Nature cultist, Native aliens, Callous labor overseer

F   Xenobiologist, Tourist on safari, Grizzled local guide

C   Filter masks fail, Parasitic alien infestation, Crop greenhouses lose bio-integrity

T   Valuable native biological extract, Abandoned colony vault, Remains of an unsuccessful expedition

P   Deceptively peaceful glade, Steaming polychrome jungle, Nightfall when surrounded by Things

Hostile Space

The system in which the world exists is a dangerous neighborhood. Something about the system is perilous to inhabitants, either through meteor swarms, stellar radiation, hostile aliens in the asteroid belt, or periodic comet clouds.

E   Alien raid leader, Meteor-launching terrorists, Paranoid local leader

F   Astronomic researcher, Local defense commander, Early warning monitor agent

C   The natives believe the danger is divine chastisement, The natives blame outworlders for the danger, The native elite profit from the danger in some way

T   Early warning of a raid or impact, Abandoned riches in a disaster zone, Key to a secure bunker

P   City watching an approaching asteroid, Village burnt in an alien raid, Massive ancient crater

Immortals

Natives of this world are effectively immortal. They may have been gengineered for tremendous lifespans, or have found some local anagathic, or be cyborg life forms, or be so totally convinced of reincarnation that death is a cultural irrelevance. Any immortality technique is likely applicable only to them, or else it's apt to be a massive draw to outside imperialists.

E   Outsider determined to steal immortality, Smug local convinced of their immortal wisdom to rule all, Offworlder seeking the world's ruin before it becomes a threat to all

F   Curious longevity researcher, Thrill-seeking local,

C   Immortality requires doing something that outsiders can't or won't willingly do, The immortality ends if they leave the world, Death is the punishment for even minor crimes, Immortals must die or go offworld after a certain span, Immortality has brutal side-effects

T   Immortality drug, Masterwork of an ageless artisan, Toxin that only affects immortals

P   Community with no visible children, Unchanging structure of obvious ancient age, Cultural performance relying on a century of in-jokes

Local Specialty

The world may be sophisticated or barely capable of steam engines, but either way it produces something rare and precious to the wider galaxy. It might be some pharmaceutical extract produced by a secret recipe, a remarkably popular cultural product, or even gengineered humans uniquely suited for certain work.

E   Monopolist, Offworlder seeking prohibition of the specialty, Native who views the specialty as sacred

F   Spy searching for the source, Artisan seeking protection, Exporter with problems

C   The specialty is repugnant in nature, The crafters refuse to sell to offworlders, The specialty is made in a remote, dangerous place, The crafters don't want to make the specialty any more

T   The specialty itself, The secret recipe, Sample of a new improved variety

P   Secret manufactory, Hidden cache, Artistic competition for best artisan

Local Tech

The locals can create a particular example of extremely high tech, possibly even something that exceeds pretech standards. They may use unique local resources to do so, or have stumbled on a narrow scientific breakthrough, or still have a functional experimental manufactory.

E   Keeper of the tech, Offworld industrialist, Automated defenses that suddenly come alive, Native alien mentors

F   Curious offworld scientist, Eager tech buyer, Native in need of technical help

C   The tech is unreliable, The tech only works on this world, The tech has poorly-understood side effects, The tech is alien in nature.

T   The tech itself, An unclaimed payment for a large shipment, The secret blueprints for its construction, An ancient alien R&D database

P   Alien factory, Lethal R&D center, Tech brokerage vault

Major Spaceyard

Most worlds of tech level 4 or greater have the necessary tech and orbital facilities to build spike drives and starships. This world is blessed with a major spaceyard facility, either inherited from before the Silence or painstakingly constructed in more recent decades. It can build even capital-class hulls, and do so more quickly and cheaply than its neighbors.

E   Enemy saboteur, Industrial spy, Scheming construction tycoon, Aspiring ship hijacker

F   Captain stuck in drydock, Maintenance chief, Mad innovator

C   The spaceyard is an alien relic, The spaceyard is burning out from overuse, The spaceyard is alive, The spaceyard relies on maltech to function

T   Intellectual property-locked pretech blueprints, Override keys for activating old pretech facilities, A purchased but unclaimed spaceship.

P   Hidden shipyard bay, Surface of a partially-completed ship, Ship scrap graveyard

Mandarinate

The planet is ruled by an intellectual elite chosen via ostensibly neutral examinations or tests. The values this system selects for may or may not have anything to do with actual practical leadership skills, and the examinations may be more or less corruptible.

E Corrupt test administrator, Incompetent but highly-rated graduate, Ruthless leader of a clan of high-testing relations

F Crusader for test reform, Talented but poorly-connected graduate, Genius who tests badly

C The test is totally unrelated to necessary governing skills, The test was very pertinent in the past but tech or culture has changed, The test is for a skill that is vital to maintaining society but irrelevant to day-to-day governance, The test is a sham and passage is based on wealth or influence

T Answer key to the next test, Lost essay of incredible merit, Proof of cheating

P Massive structure full of test-taking cubicles, School filled with desperate students, Ornate government building decorated with scholarly quotes and academic images

Maneaters

The locals are cannibals, either out of necessity or out of cultural preference. Some worlds may actually eat human flesh, while others simply require the rendering of humans into important chemicals or pharmaceutical compounds, perhaps to prolong the lives of ghoul overlords. This cannibalism plays a major role in their society.

E Ruthless ghoul leader, Chieftain of a ravenous tribe, Sophisticated degenerate preaching the splendid authenticity of cannibalism

F Sympathetic local fleeing the fork, Escapee from a pharmaceutical rendering plant, Outsider chosen for dinner, Reformer seeking to break the custom or its necessity

C Local food or environmental conditions make human consumption grimly necessary, The locals farm human beings, Outsiders are expected to join in the custom, The custom is totally unnecessary but jealously maintained by the people

T Belongings of a recent meal, An offworlder VIP due for the menu, A toxin that makes human flesh lethal to consumers

P Hideous human abattoir, Extremely civilized restaurant, Funeral-home-cum-kitchen

Mandate Base

The Terran Mandate retained its control over this world for much longer than usual, and the world may still consider itself a true inheritor of Mandate legitimacy. Most of these worlds have or had superior technology, but they may still labor under the burden of ancient restrictive tech or monitoring systems designed to prevent them from rebelling.

E Deranged Mandate monitoring AI, Aspiring sector ruler, Demagogue preaching local superiority over "traitorous rebel worlds".

F Idealistic do-gooder local, Missionary for advanced Mandate tech, Outsider seeking lost data from Mandate records

C The monitoring system forces the locals to behave in aggressive ways toward "rebel" worlds, The monitoring system severely hinders offworld use of their tech, The original colonists are all dead and have been replaced by outsiders who don't understand all the details

T Ultra-advanced pretech, Mandate military gear, Databank containing precious tech schematics

P Faded Mandate offices still in use, Vault containing ancient pretech, Carefully-maintained monument to Mandate glory

Megacorps

The world is dominated by classic cyberpunk-esque megacorporations, each one far more important than the vestigial national remnants that encompass them. These megacorps are usually locked in a cold war, trading and dealing with each other even as they try to strike in deniable ways. An over-council of corporations usually acts to bring into line any that get excessively overt in their activities.

E Megalomaniacal executive, Underling looking to use the PCs as catspaws, Ruthless mercenary who wants what the PCs have

F Victim of megacorp scheming, Offworlder merchant in far over their head, Local reformer struggling to cope with megacorp indifference

C The megacorps are the only source of something vital to life on this world, An autonomous Mandate system acts to punish excessively overt violence, The megacorps are struggling against much more horrible national governments

T Blackmail on a megacorp exec, Keycodes to critical corp secrets, Proof of corp responsibility for a heinously unacceptable public atrocity, Data on a vital new product line coming out soon

P A place plastered in megacorp ads, A public plaza discreetly branded, Private corp military base

Mercenaries

The world is either famous for its mercenary bands or it is plagued by countless groups of condottieri in service to whatever magnate can afford to pay or bribe them adequately.

E Amoral mercenary leader, Rich offworlder trying to buy rule of the world, Mercenary press gang chief forcing locals into service

F Young and idealistic mercenary chief, Harried leader of enfeebled national army, Offworlder trying to hire help for a noble cause

C The mercenaries are all that stand between the locals and a hungry imperial power, The mercenaries are remnants of a former official army, The mercenaries hardly ever actually fight as compared to taking bribes to walk away

T Lost mercenary payroll shipment, Forbidden military tech, Proof of a band's impending treachery against their employers

P Shabby camp of undisciplined mercs, Burnt-out village occupied by mercenaries, Luxurious and exceedingly well-defended merc leader villa

Misandry/Misogyny

The culture on this world holds a particular gender in contempt. Members of that gender are not permitted positions of formal power, and may be restricted in their movements and activities. Some worlds may go so far as to scorn both traditional genders, using gengineering techniques to hybridize or alter conventional human biology.

E Cultural fundamentalist, Cultural missionary to outworlders, Local rebel driven to pointless and meaningless violence

F Oppressed native, Research scientist, Offworld emancipationist, Local reformer

C The oppressed gender is restive against the customs, The oppressed gender largely supports the customs, The customs relate to some physical quality of the world, The oppressed gender has had maltech gengineering done to "tame" them.

T Aerosol reversion formula for undoing gengineered docility, Hidden history of the world, Pretech gengineering equipment

P Shrine to the virtues of the favored gender, Security center for controlling the oppressed, Gengineering lab

Minimal Contact

The locals refuse most contact with offworlders. Only a small, quarantined treaty port is provided for offworld trade, and ships can expect an exhaustive search for contraband. Local governments may be trying to keep the very existence of interstellar trade a secret from their populations, or they may simply consider offworlders too dangerous or repugnant to be allowed among the population.

E Customs official, Xenophobic natives, Existing merchant who doesn't like competition

F Aspiring tourist, Anthropological researcher, Offworld thief, Religious missionary

C The locals carry a disease harmless to them and lethal to outsiders, The locals hide dark purposes from offworlders, The locals have something desperately needed but won't bring it into the treaty port

T Contraband trade goods, Security perimeter codes, Black market local products

P Treaty port bar, Black market zone, Secret smuggler landing site

Night World

The world is plunged into eternal darkness. The only life on this planet derives its energy from other sources, such as geothermal heat, extremely volatile chemical reactions in the planet's soil, or light in a non-visible spectrum. Most flora and fauna is voraciously eager to consume other life.

E Monstrous thing from the night, Offworlder finding the obscurity of the world convenient for dark purposes, Mad scientist experimenting with local life

F Curious offworlder researcher, Hard-pressed colony leader, High priest of a sect that finds religious significance in the night

C Daylight comes as a cataclysmic event at very long intervals, Light causes very dangerous reactions in native life or chemicals here, The locals have been gengineered to exist without sight

T Rare chemicals created in the darkness, Light source usable on this world, Smuggler cache hidden here in ages past

P Formlessly pitch-black wilderness, Sea without a sun, Location defined by sounds or smells

Nomads

Most of the natives of this world are nomadic, usually following a traditional cycle of movement through the lands they possess. Promises of rich plunder or local environmental perils can force these groups to strike out against neighbors. Other groups are forced to move constantly due to unpredictable dangers that crop up on the planet.

E Desperate tribal leader who needs what the PCs have, Ruthless raider chieftain, Leader seeking to weld the nomads into an army

F Free-spirited young nomad, Dreamer imagining a stable life, Offworlder enamored of the life

C An irresistibly lethal swarm of native life forces locals to move regularly, Ancient defense systems destroy too-long-stationary communities, Local chemical patches require careful balancing of exposure times to avoid side effects

T Cache of rare and precious resource, Plunder seized by a tribal raid, Tech that makes a place safe for long-term inhabitation

P Temporary nomad camp, Oasis or resource reserve, Trackless waste that kills the unprepared

Oceanic World

The world is entirely or almost entirely covered with liquid water. Habitations might be floating cities, or might cling precariously to the few rocky atolls jutting up from the waves, or are planted as bubbles on promontories deep beneath the stormy surface. Survival depends on aquaculture. Planets with inedible alien life rely on gengineered Terran sea crops.

E Pirate raider, Violent "salvager" gang, Tentacled sea monster

F Daredevil fisherman, Sea hermit, Sapient native life

C The liquid flux confuses grav engines too badly for them to function on this world, Sea is corrosive or toxic, The seas are wracked by regular storms

T Buried pirate treasure, Location of enormous schools of fish, Pretech water purification equipment

P The only island on the planet, Floating spaceport, Deck of a storm-swept ship, Undersea bubble city

Out of Contact

The natives have been entirely out of contact with the greater galaxy for centuries or longer. Perhaps the original colonists were seeking to hide from the rest of the universe, or the Silence destroyed any means of communication. It may have been so long that human origins on other worlds have regressed into a topic for legends. The players might be on the first offworld ship to land since the First Wave of colonization a thousand years ago.

E   Fearful local ruler, Zealous native cleric, Sinister power that has kept the world isolated

F   Scheming native noble, Heretical theologian, UFO cultist native

C   Automatic defenses fire on ships that try to take off, The natives want to stay out of contact, The natives are highly vulnerable to offworld diseases, The native language is completely unlike any known to the group

T   Ancient pretech equipment, Terran relic brought from Earth, Logs of the original colonists

P   Long-lost colonial landing site, Court of the local ruler, Ancient defense battery controls

Outpost World

The world is only a tiny outpost of human habitation planted by an offworld corporation or government. Perhaps the staff is there to serve as a refueling and repair stop for passing ships, or to oversee an automated mining and refinery complex. They might be there to study ancient ruins, or simply serve as a listening and monitoring post for traffic through the system. The outpost is likely well-equipped with defenses against casual piracy.

E   Space-mad outpost staffer, Outpost commander who wants it to stay undiscovered, Undercover saboteur

F   Lonely staffer, Fixated researcher, Overtaxed maintenance chief

C   The alien ruin defense systems are waking up, Atmospheric disturbances trap the group inside the outpost for a month, Pirates raid the outpost, The crew have become converts to a strange set of beliefs

T   Alien relics, Vital scientific data, Secret corporate exploitation plans

P   Grimy recreation room, Refueling station, The only building on the planet, A "starport" of swept bare rock.

Perimeter Agency

Before the Silence, the Perimeter was a Terran-sponsored organization charged with rooting out use of maltech, technology banned in human space as too dangerous for use or experimentation. Unbraked AIs, gengineered slave species, nanotech replicators, weapons of planetary destruction… the Perimeter hunted down experimenters with a great indifference to planetary laws. Most Perimeter Agencies collapsed during the Silence, but a few managed to hold on to their mission, though modern Perimeter agents often find more work as conventional spies.

E   Renegade Agency Director, Maltech researcher, Paranoid intelligence chief

F   Agent in need of help, Support staffer, "Unjustly" targeted researcher

C   The local Agency has gone rogue and now uses maltech, The Agency archives have been compromised, The Agency has been targeted by a maltech-using organization, The Agency's existence is unknown to the locals

T   Agency maltech research archives, Agency pretech spec-ops gear, File of blackmail on local politicians

P   Interrogation room, Smoky bar, Maltech laboratory, Secret Agency base

Pilgrimage Site

The world is noted for an important spiritual or historical location, and might be the sector headquarters for a widespread religion or political movement. The site attracts wealthy pilgrims from throughout nearby space, and those with the money necessary to manage interstellar travel can be quite generous to the site and its keepers. The locals tend to be fiercely protective of the place and its reputation, and some places may forbid the entrance of those not suitably pious or devout.

E   Saboteur devoted to a rival belief, Bitter reformer who resents the current leadership, Swindler conning the pilgrims

F   Protector of the holy site, Naive offworlder pilgrim, Outsider wanting to learn the sanctum's inner secrets

C   The site is actually a fake, The site is run by corrupt and venal keepers, A natural disaster threatens the site

T   Ancient relic guarded at the site, Proof of the site's inauthenticity, Precious offering from a pilgrim

P   Incense-scented sanctum, Teeming crowd of pilgrims, Imposing holy structure

Pleasure World

This world provides delights either rare or impermissible elsewhere. Matchless local beauty, stunningly gengineered natives, a wide variety of local drugs, carnal pleasures unacceptable on other worlds, or some other rare delight is readily available here. Most worlds are fully aware of the value of their offerings, and the prices they demand can be in credits or in less tangible recompense.

E Purveyor of evil delights, Local seeking to control others with addictions, Offworlder exploiter of native resources

F Tourist who's in too deep, Native seeking a more meaningful life elsewhere, Offworld entertainer looking for training here

C A deeply repugnant pleasure is offered here by a culture that sees nothing wrong with it, Certain pleasures here are dangerously addictive, The prices here can involve enslavement or death, The world has been seized and exploited by an imperial power

T Forbidden drug, A contract for some unspeakable payment, Powerful tech repurposed for hedonistic ends

P Breathtaking natural feature, Artful but decadent salon, Grimy den of desperate vice

Post-Scarcity

The locals have maintained sufficient Mandate-era tech to be effectively post-scarcity in their economic structure. Everyone has all the necessities and most of the desires they can imagine. Conflict now exists over the apportionment of services and terrestrial space, since anything else can be had in abundance. Military goods and items of mass destruction may still be restricted, and there is probably some reason that the locals do not export their vast wealth.

E Frenzied ideologue fighting over an idea, Paranoid local fearing offworlder influence, Grim reformer seeking the destruction of the "enfeebling" productive tech

F Offworlder seeking something available only here, Local struggling to maintain the production tech, Native missionary seeking to bring abundance to other worlds

C The tech causes serious side-effects on those who take advantage of it, The tech is breaking down, The population is growing too large, The tech produces only certain things in abundance

T A cornucopia device, A rare commodity that cannot be duplicated, Contract for services

P Tiny but richly-appointed private quarters, Market for services, Hushed non-duped art salon

Police State

The world is a totalitarian police state. Any sign of disloyalty to the planet's rulers is punished severely, and suspicion riddles society. Some worlds might operate by Soviet-style informers and indoctrination, while more technically sophisticated worlds might rely on omnipresent cameras or braked AI "guardian angels". Outworlders are apt to be treated as a necessary evil at best, and "disappeared" if they become troublesome.

E Secret police chief, Scapegoating official, Treacherous native informer

F Rebel leader, Offworld agitator, Imprisoned victim, Crime boss

C The natives largely believe in the righteousness of the state, The police state is automated and its "rulers" can't shut it off, The leaders foment a pogrom against "offworlder spies".

T List of police informers, Wealth taken from "enemies of the state", Dear Leader's private stash

P Military parade, Gulag, Gray concrete housing block, Surveillance center

Preceptor Archive

The Preceptors of the Great Archive were a pre-Silence organization devoted to ensuring the dissemination of human culture, history, and basic technology to frontier worlds that risked losing this information during the human expansion. Most frontier planets had an Archive where natives could learn useful technical skills in addition to human history and art. Those Archives that managed to survive the Silence now strive to send their missionaries of knowledge to new worlds in need of their lore.

E Luddite native, Offworld merchant who wants the natives kept ignorant, Religious zealot, Corrupted First Speaker who wants to keep a monopoly on learning

F Preceptor Adept missionary, Offworld scholar, Reluctant student, Roving Preceptor Adept

C The local Archive has taken a very religious and mystical attitude toward their teaching, The Archive has maintained some replicable pretech science, The Archive has been corrupted and their teaching is incorrect

T Lost Archive database, Ancient pretech teaching equipment, Hidden cache of unacceptable tech

P Archive lecture hall, Experimental laboratory, Student-local riot

Pretech Cultists

The capacities of human science before the Silence vastly outmatch the technology available since the Scream. The Jump Gates alone were capable of crossing hundreds of light years in a moment, and they were just one example of the results won by blending psychic artifice with pretech science. Some worlds outright worship the artifacts of their ancestors, seeing in them the work of more enlightened and perfect humanity. These cultists may or may not understand the operation or replication of these devices, but they seek and guard them jealously.

E   Cult leader, Artifact supplier, Pretech smuggler

F   Offworld scientist, Robbed collector, Cult heretic

C   The cultists can actually replicate certain forms of pretech, The cultists abhor use of the devices as "presumption on the holy", The cultists mistake the party's belongings for pretech

T   Pretech artifacts both functional and broken, Religious-jargon laced pretech replication techniques, Waylaid payment for pretech artifacts

P   Shrine to nonfunctional pretech, Smuggler's den, Public procession showing a prized artifact

Prison Planet

This planet is or was intended as a prison. Some such prisons were meant for specific malefactors of the Terran Mandate, while others were to contain entire "dangerous" ethnic groups or alien races. Some may still have warden AIs or automatic systems to prevent any unauthorized person from leaving, and any authorization permits have long since expired.

E   Crazed warden AI, Brutal heir to gang leadership, Offworlder who's somehow acquired warden powers and exploits the locals

F   Innocent local born here, Native technician forced to maintain the very tech that imprisons them, Offworlder trapped here by accident

C   Departure permits are a precious currency, The prison industry still makes valuable pretech devices, Gangs have metamorphosed into governments, The local nobility descended from the prison staff

T   A pass to get offworld, A key to bypass ancient security devices, Contraband forbidden by the security scanners

P   Mandate-era prison block converted to government building, Industrial facility manned by mandatory numbers of prisoners, Makeshift shop where contraband is assembled

Primitive Aliens

The world is populated by a large number of sapient aliens that have yet to develop advanced technology. The human colonists may have a friendly or hostile relationship with the aliens, but a certain intrinsic tension is likely. Small human colonies might have been enslaved or otherwise subjugated.

E   Hostile alien chief, Human firebrand, Dangerous local predator, Alien religious zealot

F   Colonist leader, Peace-faction alien chief, Planetary frontiersman, Xenoresearcher

C   The alien numbers are huge and can overwhelm the humans whenever they so choose, One group is trying to use the other to kill their political opponents, The aliens are incomprehensibly strange, One side commits an atrocity

T   Alien religious icon, Ancient alien-human treaty, Alien technology

P   Alien village, Fortified human settlement, Massacre site

Psionics Academy

This world is one of the few that have managed to redevelop the basics of psychic training. Without this education, a potential psychic is doomed to either madness or death unless they refrain from using their abilities. Psionic academies are rare enough that offworlders are often sent there to study by wealthy patrons. The secrets of psychic mentorship, the protocols and techniques that allow a psychic to successfully train another, are carefully guarded at these academies. Most are closely affiliated with the planetary government.

E   Corrupt psychic instructor, Renegade student, Mad psychic researcher, Resentful townie

F   Offworld researcher, Aspiring student, Wealthy tourist

C   The academy curriculum kills a significant percentage of students, The faculty use students as research subjects, The students are indoctrinated as sleeper agents, The local natives hate the academy, The academy is part of a religion.

T   Secretly developed psitech, A runaway psychic mentor, Psychic research prize

P   Training grounds, Experimental laboratory, School library, Campus hangout

Psionics Fear

The locals are terrified of psychics. Perhaps their history is studded with feral psychics who went on murderous rampages, or perhaps they simply nurse an unreasoning terror of those "mutant freaks". Psychics demonstrate their powers at risk of their lives.

E   Mental purity investigator, Suspicious zealot, Witch-finder

F   Hidden psychic, Offworlder psychic trapped here, Offworld educator

C   Psychic potential is much more common here, Some tech is mistaken as psitech, Natives believe certain rituals and customs can protect them from psychic powers

T   Hidden psitech cache, Possessions of convicted psychics, Reward for turning in a psychic

P   Inquisitorial chamber, Lynching site, Museum of psychic atrocities

Psionics Worship

These natives view psionic powers as a visible gift of god or sign of superiority. If the world has a functional psychic training academy, psychics occupy almost all major positions of power and are considered the natural and proper rulers of the world. If the world lacks training facilities, it is likely a hodgepodge of demented cults, with each one dedicated to a marginally-coherent feral prophet and their psychopathic ravings.

E   Psychic inquisitor, Haughty mind-noble, Psychic slaver, Feral prophet

F   Offworlder psychic researcher, Native rebel, Offworld employer seeking psychics

C   The psychic training is imperfect, and the psychics all show significant mental illness, The psychics have developed a unique discipline, The will of a psychic is law, Psychics in the party are forcibly kidnapped for "enlightening".

T   Ancient psitech, Valuable psychic research records, Permission for psychic training

P   Psitech-imbued council chamber, Temple to the mind, Sanitarium-prison for feral psychics

Quarantined World

The world is under a quarantine, and space travel to and from it is strictly forbidden. This may be enforced by massive ground batteries that burn any interlopers from the planet's sky, or it may be that a neighboring world runs a persistent blockade.

E   Defense installation commander, Suspicious patrol leader, Crazed asteroid hermit

F   Relative of a person trapped on the world, Humanitarian relief official, Treasure hunter

C   The natives want to remain isolated, The quarantine is enforced by an ancient alien installation, The world is rife with maltech abominations, The blockade is meant to starve everyone on the barren world.

T   Defense grid key, Bribe for getting someone out, Abandoned alien tech

P   Bridge of a blockading ship, Defense installation control room, Refugee camp

Radioactive World

Whether due to a legacy of atomic warfare unhindered by nuke snuffers or a simple profusion of radioactive elements, this world glows in the dark. Even heavy vacc suits can filter only so much of the radiation, and most natives suffer a wide variety of cancers, mutations and other illnesses without the protection of advanced medical treatments.

E   Bitter mutant, Relic warlord, Desperate would-be escapee

F   Reckless prospector, Offworld scavenger, Bio-genetic variety seeker

C   The radioactivity is steadily growing worse, The planet's medical resources break down, The radioactivity has inexplicable effects on living creatures, The radioactivity is the product of a malfunctioning pretech manufactory.

T   Ancient atomic weaponry, Pretech anti-radioactivity drugs, Untainted water supply

P   Mutant-infested ruins, Scorched glass plain, Wilderness of bizarre native life, Glowing barrens

Refugees

The world teems with refugees, either exiles from another planet who managed to get here, or the human detritus of some local conflict that have fled to the remaining stable states. The natives usually regard the refugees with hostility, an attitude returned by many among their unwilling guests.

E Xenophobic native leader, Refugee chief aspiring to seize the host nation, Politician seeking to use the refugees as a weapon

F Sympathetic refugee waif, Local hard-pressed by refugee gangs, Clergy seeking peace

C The xenophobes are right that the refugees are taking over, The refugees are right that the xenophobes want them out or dead, Both are right, Outside powers are using the refugees to destabilize an enemy government, Refugee and local cultures are extremely incompatible

T Treasures brought out by fleeing refugees, Citizenship papers, Cache of vital refugee supplies, Hidden arms for terrorists

P Hopeless refugee camp, City swarming with confused strangers, Festival full of angry locals

Regional Hegemon

This world has the technological sophistication, natural resources, and determined polity necessary to be a regional hegemon for the sector. Nearby worlds are likely either directly subservient to it or tack carefully to avoid its anger. It may even be the capital of a small stellar empire.

E Ambitious general, Colonial official, Contemptuous noble

F Diplomat, Offworld ambassador, Foreign spy

C The hegemon's influence is all that's keeping a murderous war from breaking out on nearby worlds, The hegemon is decaying and losing its control, The government is riddled with spies, The hegemon is genuinely benign

T Diplomatic carte blanche, Deed to an offworld estate, Foreign aid grant

P Palace or seat of government, Salon teeming with spies, Protest rally, Military base

Restrictive Laws

A myriad of laws, customs, and rules constrain the inhabitants of this world, and even acts that are completely permissible elsewhere are punished severely here. The locals may provide lists of these laws to offworlders, but few non-natives can hope to master all the important intricacies.

E Law enforcement officer, Outraged native, Native lawyer specializing in peeling offworlders, Paid snitch

F Frustrated offworlder, Repressed native, Reforming crusader

C The laws change regularly in patterns only natives understand, The laws forbid some action vital to the party, The laws forbid the simple existence of some party members, The laws are secret to offworlders

T Complete legal codex, Writ of diplomatic immunity, Fine collection vault contents

P Courtroom, Mob scene of outraged locals, Legislative chamber, Police station

Revanchists

The locals formerly owned another world, or a major nation on the planet formerly owned an additional region of land. Something happened to take away this control or drive out the former rulers, and they've never forgotten it. The locals are obsessed with reclaiming their lost lands, and will allow no questions of practicality to interfere with their cause.

E Demagogue whipping the locals on to a hopeless war, Politician seeking to use the resentment for their own ends, Local convinced the PCs are agents of the "thieving" power, Refugee from the land bitterly demanding it be reclaimed

F Realist local clergy seeking peace, Politician trying to calm the public, Third-party diplomat trying to stamp out the fire

C The revanchists' claim is completely just and reasonable, The land is now occupied entirely by heirs of the conquerors, Both sides have seized lands the other thinks are theirs

T Stock of vital resource produced by the taken land, Relic carried out of it, Proof that the land claim is justified or unjustified

P Memorial monument to the loss, Cemetery of those who died in the conquest, Public ceremony commemorating the disaster

Revolutionaries

The world is convulsed by one or more bands of revolutionaries, with some nations perhaps in the grip of a current revolution. Most of these upheavals can be expected only to change the general flavor of problems in the polity, but the process of getting there usually produces a tremendous amount of suffering.

E Blood-drenched revolutionary leader, Blood-drenched secret police chief, Hostile foreign agent seeking further turmoil

F Sympathetic victim accused of revolutionary sympathies or government collaboration, Revolutionary or state agent who now repents, Agent of a neutral power that wants peace

C The revolutionaries actually do seem likely to put in better rulers, The revolutionaries are client groups that got out of hand, The revolutionaries are clearly much worse than the government, The revolutionaries have no real ideals beyond power and merely pretend to ideology

T List of secret revolutionary sympathizers, Proof of rebel hypocrisy, Confiscated wealth

P Festival that explodes into violence, Heavily-fortified police station, Revolutionary base hidden in the wilderness

Rising Hegemon

This world is not yet a dominant power in the sector, but it's well on its way there. Whether through newly-blossoming economic, military, or cultural power, they're extending their influence over their neighbors and forging new arrangements between their government and the rulers of nearby worlds.

E Jingoistic supremacist, Official bent on glorious success, Foreign agent saboteur

F Friendly emissary to the benighted, Hardscrabble local turned great success, Foreign visitor seeking contacts or knowledge

C They're only strong because their neighbors have been weakened, Their success is based on a fluke resource or pretech find, They bitterly resent their neighbors as former oppressors

T Tribute shipment, Factory or barracks emblematic of their power source, Tech or data that will deal a blow to their rise

P Rustic town being hurled into prosperity, Government building being expanded, Starport struggling under the flow of new ships

Rigid Culture

The local culture is extremely rigid. Certain forms of behavior and belief are absolutely mandated, and any deviation from these principles is punished, or else society may be strongly stratified by birth with limited prospects for change. Anything which threatens the existing social order is feared and shunned.

E Rigid reactionary, Wary ruler, Regime ideologue, Offended potentate

F Revolutionary agitator, Ambitious peasant, Frustrated merchant

C The cultural patterns are enforced by technological aids, The culture is run by a secret cabal of manipulators, The culture has explicit religious sanction, The culture evolved due to important necessities that have since been forgotten

T Precious traditional regalia, Peasant tribute, Opulent treasures of the ruling class

P Time-worn palace, Low-caste slums, Bandit den, Reformist temple

Ritual Combat

The locals favor some form of stylized combat to resolve disputes, provide entertainment, or settle religious differences. This combat is probably not normally lethal unless it's reserved for a specific disposable class of slaves or professionals. Some combat may involve mastery of esoteric weapons and complex arenas, while other forms might require nothing more than a declaration in the street and a drawn gun.

E Bloodthirsty local champion, Ambitious gladiator stable owner, Xenophobic master fighter

F Peace-minded foreign missionary, Temperate defender of the weak, Local eager to learn of offworld fighting styles

C The required weapons are strange pretech artifacts, Certain classes are forbidden from fighting and require champions, Loss doesn't mean death but it does mean ritual scarring or property loss

T Magnificent weapon, Secret book of martial techniques, Token signifying immunity to ritual combat challenges, Prize won in bloody battle

P Area full of cheering spectators, Dusty street outside a saloon, Memorial for fallen warriors

Robots

The world has a great many robots on it. Most bots are going to be non-sentient expert systems, though an AI with enough computing resources can control many bots at once, and some worlds may have developed VIs to a degree that individual bots can seem (or be) sentient. Some worlds might even be ruled by metal overlords, ones which do not need to be sentient so long as they have overwhelming force.

E Hostile robot master, Robot greedy to seize off-world tech, Robot fallen in love with the PC's ship, Oligarch whose factories build robots

F Data-seeking robot, Plucky young robot tech, Local being pushed out of a job by robots

C The robots are only partially controlled, The robots are salvaged and originally meant for a much darker use, The robots require a rare material that the locals fight over, The robots require the planet's specific infrastructure so cannot be exported

T Prototype robot, Secret robot override codes, Vast cache of robot-made goods, Robot-destroying pretech weapon

P Humming robotic factory, Stark robotic "barracks", House crowded with robot servants and only one human owner

Seagoing Cities

Either the world is entirely water or else the land is simply too dangerous for most humans. Human settlement on this world consists of a number of floating cities that follow the currents and the fish. These city-ships might have been purpose-built for their task, or they could be jury-rigged conglomerations of ships and structures thrown together when the need for seagoing life become apparent to the locals.

E Pirate city lord, Mer-human raider chieftain, Hostile landsman noble, Enemy city saboteur

F City navigator, Scout captain, Curious mer-human, Hard-pressed ship-city engineer

C The seas are not water, The fish schools have vanished and the city faces starvation, Terrible storms drive the city into the glacial regions, Suicide ships ram the city's hull

T Giant pearls with mysterious chemical properties, Buried treasure, Vital repair materials

P Bridge of the city, Storm-tossed sea, A bridge fashioned of many small boats.

Sealed Menace

Something on this planet has the potential to create enormous havoc for the inhabitants if it is not kept safely contained by its keepers. Whether a massive seismic fault line suppressed by pretech terraforming technology, a disease that has to be quarantined within hours of discovery, or an ancient alien relic that requires regular upkeep in order to prevent planetary catastrophe, the menace is a constant shadow on the fearful populace.

E Hostile outsider bent on freeing the menace, Misguided fool who thinks he can use it, Reckless researcher who thinks he can fix it

F Keeper of the menace, Student of its nature, Victim of the menace

C The menace would bring great wealth along with destruction, The menace is intelligent, The natives don't all believe in the menace

T A key to unlock the menace, A precious byproduct of the menace, The secret of the menace's true nature

P Guarded fortress containing the menace, Monitoring station, Scene of a prior outbreak of the menace

Secret Masters

The world is actually run by a hidden cabal, acting through their catspaws in the visible government. For one reason or another, this group finds it imperative that they not be identified by outsiders, and in some cases even the planet's own government may not realize that they're actually being manipulated by hidden masters.

E An agent of the cabal, Government official who wants no questions asked, Willfully blinded local

F Paranoid conspiracy theorist, Machiavellian gamesman within the cabal, Interstellar investigator

C The secret masters have a benign reason for wanting secrecy, The cabal fights openly amongst itself, The cabal is recruiting new members

T A dossier of secrets on a government official, A briefcase of unmarked credit notes, The identity of a cabal member

P Smoke-filled room, Shadowy alleyway, Secret underground bunker

Sectarians

The world is torn by violent disagreement between sectarians of a particular faith. Each views the other as a damnable heresy in need of extirpation. Local government may be able to keep open war from breaking out, but the poisonous hatred divides communities. The nature of the faith may be religious, or it may be based on some secular ideology.

E Paranoid believer, Native convinced the party is working for the other side, Absolutist ruler

F Reformist clergy, Local peacekeeping official, Offworld missionary, Exhausted ruler

C The conflict has more than two sides, The sectarians hate each other for multiple reasons, The sectarians must cooperate or else life on this world is imperiled, The sectarians hate outsiders more than they hate each other, The differences in sects are incomprehensible to an outsider

T Ancient holy book, Incontrovertible proof, Offering to a local holy man

P Sectarian battlefield, Crusading temple, Philosopher's salon, Bitterly divided village

Seismic Instability

The local land masses are remarkably unstable, and regular earthquakes rack the surface. Local construction is either advanced enough to sway and move with the vibrations or primitive enough that it is easily rebuilt. Severe volcanic activity may be part of the instability.

E Earthquake cultist, Hermit seismologist, Burrowing native life form, Earthquake-inducing saboteur

F Experimental construction firm owner, Adventurous volcanologist, Geothermal prospector

C The earthquakes are caused by malfunctioning pretech terraformers, They're caused by alien technology, They're restrained by alien technology that is being plundered by offworlders, The earthquakes are used to generate enormous amounts of energy.

T Earthquake generator, Earthquake suppressor, Mineral formed at the core of the world, Earthquake-proof building schematics

P Volcanic caldera, Village during an earthquake, Mud slide, Earthquake opening superheated steam fissures

Shackled World

This world is being systematically contained by an outside power. Some ancient autonomous defense grid, robot law enforcement, alien artifact, or other force is preventing the locals from developing certain technology, or using certain devices, or perhaps from developing interstellar flight. This limit may or may not apply to offworlders; in the former case, the PCs may have to figure out a way to beat the shackles simply to escape the world.

E Passionless jailer-AI, Paranoid military grid AI, Robot overlord, Enigmatic alien master

F Struggling local researcher, Offworlder trapped here, Scientist with a plan to break the chains

C The shackles come off for certain brief windows of time, The locals think the shackles are imposed by God, An outside power greatly profits from the shackles, The rulers are exempt from the shackles

T Keycode to bypass the shackle, Tech shielded from the shackle, Exportable version of the shackle that can affect other worlds

P Grim high-tech control center, Factory full of workaround tech, Temple to the power or entity that imposed the shackle

Sole Supplier

Some extremely important resource is exported from this world and this world alone. It's unlikely that the substance is critical for building spike drives unless this world is also the first to begin interstellar flight, but it may be critical to other high-tech processes or devices. The locals make a large amount of money off this trade and control of it is of critical importance to the planet's rulers, and potentially to outside powers.

E Resource oligarch, Ruthless smuggler, Resource-controlling warlord, Foreign agent seeking to subvert local government

F Doughty resource miner, Researcher trying to synthesize the stuff, Small-scale resource producer, Harried starport trade overseer

C The substance is slow poison to process, The substance is created by hostile alien natives, The substance is very easy to smuggle in usable amounts, Only the natives have the genes or tech to extract it effectively

T Cache of processed resource, Trade permit to buy a load of it, A shipment of nigh-undetectably fake substance

P Bustling resource extraction site, Opulent palace built with resource money, Lazy town square where everyone lives on resource payments

Societal Despair

The world's dominant society has lost faith in itself. Whether through some all-consuming war, great catastrophe, overwhelming outside culture, or religious collapse, the natives no longer believe in their old values, and search desperately for something new. Fierce conflict often exists between the last believers in the old dispensation and the nihilistic or searching disciples of the new age.

E Zealot who blames outsiders for the decay, Nihilistic warlord, Offworlder looking to exploit the local despair

F Struggling messenger of a new way, Valiant paragon of a fading tradition, Local going through the motions of serving a now-irrelevant role

C A massive war discredited all the old values, Outside powers are working to erode societal confidence for their own benefit, A local power is profiting greatly from the despair, The old ways were meant to aid survival on this world and their passing is causing many new woes

T Relic that would inspire a renaissance, Art that would inspire new ideas, Priceless artifact of a now-scorned belief

P Empty temple, Crowded den of obliviating vice, Smoky hall full of frantic speakers

Taboo Treasure

The natives here produce something that is both fabulously valuable and strictly forbidden elsewhere in the sector. It may be a lethally addictive drug, forbidden gengineering tech, vat-grown "perfect slaves", or a useful substance that can only be made through excruciating human suffering. This treasure is freely traded on the world, but bringing it elsewhere is usually an invitation to a long prison stay or worse.

E Maker of a vile commodity, Smuggler for a powerful offworlder, Depraved offworlder here for "fun", Local warlord who controls the treasure

F Reformer seeking to end its use, Innovator trying to repurpose the treasure in innocent ways, Wretched addict unwillingly prey to the treasure

C The treasure is extremely hard to smuggle, Its use visibly marks a user, The natives consider it for their personal use only,

T Load of the forbidden good, Smuggling tech that could hide the good perfectly, Blackmail data on offworld buyers of the good

P Den where the good is used, Market selling the good to locals and a few outsiders, Factory or processing area where the good is created

Terraform Failure

This world was marginal for human habitation when it was discovered, but the Mandate or the early government put in pretech terraforming engines to correct its more extreme qualities. The terraforming did not entirely work, either failing of its own or suffering the destruction of the engines during the Silence. The natives are only partly adapted to the world's current state, and struggle with the environment.

E Brutal ruler who cares only for their people, Offworlder trying to loot the damaged engines, Warlord trying to seize limited habitable land

F Local trying to fix the engines, Offworlder student of the engines, World-wise native survivor

C The engines produced too much of something instead of too little, The engines were hijacked by aliens with different preferences, It was discovered that an Earth-like environment would eventually cause a catastrophic disaster

T Parts to repair or restore the engines, Lootable pretech fragments, Valuable local tech devised to cope with the world

P Zone of tolerable gravity or temperature, Native settlement built to cope with the environment, Massive ruined terraforming engine

Tomb World

Tomb worlds are planets that were once inhabited by humans before the Silence. The sudden collapse of the jump gate network and the inability to bring in the massive food supplies required by the planet resulted in starvation, warfare, and death. Most tomb worlds are naturally hostile to human habitation and could not raise sufficient crops to maintain life. The few hydroponic facilities were usually destroyed in the fighting, and all that is left now are ruins, bones, and silence.

E Demented survivor tribe chieftain, Avaricious scavenger, Automated defense system, Native predator

F Scavenger Fleet captain, Archaeologist, Salvaging historian, Xenophilic native survivor

C The ruins are full of booby-traps left by the final inhabitants, The world's atmosphere quickly degrades anything in an opened building, A handful of desperate natives survived the Silence, The structures are unstable and collapsing

T Lost pretech equipment, Tech caches, Stores of unused munitions, Ancient historical data

P Crumbling hive-city, City square carpeted in bones, Ruined hydroponic facility, Cannibal tribe's lair, Dead orbital jump gate

Theocracy

The planet is ruled by the priesthood of the predominant religion or ideology. The rest of the locals may or may not be terribly pious, but the clergy have the necessary military strength, popular support or control of resources to maintain their rule. Alternative faiths or incompatible ideologies are likely to be both illegal and socially unacceptable.

E Decadent priest-ruler, Zealous inquisitor, Relentless proselytizer, True Believer

F Heretic, Offworld theologian, Atheistic merchant, Desperate commoner

C The theocracy actually works well, The theocracy is decadent and hated by the common folk, The theocracy is divided into mutually hostile sects, The theocracy is led by aliens

T Precious holy text, Martyr's bones, Secret church records, Ancient church treasures

P Glorious temple, Austere monastery, Academy for ideological indoctrination, Decadent pleasure-cathedral

Trade Hub

This world is a major crossroads for local interstellar trade. It is well-positioned at the nexus of several short-drill trade routes, and has facilities for easy transfer of valuable cargoes and the fueling and repairing of starships. The natives are accustomed to outsiders, and a polyglot mass of people from every nearby world can be found trading here.

E Cheating merchant, Thieving dockworker, Commercial spy, Corrupt customs official

F Rich tourist, Hardscrabble free trader, Merchant prince in need of catspaws, Friendly spaceport urchin

C An outworlder faction schemes to seize the trade hub, Saboteurs seek to blow up a rival's warehouses, Enemies are blockading the trade routes, Pirates lace the hub with spies

T Voucher for a warehouse's contents, Insider trading information, Case of precious offworld pharmaceuticals, Box of legitimate tax stamps indicating customs dues have been paid.

P Raucous bazaar, Elegant restaurant, Spaceport teeming with activity, Foggy street lined with warehouses

Tyranny

The local government is brutal and indifferent to the will of the people. Laws may or may not exist, but the only one that matters is the whim of the rulers on any given day. Their minions swagger through the streets while the common folk live in terror of their appetites. The only people who stay wealthy are friends and servants of the ruling class.

E Debauched autocrat, Sneering bully-boy, Soulless government official, Occupying army officer

F Conspiring rebel, Oppressed merchant, Desperate peasant, Inspiring religious leader

C The tyrant rules with vastly superior technology, The tyrant is a figurehead for a cabal of powerful men and women, The people are resigned to their suffering, The tyrant is hostile to "meddlesome outworlders".

T Plundered wealth, Beautiful toys of the elite, Regalia of rulership

P Impoverished village, Protest rally massacre, Decadent palace, Religious hospital for the indigent

Urbanized Surface

The world's land area is covered with buildings that extend downward for multiple levels. Such worlds either have a population in the trillions, extremely little land area, or are largely-abandoned due to some past catastrophe. Agriculture and resource extraction are part of the urban complex, and there may be an advanced maintenance system that may not be entirely under the control of present natives.

E Maintenance AI that hates outsiders, Tyrant of a habitation block, Deep-dwelling prophet who considers "the sky" a blasphemy to be quelled

F Local yearning for wild spaces, Grubby urchin of the underlevels, Harried engineer trying to maintain ancient works, Grizzled hab cop

C The urban blocks are needed to survive the environment, The blocks were part of an ancient device of world-spanning size, The blocks require constant maintenance to avoid dangerous types of decay

T Massively efficient power source, Map of the secret ways of a zone, Passkey into restricted hab block areas

P Giant hab block now devoid of inhabitants, Chemical-reeking underway, Seawater mine full of salt and massive flowing channels

Unbraked AI

Artificial intelligences are costly and difficult to create, requiring a careful sequence of "growth stages" in order to bring them to sentience before artificial limits on cognition speed and learning development are installed. These "brakes" prevent runaway cognition metastasis. This world has an "unbraked AI" on it, probably with a witting or unwitting corps of servants. Unbraked AIs are quite insane, but they learn and reason with a speed impossible for humans, and can demonstrate a truly distressing subtlety.

E AI Cultist, Maltech researcher, Government official dependent on the AI

F Perimeter agent, AI researcher, Braked AI

C The AI's presence is unknown to the locals, The locals depend on the AI for some vital service, The AI appears to be harmless, The AI has fixated on the group's ship's computer, The AI wants transport offworld

T The room-sized AI core itself, Maltech research files, Perfectly tabulated blackmail on government officials, Pretech computer circuitry

P Municipal computing banks, Cult compound, Repair center, Ancient hardcopy library

Utopia

Natural and social conditions on this world have made it a paradise for its inhabitants, a genuine utopia of happiness and fulfillment. This is normally the result of drastic human engineering, including brain-gelding, neurochemical control, personality curbs, or complete "humanity" redefinitions. Even so, the natives are extremely happy with their lot, and may wish to extend that joy to poor, sad outsiders.

E Compassionate neurotherapist, Proselytizing native missionary to outsiders, Brutal tyrant who rules through inexorable happiness

F Deranged malcontent, Bloody-handed guerrilla leader of a rebellion of madmen, Outsider trying to find a way to reverse the utopian changes

C The natives really are deeply and contentedly happy with their altered lot, The utopia produces something that attracts others, The utopia works on converting outsiders through persuasion and generosity, The utopia involves some sacrifice that's horrifying to non-members

T Portable device that applies the utopian change, Plans for a device that would destroy the utopia, Goods created joyfully by the locals

P Plaza full of altered humans, Social ritual site, Secret office where "normal" humans rule

Warlords

The world is plagued by warlords. Numerous powerful men and women control private armies sufficiently strong to cow whatever local government may exist. On the lands they claim, their word is law. Most spend their time oppressing their own subjects and murderously pillaging those of their neighbors. Most like to wrap themselves in the mantle of ideology, religious fervor, or an ostensibly legitimate right to rule.

E Warlord, Avaricious lieutenant, Expensive assassin, Aspiring minion

F Vengeful commoner, Government military officer, Humanitarian aid official, Village priest

C The warlords are willing to cooperate to fight mutual threats, The warlords favor specific religions or races over others, The warlords are using substantially more sophisticated tech than others, Some of the warlords are better rulers than the government

T Weapons cache, Buried plunder, A warlord's personal battle harness, Captured merchant shipping

P Gory battlefield, Burnt-out village, Barbaric warlord palace, Squalid refugee camp

Xenophiles

The natives of this world are fast friends with a particular alien race. The aliens may have saved the planet at some point in the past, or awed the locals with superior tech or impressive cultural qualities. The aliens might even be the ruling class on the planet.

E Offworld xenophobe, Suspicious alien leader, Xenocultural imperialist

F Benevolent alien, Native malcontent, Gone-native offworlder

C The enthusiasm is due to alien psionics or tech, The enthusiasm is based on a lie, The aliens strongly dislike their "groupies", The aliens feel obliged to rule humanity for its own good, Humans badly misunderstand the aliens

T Hybrid alien-human tech, Exotic alien crafts, Sophisticated xenolinguistic and xenocultural research data

P Alien district, Alien-influenced human home, Cultural festival celebrating alien artist

Xenophobes

The natives are intensely averse to dealings with outworlders. Whether through cultural revulsion, fear of tech contamination, or a genuine immunodeficiency, the locals shun foreigners from offworld and refuse to have anything to do with them beyond the bare necessities of contact. Trade may or may not exist on this world, but if it does, it is almost certainly conducted by a caste of untouchables and outcasts.

E Revulsed local ruler, Native convinced some wrong was done to him, Cynical demagogue

F Curious native, Exiled former ruler, Local desperately seeking outworlder help

C The natives are symptomless carriers of a contagious and dangerous disease, The natives are exceptionally vulnerable to offworld diseases, The natives require elaborate purification rituals after speaking to an offworlder or touching them, The local ruler has forbidden any mercantile dealings with outworlders

T Jealously-guarded precious relic, Local product under export ban, Esoteric local technology

P Sealed treaty port, Public ritual not open to outsiders, Outcaste slum home

Zombies

This menace may not take the form of shambling corpses, but some disease, alien artifact, or crazed local practice produces men and women with habits similar to those of murderous cannibal undead. These outbreaks may be regular elements in local society, either provoked by some malevolent creators or the consequence of some local condition.

E Soulless maltech biotechnology cult, Sinister governmental agent, Crazed zombie cultist

F Survivor of an outbreak, Doctor searching for a cure, Rebel against the secret malefactors

C The zombies retain human intelligence, The zombies can be cured, The process is voluntary among devotees, The condition is infectious

T Cure for the condition, Alien artifact that causes it, Details of the cult's conversion process

P House with boarded-up windows, Dead city, Fortified bunker that was overrun from within

ATMOSPHERE

The first step in randomized world generation is determining the planet's atmosphere. In some cases, this is going to be preordained; if you want a barren asteroid base, it's not going to have any atmosphere at all. If you want a world teeming with human life, on the other hand, it almost certainly is going to have a breathable atmosphere.

Note that if a truly noxious atmosphere, climate, or biosphere turns up on a random roll, you should think carefully about what has made humans choose to live on such a world. Perhaps the original colonists were prisoners exiled to an open-world prison. It could be their ancestors sought isolation at all costs. Given its position in the sector, it might be a vital refueling and trading port for multiple short-run spike drive courses. The original colonists might have had to make an emergency landing. Whatever the reason, it takes a powerful motivation to make a band of colonists decide to make a corrosive, burning hellhole of a planet their permanent home.

Types of Atmospheres

Corrosive atmospheres are dangerously hostile to conventional vacc suits and other protective gear. They steadily strip away at a suit's vent ports, wiring connections, and other weak spots until they eventually break through and flood the suit with a toxic cocktail that usually kills a victim in seconds. Weak atmospheres might require as much as a day to degrade a vacc suit, while strong ones might accomplish the job in an hour. Even forcefield-based environment suits such as a FEP suffer steady damage to their exposed elements.

Native vacc suits are usually covered with an ablative layer or spray that can be regularly renewed, and their buildings often rely on a steadily-extruded slurry of neutralizing materials that can be constantly renewed by pores in the building surface itself. This often gives the building a drippy, half-melted look that may be more than cosmetic in the case of those structures that have failing slurry pumps. Advanced tech level 5 equipment may be able to overcome the effects, but even pretech is often taxed by the relentless rigors of this world. Vehicles and shuttles are kept in pressurized garages when not in use, and starships never land for long.

Corrosive worlds have a number of intrinsic adventure complications, the largest being the way that every activity outside of a hab building comes with a built-in time limit. Whatever the party chooses to do outside of a building, it has to accomplish before their suit seals fail or the atmosphere corrodes a hole in their vehicle hull. A clever GM can use this problem to add extra tension to an otherwise simple task.

Inert gas atmospheres aren't hostile or poisonous, but they're unbreathable by humans. If the planet's cli-

2d6	Type
2	*Corrosive*, damaging to foreign objects
3	*Inert* gas, useless for respiration
4	*Airless* or *thin* to the point of suffocation
5-9	*Breathable* mix
10	*Thick*, but breathable with a pressure mask
11	*Invasive*, penetrating suit seals
12	Both *corrosive and invasive* in its effects

mate is otherwise tolerable, the natives might be able to live and work outdoors without anything more than an air tank and face mask. Some degree of technical sophistication is going to be necessary for humanity to survive, and large supplies of oxygen are going to have to be extracted from some local source. "Air mines" might exist to replace the oxygen lost during human use, or local power plants might need to be kept running full blast in order to crack water molecules into hydrogen and oxygen.

On worlds with an unbreathable atmosphere, control of the air supply makes it much harder for locals to rebel against their leaders. Without the equipment and power to generate their own air supplies, would-be rebels are entirely at the mercy of those who control the oxygen. Most rulers pick up on this fact rapidly, and some worlds with unbreathable atmospheres might even make it a crime to own illicit oxygen generation equipment.

Airless or thin atmospheres are appropriate to asteroids, rocky planetoids, or barren worlds that have had their atmospheres burnt off by weapons or cosmic caprice. Whatever atmosphere exists is too thin to support human life, if it exists at all, and the world is largely naked to the chill of space and the blaze of stellar heat. Exposure to the planet's surface without a vacc suit or pressurized building is as lethal as exposure to hard vacuum.

Airless worlds are hostile to human life, but they excel at preserving the relics of the past. Provided that the ruins or remains are kept out of the baking heat of the local stellar body and the impact of random meteorites, they can survive for millions of years. Some exceptionally ancient alien ruins might even date back from before the world lost its atmosphere.

Breathable mix atmospheres can support human life without additional equipment or gengineered modification. Any world that has a human population in the millions or more almost certainly has a breathable mix atmosphere.

While the air is breathable, almost every world has its own subtle cocktail of inert gases, atmospheric contaminants, and other odoriferous ingredients. For spacers accustomed to the filtered air supply of a

starship, the "new world stink" of a fresh planetfall can be maddening, as few linger long enough to get used to the smell of the local air. Attempting to explain the source of this discomfort to the locals rarely results in positive results. Some spaceport bars make a point of their air filtration and composition mixers.

Thick atmospheres can usually be breathed with the aid of a filter mask, though the mix of contaminants renders it slowly or quickly toxic to humans who attempt to breathe it straight. Separate air supplies are not necessary to supplement the blend, but any society that means to survive on such a world must have sufficient technological expertise to manufacture and maintain large numbers of filter masks.

Thick atmospheres are often at least semi-opaque, and some worlds have thick atmospheres that are completely impenetrable to ordinary light. Deep banks of permanent fog might shroud the planet, or natives might have to go about with sophisticated ultraviolet or infrared viewing equipment if they don't wish to be blind. Some banks of gases might be impenetrable to even these viewing tools, leaving a party vulnerable to moments of complete blindness while out on the surface of the world.

Invasive toxic atmospheres are composed of a substantial proportion of molecules small enough to infiltrate past the seals of most vacc suits. This infiltration doesn't harm the suit, but the molecules have to be steadily flushed by the system's purification sensors before they build up to a debilitating level. This causes a much faster bleed of air as breathable oxygen is jettisoned along with the infiltrating molecules. Most invasive atmospheres cut oxygen supply durations by half, at best.

Invasive atmospheres make oxygen an even more important resource than it is on inert gas worlds. Outdoor work is avoided whenever possible, as any failure of a suit's toxin sensors or flush system can lead to death before the wearer even realizes something is wrong. Steady exposure to low levels of the toxins can also result in unfortunate effects even with a fully-functional suit. Hallucinations, chronic sickness, or worse can follow.

Corrosive and invasive atmospheres exist at the very border of what human society can tolerate. Combining all the worst traits of an eroding, corrosive atmosphere and the invasive intrusion of toxic molecules, a planet cursed with an atmosphere like this is far more hostile than any mere airless rock.

Advanced pretech filtering and oxygen generation equipment might be able to maintain tolerable pressurized habitats and hydroponic systems uncontaminated by exterior atmosphere. Anything less than this tech level means greater and greater amounts of societal resources devoted simply to the effort of breathing. Entire civilizations can be oriented around overcoming the difficulties of maintaining their structures and their pressurized homes.

Whatever provoked the initial inhabitants to settle on this world must have been of overwhelming value or necessity to convince them to consign themselves and their children to such a place. It is highly unlikely that enough ship traffic exists to get any but the most fortunate locals offworld, so the rest are obliged to deal with their harsh existence as best they can.

TEMPERATURE

A world's average temperature depends in large part upon its atmosphere. Worlds with an airless or thin atmosphere are directly exposed to the wild temperature variations produced by stellar radiation and the cold void of space, and might flip regularly between unendurable heat and near-absolute zero depending on planetary rotation and orbit.

If a GM intends this planet to have a large human population they should restrict the possibility of a frozen or burning world. Anything that is intolerable to a human without a vacc suit means that major agriculture is unlikely. As it is effectively impossible to feed entire planets through limited interstellar trade, every planet needs to support its own population. A world that can't grow food outside of hydroponic labs or underground farms is unlikely to support millions of people.

Types of Climates

Frozen worlds are those with so weak a stellar primary or so great a distance that the average temperature is close to absolute zero. Any atmosphere that once existed has long since frozen into drifts of solidified oxygen or lakes of liquid helium. Exposure to these drifts is very dangerous. Vacc suits maintain a tolerable temperature easily because the stellar void is very empty, and there is little conduction of heat between the suit and empty space. Dunking a suit into a lake of thermally-conductive superchilled liquid can force the heating elements into sudden and drastic overload, draining a power cell in minutes or even seconds.

Cold worlds are uncomfortable, but a human can survive on them in nothing more than heavy clothing. The worst of the cold worlds are similar in condition to Earth's Antarctic regions, barren wastes of ice and wind. The more clement ones have brief warmer seasons or equatorial bands that get enough solar radiation to support substantial agriculture.

On cold worlds, agricultural land is at a premium. The population is unlikely to be willing to limit its numbers to what hydroponic farms can provide, and they may lack the technology for wide-scale artificial production methods. Savage wars may have broken out over control of fertile growing regions, and populations have perhaps been driven away from the arable land into the cold zones and a lingering death.

Some worlds retain installations from before the Silence deep within the frozen wastes, ancient bases and laboratories that were planted in an age when good launch sites and orbital windows meant more than trifles of temperature. These lost sites might be remembered in legend and story, and some native leaders might still be in possession of the automatic defense bypass codes handed down by their ancestors.

2d6	Type
2	*Frozen*, locked in perpetual ice
3	*Cold*, dominated by glaciers and tundra
4-5	*Variable cold* with temperate places
6-8	*Temperate*, Earthlike in its ranges
9-10	*Variable warm*, with temperate places
11	*Warm*, tropical and hotter in places
12	*Burning*, intolerably hot on its surface

Temperate worlds were the most popular colony sites, and most of the truly populous worlds of the frontier have a temperate climate. Many temperate worlds have temperature ranges not unlike that of Earth, though most are canted a little further toward cold or heat depending on their angle and proximity to the local star.

Temperate worlds are the most likely to teem with native life as well, and to have alien ruins or remains located somewhere on their surface. Most frontier worlds never accumulated enough population to put a serious strain on a temperate world's arable land, but this same capaciousness often allows for more complicated social divisions to develop. Natives of other worlds are often forced to cooperate or die, while those of a clement temperate world have the luxury of deep and lasting divisions.

Warm worlds come in two main flavors, depending on the prevalence of water. "Desert worlds" are hot enough or arid enough to be deprived of most surface water. Any life on such a planet has to be capable of extracting water from living prey, air currents or moisture supplies deep underground. Humans can survive on warm worlds without more than appropriate clothing, but desert-world humans must learn sophisticated techniques of water prospecting and well-drilling in order to maintain their agricultural systems. Warfare often revolves around these water systems.

The other common variety of warm world is one blessed with an abundance of surface water. These worlds tend to be covered with plant and animal life, teeming with thick jungles and vast mats of sargasso on seas that boil with piscids and other alien life analogs. These worlds can be quite prosperous for humans if the native life is edible, but inhabitants are often forced to deal with large predators and a vigorously ingenious native ecology of disease.

Variable temperature worlds tend to show a greater distribution of climates than other worlds, either ranging from cold to temperate levels or temperate to hot levels. This may be a climate that changes world-wide when a long, slow orbit brings the planet into proximity with a stellar primary, or it might be a world that has substantially different climatic zones spread

across its surface. The north pole of one world might be a sun-blasted desert that moderates to a cool, wet equator, or an icy world might be warmed here and there by complex channels of geothermally-heated subsurface rivers. Variable temperature worlds tend to have savage weather. The mixing of hot and cold air can send ferocious cyclones and raging hurricanes across the surface of the world, some large enough to consume most of a hemisphere.

Burning worlds are too hot for a human to survive without equipment similar to a vacc suit in effectiveness. Rivulets of molten lead or copper might bleed from open veins on the hillsides, and many of the same perils that face an explorer on a frozen world have hotter equivalents on a burning one. Ash drifts, pools of molten metal, and superheated liquid vents can bring quick death to an unwary explorer, and the miners who inhabit such worlds must be forever vigilant against the perils of their burning home.

Climate and Adventure

Any planet with Burning or Frozen conditions is going to need some kind of sealed habitat for humanity. Worlds of Cold or Warm temperatures are at least habitable outside of their most extreme zones, though icy planets might not have much arable land on the outside.

As a consequence, planets with Frozen or Burning temperatures tend to have the climate as a backdrop rather than something the PCs regularly need to deal with. If they've landed on such a world's spaceport, it's probably sealed in some subterranean hangar-cavern or domed over by massive civil engineering. The ice or flame might be a constant concern of the locals, but the PCs aren't going to have to cope with it unless they have to leave the inhabited regions of the planet.

On Burning worlds, this isn't going to happen very often. Any habitat without active climate control is going to be melted or torched by local conditions in short order. There will be no ruins to explore or remnants to recover unless they're somehow fireproof.

The easiest use of a Burning world's temperature is as a threat to the locals or the PCs. If something isn't fixed, or if something is destroyed, or if some place isn't evacuated in time, then things will get intolerably hot. There's usually a grace period of increasing temperature to help add urgency to the situation and layer on potential penalties or dangers as the PCs struggle to cope with the situation.

Frozen worlds can be equally lethal if a flood of liquid oxygen threatens to sweep through a habitat or a cold-brittled vital component breaks down. More significantly to PCs, however, frozen worlds tend to be much better about preserving ruins and remains. The PCs might be forced to deal with the frigid temperatures as they search through an alien structure or the icy halls of a dead habitat. Such conditions can lead to strict time limits on an expedition before materials start to brittle and fail under the relentless chill.

BIOSPHERE

Some worlds are highly unlikely to have a biosphere. An airless rock, a frozen wasteland, or a world of boiling tin all are unlikely to host any sort of life more sophisticated than microbes, though the universe has demonstrated the existence of a few exotic creatures even on seemingly unendurable planets.

The real question of a biosphere is whether or not it's edible. Colonists on a world without edible local life are forced to seed and grow Terran crops, which may well be outcompeted by native life specifically evolved for this world. Such colonists might well end up starving amid gardens of alien fruit, unable to digest any of it. The only benefit of such worlds is the likelihood that humans are just as poisonous to local life, though many large predators don't realize that until after they devour some luckless colonist.

Types of Biosphere

Biosphere remnants are the wreckage of a ruined ecology. Petrified trees, drifts of preserved bones, forests of dead plant life; something killed all the life on this planet in the relatively recent past. It may have been the exercise of a maltech planet-buster weapon, or a mutant microbe introduced by human colonists, or some volcanic eruption or asteroid impact that plunged the world into decades of frozen night.

Any local civilization not sophisticated enough to escape the planet likely died when it did. Their ruins and remains might be found throughout the desolate wastes, along with more clues as to the cause of the devastation.

Microbial life is often the only thing that exists on the more inhospitable planets, yet the wide variety of environments that can accommodate life means that these little beasts show up in some of the most unlikely places. Some varieties of slime mold have even managed to evolve on corrosive-atmosphere planets, forming a mucous-like outer shell against the atmosphere and then feeding and growing off the chemical byproducts of its erosion.

Microbial life can also be dangerous. While most alien microbes are unable to infect or harm the radically different biology of humans, some show enough ingenuity to accomplish even that difficult feat. Rumors of terrible "space plagues" that leave behind only drifting ships and garbled warnings remain a steady staple at spacer bars throughout the known universe.

No native biosphere is occasionally found on even the most temperate and otherwise habitable worlds. For one reason or another, life simply never evolved on these worlds, leaving them a blank slate for the agricultural and ecological efforts of humans. If the world is otherwise amenable to Terran life, such planets can be enormously fertile and agriculturally rich.

2d6	Type
2	*Remnant* biosphere
3	*Microbial* life forms exist
4–5	*No* native biosphere
6–8	*Human-miscible* biosphere
9–10	*Immiscible* biosphere
11	*Hybrid* biosphere
12	*Engineered* biosphere

They can also be disasters waiting to happen. Pretech xenobiologists compiled standardized colonization packages of plants, animals, and insect life designed to expand smoothly and evenly to fill the niches of an uninhabited world. Not all colonists implemented these packages correctly, and some worlds had disasters or special circumstances that destabilized their efforts. Some empty worlds are now in a state of constant biological flux as the local ecology strives vainly to find some sort of equilibrium between the myriad imported species and their violent struggle.

More subtly, these worlds can be suddenly and drastically destabilized by the import of some offworld plant or animal. With no strong native ecology to fight off interlopers, the wrong beast or bug can lay waste to whole continents. These planets tend to be extremely paranoid about importation of foreign life forms.

Human-miscible biospheres are those in which some substantial portion of the native life is biologically compatible with human nutritional needs. The local plants and animals may not be tasty or terribly nourishing, but they can support life without the serious importation of Terran crop seeds and livestock.

Even the friendlier human-miscible biospheres often lack the wide variety of edibles that evolved on Earth, and the natives often supplement their stocks of local foods with limited Terran agriculture. Exotic foods, spices, and liquors can be worth interstellar importation to feed the hunger for novelty possessed by the elites on these worlds.

Unfortunately, the fact that humans can eat some native life means that it is very likely that some native life can eat humans as well. Large predators and diseases capable of human infection are by no means uncommon on these worlds, and small colonies can be hard-pressed to survive them.

Immiscible biospheres are not friendly to humans. None of the local plants or animals are edible, and anything the colony needs to eat will have to be grown from Terran stock. Worse, it is common for the pollen and other microbial life of these worlds to be highly allergenic to humans, requiring the regular use of tailored antiallergenics to prevent eventual respiratory failure or exotic immune-system reactions.

These worlds are exceptionally susceptible to the temptation of human gengineering. Despite the persistent drawbacks, genetic flaws, and handicaps that human gengineering usually introduces in a subject, the desperate need to eat can drive worlds to wholesale experimentation on their progeny. The resultant altered humans are often able to digest the local food, but commonly pay for it in shortened life spans, physical disabilities, or an inability to consume Terran foodstuffs. Sometimes the consequences are worse still.

Immiscible biospheres produce some of the most exotic plants and animals in human space. Unfettered by the limits of familiar evolutionary patterns, creatures of bizarre beauty and strange configurations are found on many of these worlds. Many lack the intelligence to realize that humans are as poisonous to them as they are to humans.

Hybrid biospheres are a stable intermixing of Terran flora and fauna with local life forms. Most such worlds have been colonized for centuries before the Silence, giving the local ecology time to shake out into a relatively stable configuration of Earth-born organisms and native life. The native biology may or may not be miscible with human life, but it is unlikely to be particularly hostile in any case, or else the interloping life forms would not have been able to get a foothold on the planet.

Hybrid biospheres often show strange examples of symbiosis and adaptation, with plants and animals forming new alliances. Large predators from one world may find themselves subsisting on herds of herbivorous alien life, while Terran vegetation provides sustenance for large populations of small, furred, insect-like grazers. Familiar animals may show seemingly bizarre behavior patterns that have formed in response to local conditions, perhaps becoming larger or more aggressive, or having been gengineered for compatibility.

Engineered biospheres are among the rarest, as they require enormous time and effort on the part of a highly advanced civilization. Whatever life exists on this planet has been extensively altered by an alien race or by advanced pretech gengineering methods. Some such worlds are paradise planets, carefully sculpted by some fabulously wealthy predecessor to suit their own tastes. Others are living forges, where foodstuffs and refined minerals are produced as byproducts from the basic organic processes of the world's biosphere.

Such worlds tend to be fragile. Many engineered worlds are dependent upon regular stabilizing work to prevent genetic drift and adaptations that do not serve the creator's purpose. Without regular pruning and adjustment, engineered biospheres can go badly awry. Some end up leaving nothing but genetic wreckage in their wake, while others go wrong in more subtle ways. Where once the biosphere existed to serve the inhabitants, a creaking engineered biosphere can leave the planet's population chained to constant repair and maintenance efforts just to prevent a planetary collapse.

POPULATION

Planetary populations hinge on a world's habitability. Worlds incapable of growing food on the planet's surface are unlikely to have more than a few hundred thousand inhabitants at best, and truly inimical worlds might be lucky to have a tenth as many. As a rule of thumb, a world ought to have some kind of human habitation on it unless the GM has a specific purpose for it in mind. A world untouched by human presence can be interesting in many ways, but without elaboration there's little to distinguish it from the next airless ball of rock.

Humans breed quickly, and will tend to push up against the limits of a world's capacity to feed and support them. Some cultures with sufficient tech might rely on contraceptives and birth licensing to ensure sufficient food for its population, while others might choose or be forced to leave matters to simple Malthusian culling. Wars and diseases may also serve as a check on population, or in some cases, cultures may find themselves so wealthy, self-absorbed and comfortable as to voluntarily choose not to reproduce.

Population Sizes

Failed colonies are occasionally found dotting the worlds of human space. Some date back to the First Wave of human colonization more than a thousand years ago, while others are more recent efforts that guttered out under the strains of a colony's birth.

Pirate attacks might have wiped out a young colony, as might a hostile biosphere, alien attack, internal dissension, disease outbreaks, failure of vital colonial equipment, or any one of a hundred other disasters. The ruins of the colony might still have valuable pretech artifacts, however, or colonization deeds authorized by neighboring worlds. A few survivors might even have clung to life in the intervening centuries, maintaining some sort of society in the wreckage of their ancestors' work.

Outposts are rarely composed of more than a few hundred or few thousand colonists at the most. Outposts are either very new colonies that have not have the requisite time to grow or they are uncolonized worlds that just happen to have a naval or corporate base on the surface.

Corporate or military outposts aren't intended to be completely self-sufficient. While large outposts are often forced to raise their own food supplies, replacement personnel, spare parts, and advanced tech must all be brought in from elsewhere. Such temporary outposts are known to find themselves in sudden distress when a vital supply ship fails to make its drop or when some local threat proves more than the staff can handle.

Colonial outposts tend to be better equipped but with less outside backing. Such natives expect to live and die on the world, and are more inclined to build

2d6	Type
2	Failed colony
3	Outpost
4-5	Fewer than a million inhabitants
6-8	Several million inhabitants
9-10	Hundreds of millions of inhabitants
11	Billions of inhabitants
12	Alien inhabitants

permanent structures and local improvements. Many are exiles, malcontents, or others incapable of tolerating the world that sent them forth, and it can make for a somewhat explosive mix in a young colony. These pioneers tend to be very friendly towards visiting starships, as they are often dependent upon free traders and tramp merchants to bring them vital supplies or news of the sector.

Some "outposts" are really just the stubborn, persistent survivors of a long-failed colonization attempt. These cultures can survive for centuries, perpetually culled by the dangers of the world until the survivors are little more than one more ragged element of the local ecology.

Fewer than a million inhabitants are often found on newly-colonized worlds, or those with limited arable land. This class has the widest range of results, from societies barely large enough to avoid inbreeding to minor worlds of several hundred thousand locals struggling against hostile local conditions.

For worlds with a very small population, settlements tend to be clustered close to one another for mutual support and efficient exploitation of land. The atmosphere might be something like that of a village-dotted countryside, with too few people to support large, specialized cities. The major settlement of the planet is usually built around the spaceport.

Politics on planets with so few people tend to be very personal in nature. Individual leaders can sometimes address the entire population of a world at a single meeting, and networks of family, friends, and employees can dominate the local social life. This small population combined with limited outside contact can result in somewhat… *unusual* societies more strongly influenced by a leader's personal quirks than a more populous planet might be. Some such worlds can grow decidedly unhealthy in their customs and traditions.

Hundreds of thousands of inhabitants make up the population of many frontier worlds, usually ones with adequate supplies of arable land and surface conditions amenable to a human without a vacc suit or filter mask. This level of population is also usually the most that a world at TL4 can support using only artificial hydroponic complexes and sealed agricultural systems,

so less hospitable planets rarely have more than this many inhabitants.

At a hundred thousand citizens or more, city-states and hub settlements start to form, and some major political divisions might exist beneath the overall planetary government. Regional variations start to become present as towns and smaller settlements start to assert their own cultural traits. Young colonies rarely have much of a framework for resolving these new tensions, and it's not uncommon for outsiders to end up as catspaws for varying factions.

A hundred thousand inhabitants is normally the smallest population that can create spike drive-equipped starships. Less populous worlds rarely have the broad range of specialists and workers necessary to build such ships, even if they possess the necessary technical information. Even at this threshold, maintaining any kind of astronautic industry would require the determined focus of the entire society. Only at populations of a million-plus inhabitants is there enough of an industrial margin to allow for less determined construction of spike drive starships.

Millions of inhabitants are found on some of the more populous frontier worlds, those planets with an excellent climate and soil for agriculture. These worlds teem with human life compared to most of their neighbors, and if they have sufficient technological expertise to build spike drives, they probably are among the significant powers of the sector. The sheer amount of labor and expertise they can put into their projects dwarfs the capabilities of less populated worlds.

Some worlds of this type fail to coalesce under a unified planetary government, however, and turn most of their attention to intra-planetary quarrels between different nations or city-states. Full-scale planetary wars have been known to break out on such worlds, with some being reduced to burnt-out cinders by some maltech weapon or by nuclear attacks against regions stripped of their nuke snuffers.

Billions of inhabitants on a world is a freak occurrence in most sectors, a circumstance dependent on almost perfect planetary conditions, a First Wave date of colonization, a very large initial colonial expedition, and a strong cultural imperative for reproduction. These worlds have been colonized for almost a thousand years, and have likely gone through substantial cultural development and change since their founding.

Planets with this many inhabitants tend to come in two main varieties. The more common is that of regional hegemon, leveraging its enormous reserves of labor and scientific personnel to build hundreds or thousands of starships. Some hegemons might even have the transport weight and personnel available to colonize or conquer their less powerful neighbors outright, though most hegemons prefer the safer route of docile client states rather than outright conquest.

Not all such worlds have the necessary resources to build starships, even when the labor is cheap and abundant. These worlds tend to take a different route, becoming balkanized, conflict-torn planets not unlike a mid-20th-century Earth. Resource wars are common and local politics revolve around byzantine feuds and ancient slights. Technology on such planets tends to be very uneven; it is limited or nonexistent in fields that depend on unavailable resources, but the natives often show remarkable sophistication in making the most of what they have available.

Alien civilizations are even rarer than massively human-populated planets, but they can be found in some sectors. On these worlds, any human presence is either nonexistent or simply a token contingent of traders and diplomats. The actual number of aliens may range from a few tens of thousands to teeming worlds of billions.

Alien civilizations appear to be no more immune to conflict, disaster, and decadence than that of humans, and most alien worlds are isolated planets. Some sectors were known to be dominated by alien empires before the Scream, but most inhabited worlds found by colonial surveyors consisted of indigenous, low-tech sapients who evolved on the world, or else were the decaying remnants of a former empire that had fallen apart into isolated colonial worlds.

This fate of growth, expansion, colonization, and collapse appears to be a very common event in the galaxy. Countless alien ruins and lost deep-space artifacts indicate that cycles of growth and decay have been going on for millennia, and there is little way to tell how many alien empires have swept over what is now human space before dwindling to rotting worlds and then empty ruins.

Population Growth

Most worlds have reached an equilibrium state with their current populations. While there may be some variation, few worlds are likely to increase much without a drastic change in the local conditions.

For primitive worlds, this limit has been reached in brutally Malthusian fashion. The locals simply cannot support any substantial increase of their numbers, and additional population is restricted by widespread contraceptive use, selective infanticide, or regular bouts of mass starvation. The only way out of this trap is through advanced technology that can overcome the local resource limitations, after which such worlds might explode in population over a scant few decades.

For more advanced worlds, this limit tends to be organic to the culture. With sophisticated technology to supply abundant entertainment and sustenance, there is less importance in having offspring to labor for the family or nourish its aged members. Individuals become more interested in their own pleasures and ambitions than in the burdensome work of child-rearing, and population tends to slope downward until cultural mores reinforce a certain basic minimum of reproduction. A drastic change in cultural attitudes or an increase in societal uncertainty can alter this rapidly.

TECH LEVEL

The tech level of a world represents not only the level of technological progress and scientific knowledge available on it, but also the world's ability to translate that knowledge into effective production. A world might still guard texts describing elaborate principles of petrochemical manipulation, but without oil or fossil fuels on the planet they have no way to use the information. It is this kind of resource limitation that most often keeps a world caught at a low level of tech. Without bottleneck resources such as petrochemicals or radioactives, they can't develop the technology that would allow them to do without such resources.

Tech level 4 is the baseline level of development for planets capable of building fusion plants, spike-drive equipped starships, limited longevity enhancements, and basic energy weapons. A planet without this level of development is effectively cut off from interstellar news and trade without the good offices of far traders, explorers, or scavenger fleet contacts.

Tech levels are rough approximations, and every planet is going to have variance within that range. A decayed colony is unlikely to have forgotten the basics of human anatomy and practical wound care, but they may not have the local resources to fashion medical tools more sophisticated than obsidian scalpels and herbal poultices. By the same token, a primitive world might have local resources that are exceptionally useful in one or two narrow ranges of technology.

Planetary Tech Levels

Tech level 0 represents a world with technologies similar to neolithic-era humanity. Very few worlds collapse this far without dying out completely, and so a world this primitive is very rare in human space. The world is so profoundly devoid of useful resources that the natives may simply not have anything better to work with than rocks and native vegetation.

Natives of a world at this tech level might retain elaborate cultural artifacts and a very sophisticated society. Existing resources tend to be exploited to the hilt, with large populations producing massive stone cities, human-powered engines for irrigation, and vast displays of foodstuffs and craft work for the ruling class. Despite this, the lack of metal, domesticated beasts of burden, and petrochemicals puts a hard stop on the technological development of most of these worlds.

Responses to far traders and other interstellar travelers will vary with the local culture. The lack of quick communications methods tends to result in large populations breaking up into numerous smaller regional cultures, and the friendly prince of one domain might neighbor an implacably hostile sage-king. Most "lostworlders" have a keen appreciation for the benefits these strangers from the sky can bring them, and will bargain accordingly.

2d6	Type
2	TL0, neolithic-level technology
3	TL1, medieval technology
4–5	TL2, early Industrial Age tech
6–8	TL4, modern postech
9–10	TL3, tech like that of present-day Earth
11	TL4+, postech with specialties
12	TL5, pretech with surviving infrastructure

Some worlds might retain crisply rational records of their colonization and downfall. Others might preserve tales of a starry origin in legends and story. A few might have forgotten their origins entirely, and view sky-born humans as gods or messengers of the divine. Such awe rarely lasts very long once the merchants or pirates who landed make their purposes clear.

Tech level 1 worlds have managed to find and exploit metal deposits and likely have imported or domesticated beasts of burden. Those worlds with easy access to fossil fuels or a similarly energy-dense substance can advance to greater things, but a culture trapped at TL1 is unlikely to have access to such helpful resources. A few worlds have enough usable plant matter or other combustibles to make steam engines feasible, but those with very much of such a resource usually make the leap to the next tech level eventually.

As a consequence, tech level 1 worlds tend to be caught at much the same general level of development as their tech level 0 cousins. They may have elaborate social structures and cultural development, but they are unable to mechanize without some energy-dense resource to serve as fuel. The scavenged hulks of their ancestors' fusion plants may stand as mute temples to the achievements of their forebears, but without the tech necessary to repair and rebuild such edifices the world is dependent on purely local fuel sources.

Tech level 1 worlds tend to respond to visitors in much the same way as tech level 0 planets. The ruling class of these worlds is liable to be able to muster larger cities, bigger armies, and all the other perquisites that come from being able to work the available agricultural land with fewer hands.

Tech level 2 worlds are blessed with the presence of fossil fuels or a feasibly abundant biofuel source. Internal combustion engines are crude things compared to the power of a fusion plant, but they can be built with primitive tools and a basic degree of education. The mechanization that results from this resource vastly increases the efficiency of local farming, the speed of travel, and the productivity of factory workers.

Most tech level 2 worlds are "knockdowns"; planets that once had a much higher degree of sophistication but were recently crippled by disease, disaster,

or invasion. The natives tend to be keenly aware of the glories of former generations, and work fiercely to redevelop lost techniques and reclaim old knowledge.

Few tech level 2 worlds produce much that's worth interstellar trade. Most foodstuffs are too bulky and cheap to make it worth a captain's time. Some worlds have rare ore deposits, but the natives have no reason to dig them until a merchant makes it worth their while to set up a whole new industry for export. Some such worlds barter the relics of their ancestors in exchange for educational materials or rare resources necessary for advancing local industry. Others feel forced to trade native work contracts for dangerous, dirty labor in a bargain that's little different from slave trading.

Tech level 3 worlds are those that have developed to a level much like that of the more advanced nations of late twentieth-century Earth. The main difference between tech level 3 worlds and level 4 worlds is the lack of fusion power or spike drive manufacture.

These worlds come in two major varieties. The first is a "knockdown" world that formerly had tech level 4 technologies before some catastrophe or pirate attack destroyed their knowledge and industrial base. Some of the wrecked infrastructure might have been irreplaceable, and the world must struggle to regain its former level of technological production. Worlds in this condition tend to have rather small populations that are susceptible to the loss of a few concentrated groups of experts.

The second major variety is a world that suffered a severe disaster shortly after colonization and has been forced to painstakingly build up their technological base ever since. Some of these worlds date back to the First Wave of colonization a thousand years ago, driven into near-neolithic conditions by some outside pressure before slowly and painfully rebuilding their technological base through purely indigenous efforts. These worlds tend to have very large populations if the world's climate permits, as they have been colonized for quite some time.

Simply providing a world with the necessary technical data for advancement doesn't mean that advancement will be quick or even. Even if a tech level 3 world has the necessary resources to build tech level 4 devices, it may take as much as a generation for a world to build the necessary infrastructure and resource extraction enterprises. The time may be longer still if the dominant cultures are uneasy with the new technology.

Tech level 4 worlds are the most common in human space, and their technical expertise is the baseline for modern post-Silence "postech". These worlds can create spike drives rated up to drive-3, fusion power plants, grav vehicles, simple energy weapons, and medicines that extend human life to a hundred years of vigorous good health. They can manage sophisticated gengineering on simple life forms, and some tech level 4 worlds have even attempted to improve the genetic structures of human life itself. These attempts have yet to produce results without severe drawbacks, but some such worlds remain populated by altered humanity designed to cope with local conditions more perfectly than baseline humans.

Most worlds with regular interstellar contact and the necessary raw resources eventually gravitate towards this level of technological expertise. It may take decades, or even centuries in the case of more retrograde worlds, but this tech level is the highest that can readily be achieved by most planets.

Tech level 4 with specialties is an unusual case of a normal tech level 4 world that has retained some pretech industries or has developed their own local technical expertise beyond baseline postech in certain specific fields.

Most such specialties are relatively narrow in scope; grav tech, medicine, hydroponics, force field generation, or some field of roughly similar breadth. These specialties are usually either the product of a few irreplaceable pretech manufactories or the result of some unique local resource that serves amazingly well for the purpose at hand. In both cases, the world will jealously guard the tech, and much local conflict may relate to control over these resources.

These worlds tend to have substantial amounts of interstellar trade from neighboring worlds interested in their tech. The ruling elite of the world can be ostentatious about display of this wealth.

Tech level 5 is the highest tech level that might merit random placement. A world with this level of technological expertise has somehow managed to hold on to the majority of the pre-Scream technology base, and can produce a wide range of goods that are unknown on less sophisticated worlds. Miniaturized fusion plants, drive-6 rated spike drives, exotic grav weaponry, and even the development of psionics-based "psitech" is possible on such a world.

Pretech manufacturing was largely dependent on specially-trained industrial psychics. With the loss of their unique disciplines in the Scream, most worlds that retain this level of tech classification were forced to substitute slower, less precise methods that sharply curtailed their production efficiency. Barring the profoundly unlikely happenstance of this world's redevelopment of the lost disciplines, their maximum industrial output is sharply limited. Even on worlds such as this, most technology is likely mass-produced postech, with only important goods produced to pretech levels of quality.

A world with this level of technology is almost certainly a regional hegemon, one of the most powerful and influential worlds in the sector. Even those worlds that have no imperial ambitions have enormous influence simply through the vast superiority of their starships and military technology.

ADDITIONAL SYSTEM POINTS OF INTEREST

The world you're creating is the most interesting or important place in this solar system, but it may not be the only one. If you wish, you can decorate the system with other points of interest worth PC attention. You might do this at the same time you roll up the system's primary world, or you could wait until it becomes a significant point in play.

Adding Other Worlds

For simplicity's sake, it's often best to just stick with one inhabited world. The original colonists would have chosen the most human-habitable planet in the system, and unless they grew dramatically in the time before the Scream they wouldn't have had reason to colonize less favorable planets before the catastrophe knocked out their spaceflight capabilities. Other rocks might be floating in the system, but they're probably barren and uninhabited.

If you do decide to add additional inhabited planets to the system, you can generate them normally, but you'll want to ask yourself a few special questions. The table below offers some ideas for potential answers.

First, what is the origin of the world, and how does it relate to the primary world in the system? Knowing where this secondary planet's inhabitants came from can often give you answers to a host of other questions.

Second, how do they feel about the primary world? If you generate three or more worlds, you'll want to decide how each of them feels about the other. This feeling may not necessarily be reciprocal.

Third, what's the major point of contact between them and the primary world? If the two are on a friendly basis, this contact might be something that benefits them both, while a more hostile relationship could make it a point they're fighting over or otherwise struggling to maintain dominance in. In the case of a mutual threat, it might be something both are facing with a united front, or it could be the two are struggling to see who gets thrown to the wolves first.

With these three answers in hand you'll be able to flesh out this second planet more easily, adding in elements from the primary world as needed.

Other Points of Interest

Aside from other inhabited planets, a system can contain a number of other settlements or stations that could draw PC attention. Most of the time these stations can simply be assumed; a TL4 world is going to have asteroid mines and refueling stations and listening posts, and most of these locations have no importance to the game until the PCs go looking for them.

Other times, however, you'll want to pre-seed the system with a few interesting locations. The adjacent table offers a number of different possibilities to roll or choose from.

Most of the points are intended to be remote outposts of the primary world. They might be deep-space research stations, refueling stations on the edge of the system, bases on isolated gas-giant moons that have valuable resources, or other far-flung tendrils of a greater civilization.

Some of these points could be more independent establishments. A deep-space existence can be made largely self-sustaining with TL4 engineering, though the life there is likely primitive and tenuous. With enough cobbled-together defenses and a lack of anything particularly worth stealing, exile groups, recluses, and other antisocial sorts can make themselves a private domain that no local planet cares about enough to commit the resources required to destroy it.

Others among these remote stations become outposts for pirates and other reavers, usually operating under some deniable cover or protected by enough defensive installations to dissuade anything short of a major military assault. The calculus for these robbers is simple; the effort a planetary navy would have to make to get rid of them must be more than the cost of tolerating their depredations.

Few of these anarchic outposts last for very long. The stronger and more active they become, the more pressing it is for their victims to take steps to disperse them. Barring some pirate king both charismatic and foolhardy, most such outposts are primed for quick abandonment when a fleet shows up on the sensors.

d8	Origin of the World	Current Relationship	Contact Point
1	Recent colony from the primary world	Confirmed hatred of each other	Trade in vital goods
2	Refuge for exiles from primary	Active cold war between them	Shared religion
3	Founded ages ago by a different group	Old grudges or resentments	Mutual language
4	Founded long before the primary world	Cultural disgust and avoidance	Entertainment content
5	Lost ancient colony of the primary	Polite interchange and trade	Shared research
6	Colony recently torn free of the primary	Cultural admiration for primary	Threat to both of them
7	Long-standing cooperative colony world	Long-standing friendship	Shared elite families
8	Recent interstellar colony from elsewhere	Unflinching mutual loyalty	Exploiting shared resource

d8	A point…	d10	…occupied by…	d10	…with this situation.
1	Deep-space station	1-2	Dangerously odd transhumans	1-2	Systems breaking down
		3-4	Freeze-dried ancient corpses	3-4	Foreign sabotage attempt
		5-6	Secretive military observers	5-6	Black market for the elite
		7-8	Eccentric oligarch and minions	7-8	Vault for dangerous pretech
		9-0	Deranged but brilliant scientist	9-0	Supply base for pirates
2	Asteroid base	1-2	Zealous religious sectarians	1-2	Life support is threatened
		3-4	Failed rebels from another world	3-4	Base needs a new asteroid
		5-6	Wage-slave corporate miners	5-6	Dug out something nasty
		7-8	Independent asteroid prospectors	7-8	Fighting another asteroid
		9-0	Pirates masquerading as otherwise	9-0	Hit a priceless vein of ore
3	Remote moon base	1-2	Unlucky corporate researchers	1-2	Something dark has awoken
		3-4	Reclusive hermit genius	3-4	Criminals trying to take over
		5-6	Remnants of a failed colony	5-6	Moon plague breaking out
		7-8	Military listening post	7-8	Desperate for vital supplies
		9-0	Lonely overseers and robot miners	9-0	Rich but badly-protected
4	Ancient orbital ruin	1-2	Robots of dubious sentience	1-2	Trying to stop it awakening
		3-4	Trigger-happy scavengers	3-4	Meddling with strange tech
		5-6	Government researchers	5-6	Impending tech calamity
		7-8	Military quarantine enforcers	7-8	A terrible secret is unearthed
		9-0	Heirs of the original alien builders	9-0	Fighting outside interlopers
5	Research base	1-2	Experiments that have gotten loose	1-2	Perilous research underway
		3-4	Scientists from a major local corp	3-4	Hideously immoral research
		5-6	Black-ops governmental researchers	5-6	Held hostage by outsiders
		7-8	Secret employees of a foreign power	7-8	Science monsters run amok
		9-0	Aliens studying the human locals	9-0	Selling black-market tech
6	Asteroid belt	1-2	Grizzled belter mine laborers	1-2	Ruptured rock released a peril
		3-4	Ancient automated guardian drones	3-4	Foreign spy ships hide there
		5-6	Survivors of destroyed asteroid base	5-6	Gold rush for new minerals
		7-8	Pirates hiding out among the rocks	7-8	Ancient ruins dot the rocks
		9-0	Lonely military patrol base staff	9-0	War between rival rocks
7	Gas giant mine	1-2	Miserable gas-miner slaves or serfs	1-2	Things are emerging below
		3-4	Strange robots and their overseers	3-4	They need vital supplies
		5-6	Scientists studying the alien life	5-6	The workers are in revolt
		7-8	Scrappers in the ruined old mine	7-8	Pirates secretly fuel there
		9-0	Impoverished separatist group	9-0	Alien remnants were found
8	Refueling station	1-2	Half-crazed hermit caretaker	1-2	A ship is in severe distress
		3-4	Sordid purveyors of decadent fun	3-4	Pirates have taken over
		5-6	Extortionate corporate minions	5-6	Has corrupt customs agents
		7-8	Religious missionaries to travelers	7-8	Foreign saboteurs are active
		9-0	Brainless automated vendors	9-0	Deep-space alien signal

ADVENTURE CREATION

After developing one or more worlds, a GM ought to have a fairly substantial list of Friends, Enemies, Places, Complications, and Things appropriate to a given planet. An experienced GM may well be able to assemble an interesting adventure out of these pieces, but even the most practiced designer might be hard-pressed to come up with enough interesting setups to fill out an entire sector.

The method that follows is by no means the best or only way to devise an adventure, but it's a procedure that will do the job for a working GM. This method work best if you've already generated a world using the tools in the Sector Creation chapter, but the basic outlines can function even without such support.

Identify Your Needs

The first step in creating an adventure is identifying what, precisely, you need the adventure to do. If you've been following the recommended pattern for running your campaign, the last session ended with you asking the players what goal they wanted to pursue next time. If this is for the first adventure to kick off a campaign, you might need something that introduces the players to the setting and gives them a short adventure to get them working together smoothly. If you're creating backup content that you can deploy rapidly when the players catch you off guard, then that might be a third sort of purpose behind your work. Whatever it is, you need to keep this basic goal in mind as you create the adventure content. Adventures are created to be playable content at the table, so it needs to work for you.

Often, players are somewhat equivocal when they tell you what sort of effort they plan to make for the next session. Sometimes their intentions will be clear and direct, such as pursuing a nemesis who got away from them last time with a cargo hold full of alien artifacts. Other times, it will be something more nebulous, like "Find a good deal on cargo for our ship" or "Explore some of the alien ruins you mentioned were on this world", or "Do something really unkind to the planetary duke who shot down our starship".

When things are clear, you'll have an easy time creating an adventure. If they're chasing the nemesis, you know you need to create an adventure revolving around them pursuing this evildoer and encountering plausible challenges on the way. If the guidance you've been given is less precise, more of the details are up to you. You might create an adventure about a "bargain" cargo deal that threatens to go very bad, or draw up an alien ruin for them to explore, or introduce a plucky band of anti-ducal rebels for the PCs to encounter, along with the problems those rebels have. So long as what you're making is logically connected to what they want from you, you'll be able to deliver a fine time at the table.

Sometimes, however, the players ask for something you know is going to be impossible, or something that you know will be rapidly reconsidered by the group. Maybe the nemesis has fled into the bowels of an ultra-high-security orbital citadel, or you know that the duke is actually dying of biopsionic cancer and will be dead in a few more days. If the information is available to the PCs, you can point this out to them and let them reconsider their goals. They might give up on pursuing the nemesis, for example, or change their goal to that of finding some way to penetrate the defenses around the orbital station. It's important not to completely shut down impractical plans, but instead suggest alternate routes that might turn "impossible" into merely "very difficult".

Be willing to follow the players' lead on alternate routes. If there's not a compelling reason to shoot down an idea or assumption about the world, run with it. If they ask if there are rebels or traitors or spy networks they might be able to contact to get the information they need to crack the defenses, then tell them yes. If the players are going to be kind enough to map out your adventure creation needs for you, let them do the work unless there's a very good reason otherwise.

Other times, however, the players don't have the information they'd need to realize that their intentions are impractical. You know they're going to get ten minutes into the next session before they realize that what they planned to do is totally impossible. You can't write them an adventure that gives them a chance of succeeding at the goal, not without violating common sense or already-established game world facts, so what do you do in such situations? There are two general ways to handle this: anticipate their next course of action, or prepare filler content.

There are times when you can tell that the players are going to hit the obstacle and immediately look for a way around it. Maybe they discover the nemesis has fled to the orbital at the start of the next adventure, but a convenient NPC suggests that there's a way to get the passcodes onto the station if the PCs are able to contact a certain information broker. You write the adventure to help you handle the PCs' attempts to find and convince the broker to help them, because you're confident that the group isn't going to just shrug and let the nemesis go.

On other occasions, however, you don't have that confidence. You really aren't sure what the PCs will decide to do when they see their initial goal is impractical. In this case, you write some filler content, designed to give the players something fun to do for the session while they figure out their next plan. This sort of filler content can often be written far in advance of its actual need, and over the course of a long campaign it's likely you'll end up with several sessions worth of this prep

work kept ready in your GM folder, available for deployment whenever the PCs start doing things you're not prepared to handle yet. This section will include some specific advice on how to build this kind of filler content and how to insert it into play.

In the end, the goal at this stage is to have a clear idea of what sort of content you need to have prepped for the next session. Once you know what kind of material you need to make, you can go on to the next stage.

Choose Ingredients

The next step in creating the adventure is to look back at your sector information and the tags and elements you've rolled up for the planet the PCs are on. You've already created some NPCs, complications, and places to work with, so now's your chance to take advantage of your preparations. If the PCs are somewhere that hasn't had that work done already, take a moment to fabricate an appropriate Friend, Enemy, Complication, Thing, and Place suitable for the setting. You'll use these ingredients to create the adventure in the next step.

While you can pull the ingredients directly from your sector file, you can also take a moment to customize them to the situation. Maybe there's a particular NPC you know is going to show up next time, given the party's ambitions, or there's a specific macguffin that's in circulation right now. You can adjust these ingredients to fit the specific circumstances and help smooth transitions between adventures. The same people can keep showing up when it's logical that they'd be involved, and the other elements can persist to help give a sense of continuity to events.

It's also useful to pull in regular callbacks from prior adventures. The things that PCs do have consequences, and sometimes those consequences persist for quite some time. Try to put at least one callback to prior events or people into each adventure, even if it's just a cameo from an NPC, or a newsflash giving up-to-date reporting on some situation the PCs were involved in. The more that the PCs feel like they're really making a difference in the campaign world, the more engaged they're going to be with the setting.

Try to make sure that the ingredients you use are logical and coherent elements of your campaign setting. Pulling antagonists or macguffins from the starry void can be convenient, but an ingredient that just comes out of nowhere, with no foreshadowing or visible connection to the rest of the campaign, is an ingredient that some groups might find jarring and difficult to interact with. In the absence of some visible connection to the rest of the campaign, it's hard for a party to get their hands around an ingredient and deduce intelligent, rational ways to interact with it. A planetary tyrant they've known about for a few sessions is much easier to deal with than an alien overlord fresh out of drillspace, because the tyrant is part of a setting and context they've had a chance to understand.

Assemble the Outline

With the adventure ingredients in hand, it's time to put together the basic outline of the adventure. An outline isn't meant to fill in every detail and supply every fact you need to run the adventure, but merely to give you a basic idea of the adventure's premise and point out the kind of information you'll need to prepare for play.

If you're pressed for time and don't feel like assembling your own outline, flip forward in this section to a list of one hundred plot seeds. Take your Friends, Enemies, Complications, and other world elements and slot them into a seed that looks appropriate to your needs. You now have your outline and can skip to the next step in creating the adventure.

If you'd rather spend more time developing the outline, you'll want to pick three basic elements to make up its essential frame. Not every adventure involves all three elements, but usually you'll need representative examples of each. You'll need a *Problem* to drive the adventure, a *Person* to serve as an antagonist or point of entry to the Problem, and you'll need a *Place* to set the events as they play out.

Your Problem is the core of your adventure, and is an unstable or untenable situation that the PCs can meaningfully affect. The players aren't going to care about problems so big or so intractable that their actions won't have any consequential effect. They're going to be engaged with problems small enough, or specific enough, that they feel that their choices can really change the outcome.

Some Problems are self-attractive to the players. If the party wants to explore an alien ruin on this world, then simply putting an unexplored alien art museum where they can get at it will be enticement enough. The Problem is that the PCs want what's inside the museum, but there are some dangers or difficulties that are preventing them from plundering its age-old secrets. Your job in that case will be to make the overcoming of those difficulties interesting enough to satisfy the players. Whenever you have a situation where the players want X, your Problem can simply consist of placing X and then making it plausibly difficult to get to.

Other times, this isn't going to be enough. Perhaps, the planet's savage water barons are locked in a bloody struggle over control of the ancient Mandate-era hydroforming installation, control of which will leave one of them the undisputed master of the arid world. Certainly, the services of a small band of recklessly courageous adventurers could be vital in penetrating the installation's automatic defenses, but why should the players care which tattooed savage gets to be master?

The Person is your way of connecting the players with the Problem, when the Problem is not one that naturally attracts their interest. The Person provides the human connection between the party and the situation, either through being a sympathetic figure who appeals to the group's desire to help, or through being a dangerous antagonist who forces a response.

Of course, an adventure can involve more than one important NPC, and the players might end up with multiple reasons to engage with the Problem. But by focusing on at least one important Person, you make sure that the players have a real reason to care about the Problem and provide yourself with a contact point through which to pass on information about the situation. Even an antagonist can serve as a useful chance to dump setting info on the players and clue them in to adventure opportunities. A blood-distilling water baron who wipes out a sand village that helped the party in an earlier adventure informs the players not only that the water barons *exist* on the world, but that this particular vampire warlord is on his way to seize the hydroforming station.

At this stage, pick one Person to be the connection between the Problem and getting the PCs directly involved. Give them a name and a sentence or so describing how they're going to pull the PCs in, but don't worry about fleshing them out further at this point. You might add additional people to the mix if you know there are certain other NPCs you want to involve in the situation, but you can delay this to the next step.

Finally, you need to choose a Place where this adventure is going to take place. Some sessions will occur in multiple Places, with the heroes gallivanting around the planet or solar system to deal with the Problem in multiple locations, but every adventure needs at least one Place to contain the action.

Sometimes the Place itself is the focus of the action. If the PCs are looting an alien art museum, then the museum itself is going to be the major element of importance in the adventure. You're going to have to make it a sufficiently interesting, complex, and engaging location to support a full session's adventure.

Other times, the Place is just a backdrop to the action. A Problem involving tribal warfare in the steaming xeno-jungles of some gas giant moon might have the terrain be a factor in things, but the jungle itself is not expected to be interesting enough to keep the players occupied with no further action. In these situations, the Place informs and shapes the Problem and gives color and flavor to events, but you don't have to build it out into playable content by itself.

For now, define the Place that contains the Problem and make sure they're connected in some way. Even if the Place is just giving flavor and style cues to the Problem, it should be clear to the players that whatever is going on here is a thing that is going on in *this particular* Place. Make the tribal warfare the kind that would occur in a jungle, with swift canoes fashioned of giant beetle shells and ambushes that take advantage of the perils of the alien jungle. The more the Place affects what is happening, the more it matters to the game.

Once you've chosen a Problem to deal with, a Person to connect the party with the situation, and a Place where all of this is going to unfold, you're ready to move on to the next step in creating your adventure.

Fleshing It Out

You know the basic outline of the adventure, so this stage is where you add the extra information you need to actually play it out at the table. Some GMs need very little of this, and can improvise an evening's play out of nothing more than an outline and a few sketched notes. Most GMs require a little more preparation to be comfortable with running an adventure. As you go through this process, let your own comfort level be your guide on how detailed and elaborate your preparation work should be, but make sure to cover the basic, critical parts of the adventure first before you spend time detailing contingencies and what-ifs.

To start the process, ask yourself the following questions to determine what sort of preparation work you need to do.

What maps do I need? If you expect the PCs to assault a location, you're going to need a map good enough to support that. You can pull something close off the web, scribble in any tweaks needed for your adventure, and use it accordingly. Maybe the abandoned missile silo plans you've downloaded are actually being used as a hidey-hole for a rebel leader, but all it takes is a few coats of GM paint and the players won't know the difference.

The more carefully and intently the PCs are going to be interacting with a site, the more you're going to need a map for it. A tense political meeting that takes place on some orbital resort station might not need a map at all if the focus is around the politics of it. If you know a terrorist group is going to bomb the talks and try to assassinate the diplomats, however, then you're going to need enough of a map to support the PCs' inevitable attempts to foil or escape the bloodshed.

What places do I need to make interesting? This is a special case that you'll run into when the adventure involves exploring a site. A simple diagram of a location is all you need to run a firefight there, but when the thrust of the adventure involves plumbing the unknown mysteries of a site, there better be some half-way-decent mysteries there to plumb. There should be perilous dangers, satisfying rewards, and interesting gubbins to manipulate in the place, elements informed by the map's nature and origins. If the PCs are exploring a Chittik hive-station, they ought to be finding things that make sense in the context of a man-eating alien beetle home, while an abandoned Mandate control center should be full of the dusty relics of that lost star-spanning human empire.

The art of creating an interesting site to explore is worth a book in itself, but the tools later in this chapter can help give you some ideas. Another useful source of inspiration exists in countless old-school fantasy adventure modules; just dig through them for interesting setpieces, reskin them as super-science, and flavor them with the style of whatever place they're in. Never hesitate to plunder existing content for your game. You are but one GM, and your time and effort are finite.

What NPCs will I need to detail? When you detail an NPC, you give them a hook, a motivation, a want, and a power. The hook is simply some visual or behavioral detail that will help them stick in the players' memory. Reeking cigars, chrome-plated fingers, a habit of finishing every sentence with 'you think?', or any other unique detail can help the players remember them when a name might slide off their recollections. These hooks also give you a hint for descriptive detail when you're playing out an encounter with the PCs.

A motivation is simply that; what the NPC wants from life, what immediate goal or ambition they have. Often, this is related to the Problem; the NPC wants a particular outcome from the situation. Sometimes this is a broader life goal, like the desire for vast wealth, or a particular person's love, or revenge on an enemy. A want is what they want specifically from the PCs. Usually this is something that helps them achieve their motivation, some assistance the PCs can give or action they can take that will further the NPC's motivation. A power is what they can do to help or harm the PCs, whether that consists of giving vital info, exerting their influence for or against the PCs, or simply the threat of their physical violence against the party. An NPC's power is why the PCs should care about their want.

Give the NPC combat statistics at this point if you think it likely they're going to get in a fight. Remember that most people in the galaxy are normal human beings with no unique combat prowess. Just because an NPC is the president of a megacorp doesn't necessarily mean he's got more than 1 hit die, especially if he's led a life otherwise insulated from physical danger and threats to his life.

What default outcomes will you need to establish? In an unstable situation, it's assumed that events will shake out a certain way if the PCs don't get involved, or don't try to redirect events a particular way. Take a moment to decide what's going to happen in the adventure if the players don't change things. How will the situation resolve itself, and what will happen to the NPCs involved? If there's a particular timeline to the adventure, when certain things will happen at certain times, note it down.

If the adventure is especially time-sensitive, make sure the PCs are given adequate warning about it. While the party might reasonably be expected to understand that a tribal assault on a fortified desert community isn't going to continue forever, if the town is going to collapse in three hours then they need to know that every minute counts. Let NPCs warn them of the dwindling resistance, let the enemies make visible progress toward success, and otherwise ensure that the natural warnings inherent in the situation are properly passed on to the players. They can't realize how serious a situation is if the GM won't tell them what their PCs can see.

What are the rewards to dealing with the Problem? You need to figure out what exactly the PCs are supposed to be getting out of their efforts. If they're plun-dering an alien treasure-house, what exactly are they going to find there? If they save the desert community, what kind of help or reward do they receive? Is there some way that solving this Problem will advance a PC's personal goals? Sometimes the reward of a situation is simply avoiding some terrible outcome, but too many of these charity jobs or self-defense adventures can leave the players feeling like chumps.

Determining the rewards in experience points, cash, or plunder can be delicate, so there's a separate section in this chapter devoted to helping you do just that. Your choice will depend largely on how quickly you want the PCs to advance in personal power and how plausible it is that a given situation might offer a considerable reward.

Lastly, how will the PCs get involved? You've got a Person to hook them in, or the Problem itself is attractive to the PCs, but how exactly are you going to connect the players to the adventure? Figure out the details of how you're going to introduce the adventure to the players and take note of the information, resources, and situation they'll encounter when they step into the scenario.

Polish It Up

You're almost finished with your adventure. All you need to do now is put yourself in your party's shoes and think about how they're likely to experience the adventure. You know your players better than any author could, so you know the ways they're likely to react to NPCs, how they like to deal with problems, and what sort of things make them sympathetic or angry. Don't worry about some platonic Ideal Adventurer when you're doing a mental walkthrough of the adventure. Worry about the people you know are going to be playing this.

If you've created a sandbox-style adventure with the steps above, there won't be any written-out "path" through the adventure. You'll have a situation, some NPCs, and the resources you need to handle the players interacting with that situation. Maybe they'll resolve it to their liking, and maybe they'll end the session by booking a fast ship offplanet with a furious mob at their heels. Your only concern at this stage is making sure the adventure is logical, approachable, and engaging.

Is the adventure logical? If your adventure is contradicting facts that have already been established about the world, the players are going to want to see a good reason for it. If they break into a slum warehouse to find it full of elite special-ops combatants, they're going to want a very good explanation for such a seemingly-irrational encounter. They don't have to see every explanation or understand every dramatic deviation from reasonable expectations, but *you* should know these reasons, and the players should be confident that the reasons exist.

If you design an adventure by "story logic", where the most important thing is maintaining a genre feel

and good adventure pacing, the players are going to react in story-logical ways. When presented with an obstacle, they're going to assume that their heroes are expected to have a reasonable chance to overcome that obstacle. When faced with a dangerous combat foe, they're going to assume the enemy is at least theoretically beatable by the group, and when encountering a seemingly-invincible challenge, they're going to look around for the right story levers to pull to make it somewhat more vincible. This style of running a game is perfectly valid, and it is indeed preferable for groups that want to maintain a certain genre feel, but it's not usually how **Stars Without Number** adventures get made.

The default **Stars Without Number** assumption is that adventures operate on established setting logic. If something should be somewhere, it is, whether or not the PCs can hope to overcome it. If an ally is locked away in the bowels of a max-security prison, the PCs might simply not have any reasonable way to get them out unless they can change the situation through supplemental adventures. When the PCs see a terrifyingly dangerous foe, that foe *really is* terrifyingly dangerous, and some PCs are almost certainly going to die if they decide to fight. The PCs have no cosmic authorial protection, and if they put themselves in no-win situations, they are going to lose.

With that in mind, look at your adventure and make sure it is not the sort of challenge or situation that would only be essayed by someone convinced that they are the first-book protagonist of a sci-fi trilogy. Don't expect the PCs to do unreasonable things or face ridiculous obstacles just because they're part of the adventure. A canny player group will make a point of avoiding unjustified perils and staying *well clear* of unbeatable difficulties. They won't bite on your adventure if it seems a fast-track journey to an unmarked grave.

Is the adventure approachable? This has to do with your hook and the overall appeal of the situation. What is it about this situation that's going to pique player interest? Knowing what you know about your players, is this the sort of thing they're going to jump into? Even if you're confident that the players will want to get involved, you need to make sure they have a clear way into the situation. If it's a roil of political intrigue, give them somebody to contact. If it's a mysterious alien ruin, give them a map to it.

It's not your job to develop a clear route through the adventure, a step-by-step sequence of events that can predictably lead to success. It is, however, your job to give the PCs a way to get involved in the situation. If you can't see an obvious "first step" to the adventure, then it's unlikely your players will be able to see one.

Is the adventure engaging? An adventure which is about something fundamentally uninteresting to the players is just not going to hold their attention. Good sports will try to get through it simply because it's what you created for them, but other players will start playing with their phones, talking about extraneous matters, or just doing something else in-game. Even if the PCs have a logical reason to care about the adventure, if the *players* are not invested, they aren't going to have a very good time.

To build engagement, use elements your players love and elements your players hate. What do your players really like? What kind of NPCs, situations, and activities do they really enjoy? Don't worry about abstract players, just think about the specific people you are playing with. Conversely, what kind of villains do they absolutely despise? What sort of evildoing gets them fired up with righteous wrath? It's important not to push things into gratuitous grimdark, but if you have some players who really hate slavers, then that's a good cue to make beating down slavers an element in an adventure.

Once you've polished up the adventure, done a mental walk-through of events, and ensured that it is logical, approachable, and engaging, then you're ready to play.

Creating Filler Adventures

Sometimes a GM gets caught flat-footed by the players. They do something or choose a goal that the GM is totally unprepared to manage. A GM is well within their rights to call a pause and explain to the players that they're just not ready to handle that yet, and if the players want to do it, they can do it next session, after the GM has had time to prep something for it.

Other times, however, the GM will just throw in a quick *filler adventure.* These are adventures built expressly for running when the GM is caught by surprise or runs out of prepared content for the evening. Filler adventures are built much like any other adventure, but their priorities are different. Filler adventures should be insistent, short, and simple.

The adventure needs to be insistent; it needs to present a situation that the PCs absolutely must deal with right this minute. A terrorist attack, a criminal stealing a PC macguffin, a friend frantically calling for help… the adventure needs to grab the PCs and distract them from whatever it was they were trying to do.

Even so, the adventure should be short. A filler adventure shouldn't take longer to complete than it takes for you to come up with a good response to the players' initial goal. You just need to keep the players entertained long enough for you to figure out what you're going to do, so a filler adventure shouldn't eat up more than a session at most.

Lastly, the adventure should be simple. Don't burn yourself out on complex entanglements and relations to the existing adventure. If you can come up with a good tie-in quickly, great, but the ideal filler adventure is general enough to slot in almost anywhere.

Unused bits and pieces of your regular adventures can be used as filler components. Don't waste your work; if the PCs haven't seen it, save it for later use.

ADVENTURE REWARDS

Player characters all have their own reasons for seeking adventure in the trackless void, but pragmatic rewards of wealth, power, and influence tend to be popular. When designing your adventures, how should you apportion rewards, whether in experience points, pretech artifacts, or credits?

Rewarding Credits

The first thing to understand about the credit economy in your campaign is that "too much money" is not a significant problem to have. Unlike many types of games, there's really nothing the PCs can do with large amounts of money that will allow them to drastically improve their own personal power. They can hire minions, they can buy starships, they can get cyberware, and they can use their wealth as a bludgeon of influence, but at the end of the day they still basically have the same character sheet as before.

In the same vein, in a sandbox campaign there is no storyline to disrupt. If the PCs suddenly luck into a stellar tyrant's ransom, then the campaign is about what they do with the money. Maybe it lets them casually crush the problems they used to have, but now they've got an entirely new set of concerns befitting their newfound wealth. Unless the PCs simply decide to stop adventuring after a lucky strike, their future campaign sessions will simply be flavored with great wealth and the problems and possibilities that come along with it.

So don't worry about "keeping the PCs hungry". Just let them acquire the logical amount of money that their deeds and situation would earn them. If they do a significant favor for a megacorp CEO, they should be earning a lot more than they'd get from the heartfelt gratitude of a lostworlder peasant whose life they saved.

With that in mind, here's an adjacent list of reasonable credit amounts that can be applied to adventures. If the PCs do work for someone, they'll get paid to the extent that they earned it and the patron can afford it. If they come across lost loot or valuable cargo, you can use these numbers to gauge what a "big haul" would be to most people in the setting.

Rewarding Ships and Major Items

Most groups are going to want to get their own starship relatively early on in the campaign. You might even have the acquisition of a beaten-up merchant ship be the result of the introductory adventure. While it's certainly possible for a sci-fi campaign to spend most of its time on a single world or for PCs to hitch rides with allies and existing transport ships, most players are going to want to get their own set of thrusters.

The basic guideline for rewarding a ship or any other major piece of hardware is that it's going to take at least one session of adventure to get it, assuming you

Reward Type	Amount
A lot of money to a slum dweller	50
Slum dweller's maximum funds	100
A lot of money to an ordinary worker	500
Ordinary worker's maximum funds	1,000
A lot of money to an affluent person	2,500
Affluent person's maximum funds	5,000
A lot of money to a wealthy person	25,000
Wealthy person's maximum funds	100,000
A lot of money to an oligarch	1 million
Oligarch's available liquid funds	5 million
Moderately-skilled short contract work	20 / day
An illegal but not serious crime job	500
Serious but non-capital criminal job	1,000
Kill someone who isn't very important	5,000
Kill a significant or well-guarded target	50,000
Kill a major government official	250,000

think it's reasonable to allow it in the first place. The PCs are going to have to come up with a plan or look for an opportunity to grab the thing they want if they don't have the money to buy it outright.

You can use this principle when the PCs want anything, whether it's a ship, a particular ally, a base of operations, or anything else that can't reasonably buy. Make them adventure for it. You can give them suggestions and ideas, but it's up to them to come up with a plan for getting their hands on what they want.

Once they've done that, all you need to do is make up an adventure revolving around their efforts, and you've got your evening's entertainment. As always, you should be watchful for opportunities to make PC ambitions into easy adventure outlines.

Rewarding Experience Points

There are several different methods to award experience points. The one you choose will depend largely on the kind of campaign you want to run and the speed of advancement you want for the PCs.

The basic experience award for each member of a party is three points. This assumes a fairly fast rate of advancement, with PCs reaching second level after their first award. If you want a slower one, drop it to two points, or even one. All members of the group should get the same basic award unless you want PCs of different levels in your group.

When do you hand out this basic award? You have several different choices.

Use a session-based system. Hand out the award at the end of every gaming session, assuming the PCs were trying to accomplish something worthy of their

skills. Parties that coast along without facing any real challenges might not receive the award.

Use a personal goal-based system. Have every PC list at least one long-term goal and one short-term goal. If they achieve a short-term goal during the session, give them a basic award. If they manage to succeed at a long-term goal, give them triple that amount of experience. Different characters can share the same goals if they wish, and it's up to the GM to decide whether or not a particular goal is challenging enough to deserve a reward. PCs can pick new goals or change old ones at the end of each session.

Note that if you use this method different PCs will advance at different rates, depending on how often they reach their goals. This isn't a problem if the group is fine with it, and if PCs work to make sure the party isn't focusing too much on the goals of only a few members. If you want to help encourage spreading the focus around, you can rule that no PC can get goal XP again until someone else in the group has achieved a goal.

Use a mission-based system. Have the group agree on a mission or goal at the end of each session or at the start of the campaign. When the group reaches that goal, they all get an experience award. They can choose to change their goal at the end of every session, or pick a new one if they've attained their original purpose. If they choose a particularly hard mission they might get an extra bonus, at the cost of a greater risk of failure.

Use a loot-based system. This sort of campaign doesn't use experience points. Instead, it uses cash. Every PC needs to earn 5,000 credits of liquid funds in rewards or loot before reaching second level. Then they need to earn 10,000 more to reach third, 20,000 more to reach fourth, and so on, with the new amount needed doubling at each level. Only wealth they've earned adventuring and converted into spendable credits counts toward this amount. Once a PC gains a level, their running "score" is reset to zero, and even huge hauls can't boost them more than one level at a time.

This experience method strongly incentivizes ruthless plundering, and might result in uneven advancement if the party doesn't split their earnings evenly. It does make for a laser-focused game of freebooting avarice, however.

Use a spending-based system. This works the same way as the loot-based system, but the credits they earn only count if the PC *spends* them. Credits spent on personal equipment, cyberware, vehicles, or other directly useful items don't count. Only credits "wasted" in revelry, charity, supporting some NPC cause, building a power base, or otherwise interacting with the game world count toward the PC's advancement.

This, too, can result in a party with PCs of varying character level over time, as some choose to buy hardware and others elect to "waste" the money. It does encourage a great deal of engagement, however.

CREATING PROBLEMS

Every Problem boils down to a fundamental conflict. A person wants something and they can't have it, or they don't want something and are being forced to accept it, or they have something and it's being threatened, or they want something and someone else wants it too. At the bottom of every Problem there's a conflict the PCs can engage. These tables on these two pages provide some cues for generating Problems for your adventures.

First, roll 1d8, 1d10, and 1d10 on the Conflict Type table on the opposite page. The first roll gives you an idea of the general type of conflict at the bottom of the adventure. It might be a matter of money, old grudges, a natural catastrophe, ethnic struggles, or one of several other root causes. You can stop at this point if the cue is sufficiently inspirational.

Otherwise, the next roll gives you the overall situation of the conflict. This is the backdrop to the adventure, and while the PCs may not be able to resolve the entire conflict, they should be able to make a difference in this particular skirmish. You can take this general context and decide on a specific event or situation that's causing the conflict at the heart of the Problem.

If further inspiration is needed, the third roll gives you a specific focus for the Problem. Something is happening, and there are at least two sides involved; one that is in favor of what is happening, and one that is opposed. Just put forces on both sides of the focus and you'll have your starting Problem.

Some Problems have the PCs on one of the sides. If "Money was stolen from someone" and "The PCs are owed it", then the PCs themselves will have a powerful incentive to involve themselves in the conflict. Other Problems only have people on one side; if there's a catastrophic natural disaster, the disaster itself is unlikely to have motivations or goals, while the hapless victims doubtless are struggling to survive.

To add further decoration to the circumstances, you can roll on the tables below. The Restraint table gives you a reason why the conflict hasn't boiled over yet, and why the PCs might be a wildcard that can resolve the problem at hand. Some Problems can keep a long time with a sufficiently stern Restraint, which makes them convenient when you need to make filler adventures that can stay in storage until you need them.

The Twist table gives you a turn you can add to the Problem, something to complicate the situation and shake up easy assumptions about how it will play out.

At all times, you should be looking for chances to insert elements you've already created for this world. Use Enemies for antagonists, Friends for allies, and slip in Complications when you need additional twists. GMing is tough enough without making extra work.

d20	The Restraint	The Twist
1	The government is cracking down on the conflict	There's a very sharp time limit for any resolution
2	One side seems invincibly stronger to the other	The sympathetic side is actually a bunch of bastards
3	Both sides have "doomsday" info or devices	There's an easy but very repugnant solution to hand
4	A prior conflict ended horribly for both of them	PC success means a big benefit to a hostile group
5	Foreign participants are keeping things tamped	The real bone of contention is hidden from most
6	Elements of both sides seek accommodation	A sympathetic figure's on an unsympathetic side
7	The conflict is only viable in a narrow location	There's a profitable chance for PCs to turn traitor
8	Catastrophic cost of losing a direct showdown	The "winner" will actually get in terrible trouble
9	Each thinks they'll win without further exertion	There's a very appealing third party in the mix
10	They expect a better opening to appear soon	The PCs could really profit off the focus of the strife
11	Former ties of friendship or family restrain them	The PCs are mistaken for an involved group
12	Religious principles are constraining them	Somebody plans on screwing over the PCs
13	One side's still licking their wounds after a failure	Both sides think the PCs are working for them
14	They're building up force to make sure they win	A side wants to use the PCs as a distraction for foes
15	Their cultural context makes open struggle hard	The PCs' main contact is mistrusted by their allies
16	They expect an outside power to hand them a win	If the other side can't get it, they'll destroy it
17	They're still searching for a way to get at their goal	The focus isn't nearly as valuable as both sides think
18	One side mistakenly thinks they've already won	The focus somehow has its own will and goals
19	A side is busy integrating a recent success	Victory will drastically change one of the sides
20	An outside power threatens both sides	Actually, there is no twist. It's all exactly as it seems.

d8	Conflict Type	d10	Overall Situation	d10	Specific Focus
1	Money	1-2	Money is owed to a ruthless creditor	1-2	Organized crime wants it
		3-4	Money was stolen from someone	3-4	Corrupt officials want it
		5-6	A sudden profit opportunity arises	5-6	A sympathetic NPC needs it
		7-8	There's a hidden stash of wealth	7-8	The PCs are owed it
		9-0	Money is offered from an evil source	9-0	It will disappear very soon
2	Revenge	1-2	Someone was murdered	1-2	It was wholly justified
		3-4	Someone was stripped of rank	3-4	The wrong person is targeted
		5-6	Someone lost all their wealth	5-6	The reaction is excessive
		7-8	Someone lost someone's love	7-8	The PCs are somehow blamed
		9-0	Someone was framed for a crime	9-0	Both sides were wronged
3	Power	1-2	An influential political leader	1-2	They've betrayed their own
		3-4	A stern community elder	3-4	Someone's gunning for them
		5-6	A ruling patriarch of a large family	5-6	They made a terrible choice
		7-8	A star expert in a particular industry	7-8	They usurped their position
		9-0	A criminal boss or outcast leader	9-0	They're oppressing their own
4	Natural Danger	1-2	A cyclical planetary phenomenon	1-2	Anti-helpful bureaucrats
		3-4	A sudden natural disaster	3-4	Religious zealots panic
		5-6	Sudden loss of vital infrastructure	5-6	Bandits and looters strike
		7-8	Catastrophe from outside meddling	7-8	The government hushes it up
		9-0	Formerly-unknown planetary peril	9-0	There's money in exploiting it
5	Religion	1-2	Sects that hate each other bitterly	1-2	Charismatic new leader
		3-4	Zealot reformers forcing new things	3-4	Mandatory state religion
		5-6	Radical traditionalists fighting back	5-6	Heavy foreign influence
		7-8	Ethnic religious divisions	7-8	Religious purging underway
		9-0	Corrupt and decadent institutions	9-0	Fighting for holy ground
6	Ideology	1-2	A universally-despised fringe group	1-2	Terrorist attack
		3-4	Terrorists with widespread support	3-4	Street rioting
		5-6	A political party's goon squads	5-6	Police state crackdown
		7-8	Dead-end former regime supporters	7-8	Forced expulsions
		9-0	Ruthless ascendant political group	9-0	Territory under hostile rule
7	Ethnicity	1-2	A traditionally subordinate group	1-2	Forced immigration
		3-4	An ethnic group from offworld	3-4	Official ethnic ghettos
		5-6	A dominant caste or ethnicity	5-6	Rigid separation of groups
		7-8	An alien or transhuman group	7-8	Group statuses have changed
		9-0	Two groups that hate each other	9-0	Rising ethnic violence
8	Resources	1-2	There's a cache of illegal materials	1-2	Someone thinks they own it
		3-4	A hidden strike of rare resources	3-4	The state is looking for it
		5-6	Cargo has been abandoned as lost	5-6	It has its own protectors
		7-8	Land ownership is disputed	7-8	Rights to it were stolen
		9-0	A resource is desperately necessary	9-0	Offworlders want it badly

CREATING PEOPLE

You'll need People to help the PCs get involved in your adventure and to flesh out the personalities and important figures in the Problem. Not every NPC needs to be worked up fully, but it can be convenient to have a few spare People around to drop in when the players suddenly take an interest in a bit-player NPC you never expected they'd focus on.

To generate a Person, start with their motivation. This is what the Person wants out of life, their major focus and drive. The deals they offer and the actions they take should revolve around this motivation. Different people will go to different extremes to follow this motivation, so you shouldn't feel obligated to make it a monomania for them, but it's the basic driver of their actions.

Next, pick a want. This is the immediate thing the NPC thinks will most effectively advance their motivation. If the latter is "Promote a friend or offspring's career" and the want is "Burn down or destroy a particular structure", then you simply have to figure out how burning down that place is going to advance the NPC's daughter's career. The want is what the NPC is most likely to desire the PCs to help them achieve.

Now determine their power. This is what the NPC can use to pay off the PCs or threaten them into compliance. If a Person hasn't got any power to help or harm the party, the PCs aren't going to have much motivation to care about their wants. Not every NPC will have *much* power, but they should all be able to do something to help or hinder the PCs.

Then you determine a hook, a visual or character quirk that will help you describe them during play and help the players remember who they are.

Lastly, if you want to make life a little easier for yourself, you can roll or pick an initial manner of approach and a default deal outcome for the Person. These additional tables help smooth out the handling of PC deals and negotiations with the NPC.

The initial manner is simply how the NPC will deal with the PCs during their initial meeting. Maybe they'll be effusively appreciative of the party's capabilities, or maybe they'll be full of thin-lipped disapproval, but their manner can give you some cues for playing out the NPC's interactions with the party.

The default deal outcome can give you a cue as to how or if the NPC will keep any deal they make with the PCs. In some cases, you'll already know whether or not the NPC will play fair with the party, either because you know they're essentially trustworthy people or you know they're double-dipped bastards. The table is convenient when you're not quite sure if an NPC is as good as their word.

d20	Initial Manner	Default Deal Outcome
1	Ingratiating and cloying	They'll screw the PCs over even at their own cost
2	Grim suspicion of the PCs or their backers	They firmly intend to actively betray the PCs
3	Xenophilic interest in the novelty of the PCs	They won't keep the deal unless driven to it
4	Pragmatic and businesslike	They plan to twist the deal to their own advantage
5	Romantically interested in one or more PCs	They won't keep their word unless it's profitable
6	A slimy used-gravcar dealer's approach	They'll flinch from paying up when the time comes
7	Wide-eyed awe at the PCs	They mean to keep the deal, but are reluctant
8	Cool and superior attitude toward PC "hirelings"	They'll keep most of the deal, but not all of it
9	Benevolently patronizing toward outsiders	They'll keep the deal slowly and grudgingly
10	Sweaty-palmed need or desperation	They'll keep the deal but won't go out of their way
11	Xenophobic mistrust of the PCs	They'll be reasonably punctual about the deal
12	Idealistic enthusiasm for a potentially shared cause	They'll want a further small favor to pay up on it
13	Somewhat intoxicated by recent indulgence	They'll keep the deal in a way that helps them
14	Smoothly persuasive and reasonable	They'll keep the deal if it's still good for them
15	Visibly uncomfortable with the PCs	They'll offer a bonus for an additional favor
16	Grossly overconfident in PC abilities	Trustworthy as long as the deal won't hurt them
17	Somewhat frightened by the PCs	Trustworthy, with the NPC following through
18	Deeply misunderstanding the PCs' culture	They'll be very fair in keeping to their agreements
19	Extremely well-informed about the PCs' past	They'll keep bargains even to their own cost
20	Distracted by their current situation	Complete and righteous integrity to the bitter end

d20	Their Motivation	Their Want
1	An ambition for greater social status	Bring them an exotic piece of tech
2	Greed for wealth and indulgent riches	Convince someone to meet with the NPC
3	Protect a loved one who is somehow imperiled	Kill a particular NPC
4	A sheer sadistic love of inflicting pain and suffering	Kidnap or non-fatally eliminate a particular NPC
5	Hedonistic enjoyment of pleasing company	Pay them a large amount of money
6	Searching out hidden knowledge or science	Take a message to someone hard to reach
7	Establishing or promoting a cultural institution	Acquire a tech component that's hard to get
8	Avenging a grievous wrong to them or a loved one	Find proof of a particular NPC's malfeasance
9	Promoting their religion and living out their faith	Locate a missing NPC
10	Winning the love of a particular person	Bring someone to a destination via dangerous travel
11	Winning glory and fame in their profession	Retrieve a lost or stolen object
12	Dodging an enemy who is pursuing them	Defend someone from an impending attack
13	Driving out or killing an enemy group	Burn down or destroy a particular structure
14	Deposing a rival to them in their line of work	Explore a dangerous or remote location
15	Getting away from this world or society	Steal something from a rival NPC or group
16	Promote a friend or offspring's career or future	Intimidate a rival into ceasing their course of action
17	Taking control of a property or piece of land	Commit a minor crime to aid the NPC
18	Building a structure or a complex prototype tech	Trick a rival into doing something
19	Perform or create their art to vast acclaim	Rescue an NPC from a dire situation
20	Redeem themselves from a prior failure	Force a person or group to leave an area

d20	Their Power	Their Hook
1	They're just really appealing and sympathetic to PCs	A particular odd style of dress
2	They have considerable liquid funds	An amputation or other maiming
3	They control the use of large amounts of violence	Visible cyberware or prosthetics
4	They have a position of great social status	Unusual hair, skin, or eye colors
5	They're a good friend of an important local leader	Scarring, either intentional or from old injuries
6	They have blackmail info on the PCs	Tic-like overuse of a particular word or phrase
7	They have considerable legal influence here	Specific unusual fragrance or cologne
8	They have tech the PCs might reasonably want	Constant fiddling with a particular item
9	They can get the PCs into a place they want to go	Visible signs of drug use
10	They know where significant wealth can be found	Always seems to be in one particular mood
11	They have information about the PCs' current goal	Wears badges or marks of allegiance to a cause
12	An NPC the PCs need has implicit trust in them	Extremely slow or fast pace of speech
13	The NPC can threaten someone the PCs like	Wheezes, shakes, or other signs of infirmity
14	They control a business relevant to PC needs	Constantly with a drink to hand
15	They have considerable criminal contacts	Always complaining about a group or organization
16	They have pull with the local religion	Paranoid, possibly for justifiable reasons
17	They know a great many corrupt politicians	Insists on a particular location for all meetings
18	They can alert the PCs to an unexpected peril	Communicates strictly through a third party
19	They're able to push a goal the PCs currently have	Abnormally obese, emaciated, tall, or short
20	They can get the PCs useful permits and rights	Always found with henchmen or friends

CREATING PLACES

Places can be very simple to create or very complex. If a Place is only needed as a backdrop for events and you don't expect the PCs to spend much time exploring it, you really don't need anything more than a name and a few sentences of description for the table. If it's to be an alien ruin, enemy base, or some other structure that the PCs are going to carefully interact with, you'll need something more interesting.

For the former type of place, just pull an appropriate Place from the world generation data you've already created. You can then give it some background activity from the table below. If it's an urban, civilized sort of location, you can roll for a Civilized Ongoing to indicate what's happening there right now. If it's a lost ruin, wilderness glade, or other wild place, roll or pick from the Wilderness Ongoings list.

If the PCs plan to investigate the place, you'll want a Reward to determine what worthwhile thing the PCs might find there. In some cases, you'll already know what the Reward should be; if the PCs are going into an alien ruin to dig out a lost macguffin, then the macguffin itself will be the reward. You can still use the Reward table to create some secondary loot prospects in the place if you wish, the better to reward careful exploration and creative overcoming of the area's inevitable hazards.

Those hazards can be derived from the opposite table. The first roll gives a general type of hazard that the PCs will have to face in an area or sub-area of the Place, while the specific examples and possible dangers provide more concrete suggestions.

You can apply these hazards to specific parts of the Place, or if the area is too small to sustain much mayhem, you might roll once and apply it generally to the entire location.

One of the easiest ways to quickly produce an interesting area to explore is to go online and loot the web for old-school-style fantasy adventure modules. In many cases, the maps and floor plans can be stolen outright, while the room contents can be reskinned with suitably sci-fi flavor. Most of these old adventures use game mechanics that are similar to those used by *Stars Without Number*, such as hit points, Armor Classes, damage rolls, and gold piece values that can easily be converted to credits. If you mix and match these components, using pieces from multiple adventures to stitch together what you need, even those players who might have experienced the original adventure won't be able to recognize your handiwork.

This principle of constructive looting is important to any sandbox GM. Save creative energy for where it counts. Everywhere else, plunder without shame.

d20	Reward	Civilized Ongoings	Wilderness Ongoings
1	Large cache of credits	Local festival going on	Bandits have moved in
2	Precious cultural artifact	Angry street protests	Flooding swept through
3	Vital data on the party's goal	Minor fire or other disorder	Part of it has collapsed
4	Missing or kidnapped VIP	Merchants and peddlers active	Refugees are hiding here
5	Advanced pretech artifact	Tourists from another country	Dangerous animals lair here
6	Key to some guarded location	Building repair or maintenance	A rebel cell uses it for a base
7	Ancient treasure object	Recent vehicle crash	Smugglers have landed here
8	Recently-stolen goods	Public art performance	Foreign agents meet here
9	High-tech robotic servitor	Angry traffic jam	A hermit has taken up residence
10	Token item of ruling legitimacy	Missionaries for a local religion	A toxic plant is growing wild
11	Juicy blackmail material	Loud advertising campaign	An artist seeks inspiration here
12	History-rewriting evidence	Memorial service ongoing	An ancient structure was dug out
13	Alien artifact of great power	Road work halting traffic	The weather has turned savage
14	Precious megacorp data files	Power outage in the area	A vehicle crashed nearby
15	Map to some valuable thing	Police chasing criminals	Some locals are badly lost
16	Forbidden but precious drug	Annoying drunks being loud	Religious pilgrims come here
17	Legal title to important land	Beggars seeking alms	Locals fight over control of it
18	Awful secret of local government	Constructing a new building	Nature threatens to wipe it out
19	Cache of precious goods	Local thugs swaggering around	An old shrine was raised here
20	Stock of valuable weaponry	Aerial light display	A shell of a building remains

d8	Hazard	d10	Specific Example	d10	Possible Danger
1	Social	1-2	An explosively temperamental VIP	1-2	An allied NPC breaks ties
		3-4	An unknown but critical social taboo	3-4	An enemy is alerted to them
		5-6	A case of mistaken identity	5-6	A new enemy is made
		7-8	An expectation for specific PC action	7-8	Cads think the PCs are allies
		9-0	A frame job hung on the PCs	9-0	An opportunity is lost
2	Legal	1-2	A regulation unknown to the PCs	1-2	Substantial monetary fine
		3-4	A tax or confiscation	3-4	Imprisonment for the party
		5-6	Vital gear is prohibited here	5-6	Confiscation of possessions
		7-8	Lawsuit from an aggrieved NPC	7-8	Deportation from the place
		9-0	A state agent conscripts PC help	9-0	Loss of rights and protections
3	Environmental	1-2	Heavy background radiation	1-2	Catch a lingering disease
		3-4	A planetary sickness foreigners get	3-4	Suffer bodily harm
		5-6	Strong or weak local gravity	5-6	Take a penalty on rolls
		7-8	Gear-eating microbial life	7-8	Lose some equipment
		9-0	Unpredictable psychic power field	9-0	Psychic abilities are altered
4	Trap	1-2	Alarm system attached to a trap	1-2	Something set on fire
		3-4	Snare left for local animals	3-4	Guards are summoned
		5-6	Hermit's self-defense measure	5-6	Fall to a new area
		7-8	Long-dead builder's trapsmithing	7-8	Equipment is damaged
		9-0	New occupant's defensive trap	9-0	Subject is injured
5	Animal	1-2	Dangerous local swarm vermin	1-2	They have a ranged attack
		3-4	A big predator lair	3-4	They're venomous
		5-6	Pack hunters haunt the area	5-6	Dangerously coordinated foe
		7-8	Flying threats pounce here	7-8	Killing them inflicts a fine
		9-0	Monstrous beast sleeps or is torpid	9-0	Their deaths cause an effect
6	Sentient	1-2	A group hostile to intruders	1-2	Immediate combat
		3-4	Trickster thieves and con-men	3-4	Treacherous feigned friend
		5-6	Hostile expert-system robots	5-6	Lead the PCs into a trap
		7-8	Secrecy-loving rebels or criminals	7-8	Demand payment or loot
		9-0	Another area-clearing group	9-0	Activate other area defenses
7	Decay	1-2	Crumbling floor or ceiling	1-2	Ruptures to release a peril
		3-4	Waste or heating tubes rupture	3-4	Toxic or radioactive debris
		5-6	Dangerous standing liquid	5-6	Explosive decompression
		7-8	Maintenance robots gone haywire	7-8	Invisible or slow-acting toxin
		9-0	Power plant is unstable	9-0	Fires or explosions
8	PC-induced	1-2	Activating a system causes a disaster	1-2	Horrible vermin are admitted
		3-4	Catastrophic plan proposed by NPCs	3-4	Local system goes berserk
		5-6	Removing loot triggers defenses	5-6	Something ruptures violently
		7-8	Handling an object ruins it	7-8	Ancient defenses awaken
		9-0	Leaving a thing open brings calamity	9-0	The PC's goal is imperiled

ADVENTURE SEEDS

The hundred ideas that follow are basic outlines for various adventures. Just take the components you've rolled for a given planet, slot them in the spaces noted in the adventure seeds, and build out from there to create an evening's entertainment.

If you want something more complicated than these basic seeds provide, you can string several of them together, gluing them into a single perilous circumstance to occupy the heroes.

As a general rule of thumb, a single seed should occupy the group for a single session's worth of adventure. If you need to create more content than that, you can scale events by adding additional complications or breaking the adventure up into several additional tasks or obstacles that must be overcome before the PCs can successfully resolve it.

1. An Enemy seeks to rob a Friend of some precious Thing that he has desired for some time.
2. A Thing has been discovered on property owned by a Friend, but a Complication risks its destruction.
3. A Complication suddenly hits the party while they're out doing some innocuous activity.
4. The players unwittingly offend or injure an Enemy, incurring his or her wrath. A Friend offers help in escaping the consequences.
5. Rumor speaks of the discovery of a precious Thing in a distant Place. The players must get to it before an Enemy does.
6. An Enemy has connections with offworld pirates or slavers, and a Friend has been captured by them.
7. A Place has been seized by violent revolutionaries or rebels, and a Friend is being held hostage by them.
8. A Friend is in love with someone forbidden by social convention, and the two of them need help eloping.
9. An Enemy wields tyrannical power over a Friend, relying on the bribery of corrupt local officials to escape consequences.
10. A Friend has been lost in hostile wilderness, and the party must reach a Place to rescue them in the teeth of a dangerous Complication.
11. An Enemy has committed a grave offense against a PC or their family sometime in the past. A Friend shows the party a weakness in the Enemy's defenses.
12. The party is suddenly caught in a conflict between two warring families or political parties.
13. The party is framed for a crime by an Enemy, and must reach the sanctuary of a Place before they can regroup and find the Thing that will prove their innocence and their Enemy's perfidy.
14. A Friend is threatened by a tragedy of sickness, legal calamity, or public humiliation, and the only one that seems able to save them is an Enemy.
15. A natural disaster or similar Complication strikes a Place while the party is present, causing great loss of life and property unless the party is able to immediately respond to the injured and trapped.
16. A Friend with a young business has struck a cache of pretech, valuable minerals, or precious salvage. He needs the party to help him reach the Place where the valuables are.
17. An oppressed segment of society starts a sudden revolt in the Place the party is occupying. An Enemy simply lumps the party in with the rebels and tries to put the revolt down with force. A Friend offers them a way to either help the rebels or clear their names.
18. A vulnerable Friend has been targeted for abduction, and has need of guards. A sudden Complication makes guarding them from the Enemy seeking their kidnapping much more difficult. If the Friend is snatched, they must rescue them from a Place.
19. A mysterious Place offers the promise of some precious Thing, but access is very dangerous due to wildlife, hostile locals, or a dangerous environment.
20. An Enemy and a Friend both have legal claim on a Thing, and seek to undermine each other's case. The Enemy is willing to do murder if he thinks he can get away with it.
21. An Enemy seeks the death of his brother, a Friend, by arranging the failure of his grav flyer or shuttlecraft in dangerous terrain while the party is coincidentally aboard. The party must survive the environment and bring proof of the crime out with them.
22. A Friend seeks to slip word to a lover, one who is also being courted by the Friend's brother, who is an Enemy. A Complication threatens to cause death or disgrace to the lover unless they either accept the Enemy's suit or are helped by the party.
23. An Enemy is convinced that one of the party has committed adultery with their flirtatious spouse. He means to lure them to a Place, trap them, and have them killed by the dangers there.
24. An Enemy has been driven insane by exotic recreational drugs or excessive psionic torching. He fixes on a PC as being his mortal nemesis, and plots elaborate deaths, attempting to conceal his involvement amid Complications.
25. A Friend has stolen a precious Thing from an Enemy and fled into a dangerous, inaccessible Place. The party must rescue them, and decide what to do with the Thing and the outraged Enemy.

26. An Enemy has realized that their brother or sister has engaged in a socially unacceptable affair with a Friend, and means to kill both of them unless stopped by the party.

27. A Friend has accidentally caused the death of a family member, and wants the party to help him hide the body or fake an accidental death before his family realizes what has happened. A Complication suddenly makes the task more difficult.

28. A Friend is a follower of a zealous ideologue who plans to make a violent demonstration of the righteousness of his cause, causing a social Complication. The Friend will surely be killed in the aftermath if not rescued or protected by the party.

29. A Friend's sibling is to be placed in a dangerous situation they've got no chance of surviving. The Friend takes their place at the last moment, and will almost certainly die unless the party aids them.

30. Suicide bombers detonate an explosive, chemical, or biological weapon in a Place occupied by the party where a precious Thing is stored The PCs must escape before the Place collapses on top of them, navigating throngs of terrified people in the process and saving the Thing if possible.

31. An Enemy who controls landing permits, oxygen rations, or some other important resource has a prejudice against one or more of the party members. He demands that they bring him a Thing from a dangerous Place before he'll give them the goods.

32. A Friend in a loveless marriage to an Enemy seeks escape to be with their beloved, and contacts the party to snatch them from their spouse's guards at a prearranged Place.

33. A Friend seeks to elope with their lover, and contacts the party to help them meet their paramour at a remote, dangerous Place. On arrival, they find that the lover is secretly an Enemy desirous of their removal and merely lured them to the place to meet their doom.

34. The party receives or finds a Thing which proves the crimes of an Enemy- yet a Friend was complicit in the crimes, and will be punished as well if the authorities are involved. And the Enemy will stop at nothing to get the item back.

35. A Friend needs to get to a Place on time in order to complete a business contract, but an Enemy means to delay and hinder them until it's too late, inducing Complications to the trip.

36. A locked pretech stasis pod has been discovered by a Friend, along with directions to the hidden keycode that will open it. The Place where the keycode is hidden is now owned by an Enemy.

37. A fierce schism has broken out in the local majority religion, and an Enemy is making a play to take control of the local hierarchy. A Friend is on the side that will lose badly if the Enemy succeeds, and needs a Thing to prove the other group's error.

38. A former Enemy has been given reason to repent his treatment of a Friend, and secretly commissions them to help the Friend overcome a Complication. A different Enemy discovers the connection, and tries to paint the PCs as double agents.

39. An alien or a human with extremely peculiar spiritual beliefs seeks to visit a Place for their own reasons. An Enemy of their own kind attempts to stop them before they can reach the Place, and reveal the Thing that was hidden there long ago.

40. A Friend's sibling is an untrained psychic, and has been secretly using his or her powers to protect the Friend from an Enemy. The neural damage has finally overwhelmed their sanity, and they've now kidnapped the Friend to keep them safe. The Enemy is taking this opportunity to make sure the Friend "dies at the hands of their maddened sibling".

41. A Friend who is a skilled precognitive has just received a flash of an impending atrocity to be committed by an Enemy. He or she needs the party to help them steal the Thing that will prove the Enemy's plans while dodging the assassins sent to eliminate the precog.

42. A Friend who is an exotic dancer is sought by an Enemy who won't take no for an answer. The dancer is secretly a Perimeter agent attempting to infiltrate a Place to destroy maltech research, and plots to use the party to help get him or her into the facility under the pretext of striking at the Enemy.

43. A young woman on an interplanetary tour needs the hire of local bodyguards. She turns out to be a trained and powerful combat psychic, but touchingly naive about local dangers, causing a social Complication that threatens to get the whole group arrested.

44. A librarian Friend has discovered an antique databank with the coordinates of a long-lost pretech cache hidden in a Place sacred to a long-vanished religion. The librarian is totally unsuited for danger, but necessary to decipher the obscure religious iconography needed to unlock the cache. The cache is not the anticipated Thing, but something more dangerous to the finder.

45. A fragment of orbital debris clips a shuttle on the way in, and the spaceport is seriously damaged in the crash. The player's ship or the only vessel capable of getting them off-planet will be destroyed unless the players can organize a response to the dangerous chemical fires and radioactives contaminating the port. A Friend is trapped somewhere in the control tower wreckage.

46. A Friend is allied with a reformist religious group that seeks to break the grip of the current, oppressive hierarchy. The current hierarchs have a great deal of political support with the authorities, but the commoners resent them bitterly. The Friend

seeks to secure a remote Place as a meeting-place for the theological rebels.

47. A microscopic black hole punctures an orbital station or starship above the world. Its interaction with the station's artificial grav generators has thrown everything out of whack, and the station's become a minefield of dangerously high or zero grav zones. It's tearing itself apart, and it's going to collapse soon. An Enemy seeks to escape aboard the last lifeboat and to Hell with everyone else. Meanwhile, a Friend is trying to save his engineer daughter from the radioactive, grav-unstable engine rooms.

48. The planet has a sealed alien ruin, and an Enemy-led cult who worships the vanished builders. They're convinced that they have the secret to opening and controlling the power inside the ruins, but they're only half-right. A Friend has found evidence that shows that they'll only devastate the planet if they meddle with the alien power planet. The party has to get inside the ruins and shut down the engines before it's too late. Little do they realize that a few aliens survive inside, in a stasis field that will be broken by the ruin's opening.

49. An Enemy and the group are suddenly trapped in a Place during an accident or Complication. They must work together to escape in time.

50. A telepathic Friend has discovered that an Enemy was responsible for a recent atrocity. Telepathic evidence is useless on this world, however, and if she's discovered to have scanned his mind she'll be lobotomized as a 'rogue psychic'. A Thing might be enough to prove his guilt, if the party can figure out how to get to it without revealing their Friend's meddling.

51. A Friend is responsible for safeguarding a Thing- yet the Thing is suddenly proven to be a fake. The party must find the real object and the Enemy who stole it or else their Friend will be punished as the thief.

52. A Friend is bitten by a poisonous local animal while in a remote Place. The only antidote is back at civilization, yet a Complication threatens to delay the group until it is too late.

53. A lethal plague has started among the residents of the town, but a Complication is keeping aid from reaching them. An Enemy is taking advantage of the panic to hawk a fake cure at ruinous prices, and a Friend is taken in by him. The Complication must be overcome before help can reach the town.

54. A radical political party has started to institute pogroms against "groups hostile to the people". A Friend is among those groups, and needs to get out of town before an Enemy uses the riot as cover to settle old scores.

55. An Enemy has sold the party an expensive but worthlessly flawed piece of equipment before lighting out for the back country. He and his plunder are holed up at a remote Place.

56. A concert of offworld music is being held in town, and a Friend is slated to be the star performer. Reactionary elements led by an Enemy plot to ruin the "corrupting noise" with sabotage that risks getting performers killed. Meanwhile, a crowd of ignorant offworlder fans have landed and are infuriating the locals.

57. An Enemy is wanted on a neighboring world for some heinous act, and a Friend turns up as a bounty hunter ready to bring him in alive. This world refuses to extradite him, so the capture and retrieval has to evade local law enforcement.

58. An unanticipated solar storm blocks communications and grounds the poorly-shielded grav vehicle that brought the group to this remote Place. Then people start turning up dead; the storm has awoken a dangerous Enemy beast.

59. A Friend has discovered a partially-complete schematic for an ancient pretech refinery unit that produces vast amounts of something precious on this world- water, oxygen, edible compounds, or the like. Several remote Places on the planet are indicated as having the necessary pretech spare parts required to build the device. When finally assembled, embedded self-modification software in the Thing modifies itself into a pretech combat bot. The salvage from it remains very valuable.

60. A Complication ensnares the party where they are in an annoying but seemingly ordinary event. In actuality, an Enemy is using it as cover to strike at a Friend or Thing that happens to be where the PCs are.

61. A Friend has a cranky, temperamental artificial heart installed, and the doctor who put it in is the only one who really understands how it works. The heart has recently started to stutter, but the doctor has vanished. An Enemy has snatched him to fit his elite assassins with very unsafe combat mods.

62. A local clinic is doing wonders in providing free health care to the poor. In truth, it's a front for an offworld eugenics cult, with useful "specimens" kidnapped and shipped offworld while 'cremated remains' are given to the family. A Friend is snatched by them, but the party knows they'd have never consented to cremation as the clinic staff claim.

63. Space pirates have cut a deal with an isolated backwoods settlement, off loading their plunder to merchants who meet them there. A Friend goes home to family after a long absence, but is kidnapped or killed before they can bring back word of the dealings. Meanwhile, the party is entrusted with a valuable Thing that must be brought to the Friend quickly.

64. A reclusive psychiatrist is offering treatment for violent mentally ill patients at a remote Place. His treatments seem to work, calming the subjects and returning them to rationality, though major memory loss is involved and some severe social clumsiness ensues. In actuality, he's removed large portions of their brains to fit them with remote-control units slaved to an AI in his laboratory. He intends to use them as drones to acquire more "subjects", and eventual control of the town.

65. Vital medical supplies against an impending plague have been shipped in from offworld, but the spike drive craft that was due to deliver them misjumped, and has arrived in-system as a lifeless wreck transmitting a blind distress signal. Whoever gets there first can hold the whole planet hostage, and an Enemy means to do just that.

66. A Friend has spent a substantial portion of their wealth on an ultra-modern new domicile, and invites the party to enjoy a weekend there. An Enemy has hacked the house's computer system to trap the inhabitants inside and use the automated fittings to kill them.

67. A mud slide, hurricane, earthquake, or other form of disaster strikes a remote settlement. The party is the closest group of responders, and must rescue the locals while dealing with the unearthed, malfunctioning pretech Thing that threatens to cause an even greater calamity if not safely defused.

68. A Friend has found a lost pretech installation, and needs help to loot it. By planetary law, the contents belong to the government.

69. An Enemy mistakes the party for the kind of offworlders who will murder innocents for pay- assuming they aren't that kind, at least. He's sloppy with the contact and unwittingly identifies himself, letting the players know that a Friend will shortly die unless the Enemy is stopped.

70. A party member is identified as a prophesied savior for an oppressed faith or ethnicity. The believers obstinately refuse to believe any protestations to the contrary, and a cynical Enemy in government decides the PC must die simply to prevent the risk of uprising. An equally cynical Friend is determined to push the PC forward as a savior, because that's what's needed.

71. Alien beasts escape from a zoo and run wild through the spectators. The panicked owner offers large rewards for recapturing them live, but some of the beasts are quite dangerous.

72. A trained psychic is accused of going feral by an Enemy. The psychic had already suffered severe neural damage before being found for training, so brain scans cannot establish physical signs of madness. The psychic seems unstable, but not violent- at least, on short acquaintance. The psychic offers a psychic PC the secrets of a unique psychic technique if they help him flee.

73. A Thing is the token of rulership on this world, and it's gone missing. If it's not found rapidly, the existing ruler will be deposed. Evidence left at a Place suggests that an Enemy has it, but extralegal means are necessary to investigate fully.

74. Psychics are vanishing, including a Friend. They're being kidnapped by an ostensibly-rogue government researcher who is using them to research the lost psychic disciplines that helped enable pretech manufacturing, and they are being held at a remote Place. The snatcher is a small-time local Enemy with unnaturally ample resources.

75. A Friend desperately seeks to hide evidence of some past crime that will ruin his life should it come to light. An Enemy holds the Thing that proves his involvement, and blackmails him ruthlessly.

76. A courier mistakes the party for the wrong set of offworlders, and wordlessly deposits a Thing with them that implies something awful- med-frozen, child-sized human organs, for example, or a private catalog of gengineered human slaves. The courier's boss shortly realizes the error, and this Enemy tries to silence the PCs while preserving the Place where his evil is enacted.

77. A slowboat system freighter is taken over by Enemy separatist terrorists at the same time as the planet's space defenses are taken offline by internal terrorist attacks. The freighter is aimed straight at the starport, and will crash into it in hours if not stopped.

78. Alien artifacts on the planet's surface start beaming signals into the system's asteroid belt. The signals provoke a social Complication in panicked response, and an Enemy seeks to use the confusion to take over. The actual effect of the signals might be harmless, or might summon a long-lost alien AI warship to scourge life from the world.

79. An alien ambassador Friend is targeted by xenophobe Enemy assassins. Relations are so fragile that if the ambassador even realizes that humans are making a serious effort to kill him, the result may be war.

80. A new religion is being preached by a Friend on this planet. Existing faiths are not amused, and an Enemy among the hierarchy is provoking the people to persecute the new believers, hoping for things to get out of hand.

81. An Enemy was once the patron of a Friend until the latter was betrayed. Now the Friend wants revenge, and they think they have the information necessary to get past the Enemy's defenses.

82. Vital life support or medical equipment has been sabotaged by offworlders or zealots, and must be repaired before time runs out. The only possible source of parts is at a Place, and the saboteurs can be expected to be working hard to get there and destroy them, too.

83. A Friend is importing offworld tech that threatens to completely replace the offerings of an Enemy businessman. The Enemy seeks to sabotage the friend's stock, and thus 'prove' its inferiority.

84. An Exchange diplomat is negotiating for the opening of a branch of the interstellar bank on this world. An Enemy among the local banks wants to show the world as being ungovernably unstable, so provokes Complications and riots around the diplomat.

85. An Enemy is infuriated by the uppity presumption of an ambitious Friend of a lower social caste, and tries to pin a local Complication on the results of his unnatural rejection of his proper place.

86. A Friend is working for an offworld corporation to open a manufactory, and is ignoring local traditions that privilege certain social or ethnic groups, giving jobs to the most qualified workers instead. An angry Enemy seeks to sabotage the factory.

87. An offworld musician who was revered as little less than a god on his homeworld requires bodyguards. He immediately acquires Enemies on this world with his riotous ways, and his guards must keep him from getting arrested if they are to be paid.

88. Atmospheric disturbances, dust storms, or other particulate clouds suddenly blow into town, leaving the settlement blind. An Enemy commits a murder during the darkness, and attempts to frame the players as convenient scapegoats.

89. An Enemy spikes the oxygen supply of an orbital station or unbreathable-atmosphere hab dome with hallucinogens as cover for a theft. Most victims are merely confused and disoriented, but some become violent in their delusions. By chance, the party's air supply was not contaminated.

90. By coincidence, one of the party members is wearing clothing indicative of membership in a violent political group, and thus the party is treated in friendly fashion by a local Enemy for no obvious reason. The Enemy assumes that the party will go along with some vicious crime without complaint, and the group isn't informed of what's in the offing until they're in deep.

91. A local ruler wishes outworlders to advise him of the quality of his execrable poetry- and is the sort to react very poorly to anything less that evidently sincere and fulsome praise. Failure to amuse the ruler results in the party being dumped in a dangerous Place to "experience truly poetic solitude".

92. A Friend among the locals is unreasonably convinced that offworlder tech can repair anything, and has blithely promised a powerful local Enemy that the party can easily fix a damaged pretech Thing. The Enemy has invested in many expensive spare parts, but the truly necessary pieces are kept in a still-dangerous pretech installation in a remote Place.

93. The party's offworld comm gear picks up a chance transmission from the local government and automatically descrambles the primitive encryption key. The document is proof that an Enemy in government intends to commit an atrocity against a local village with a group of "deniable" renegades in order to steal a Thing kept in the village.

94. A Friend belongs to a persecuted faith, ethnicity, or social class, and appeals for the PCs to help a cell of rebels get offworld before the Enemy law enforcement finds them.

95. A part on the party's ship or the only other transport out has failed, and needs immediate replacement. The only available part is held by an Enemy, who will only willingly relinquish it in exchange for a Thing held by an innocent Friend who will refuse to sell at any price.

96. Eugenics cultists are making gengineered slaves out of genetic material gathered at a local brothel. Some of the unnaturally tempting slaves are being slipped among the prostitutes as bait to infatuate powerful officials, while others are being sold under the table to less scrupulous elites.

97. Evidence has been unearthed at a Place that substantial portions of the planet are actually owned by members of an oppressed and persecuted group. The local courts have no intention of recognizing the rights, but the codes with the ownership evidence would allow someone to bypass a number of antique pretech defenses around the planetary governor's palace. A Friend wants the codes to pass to his friends among the group's rebels.

98. A crop smut threatens the planet's agriculture, promising large-scale famine. A Friend finds evidence that a secret government research station in the system's asteroid belt was conducting experiments in disease-resistant crop strains for the planet before the Silence struck and cut off communication with the station. The existing government considers it a wild goose chase, but the party might choose to help. The station has stasis-frozen samples of the crop sufficient to avert the famine, but it also has less pleasant relics….

99. A grasping Enemy in local government seizes the party's ship for some trifling offense. The Enemy wants to end offworld trade, and is trying to scare other traders away. The starship is held within a military cordon, and the Enemy is confident that by the time other elements of the government countermand the order, the free traders will have been spooked off.

100. A seemingly useless trinket purchased by a PC turns out to be the security key to a lost pretech facility. It was sold by accident by a bungling and now-dead minion of a local Enemy, who is hot after the party to "reclaim" his property… preferably after the party defeats whatever automatic defenses and bots the facility might still support.

An Example of Adventure Creation

The GM has just started a new campaign, and he needs to brew up an initial adventure to pull the party together and get them accustomed to the sector he's just created. He knows what planet the PCs are going to begin on and he knows he wants them to end up owning a battered free merchant starship by the end of the session, but the rest is still up in the air.

He starts by deciding whether or not to use an adventure seed. While he sees a few that might work, he decides instead to roll up this adventure from scratch.

The world he's created is a planet known to its natives as Delaine, with the world tags "Alien Ruins" and "Xenophobes". The Delainers have numerous unexplored alien ruins on their world, but fear them as potential sources of catastrophe. They hate outsiders because the offworlders are constantly prodding at the ruins and trying to loot them, and care nothing for the disasters they might unleash on the locals.

The GM knows that his first batch of PCs are very unlikely to all be Delainers, so he decides that they were all passengers on a smuggler ship that tried to land on Delaine and loot one of the ruins. The Delainer defense grid spotted the ship and knocked it down, however, and the PCs were among the few survivors. Maybe the PCs were initially part of the smuggler crew, or maybe they were just oblivious passengers. The GM will let each player decide what their PC's role was during character creation.

The first step is to pick a Problem for the PCs to get involved in. On the face of it, the obvious Problem for the PCs is that they're marooned on a hostile world and need to get off before the natives find them and either kill or imprison them.

The GM wants something a little more specific than this, however. He rolls some dice on the Conflict table, and comes up with "Ethnicity" for the Conflict, with "Two groups that hate each other" and "Official ethnic ghettos". Given Delaine's history, the GM decides that any non-native Delainers present when the world shut down its contact with other planets were separated out into remote ethnic reservations, far away from the ruins. These "offworlders" have been here for generations but are despised by the native Delainers.

With that established, the GM decides that the PC's ship was shot down near one of these reservations, and the bitter offworlders are interested in helping people whom the Delainers hate. But who will the initial Person the PCs contact be?

The dice paint the picture of an offworlder motivated to redeem themselves from a prior failure, who wants to find proof of a rival NPC's malfeasance, who knows where significant wealth is to be found, and wears a particularly odd style of dress. From this, the GM creates "the Captain", a former ruin smuggler whose crew was gunned down while trying to loot an alien ruin. Only he survived, and his guilt is intense. He still wears a nautical captain's hat, and is hiding out among the offworlders. He knows where he's hidden his ship and can guide the PCs to it if they can make the dangerous overland journey.

The GM isn't so certain about the Captain's want, however. While something like that would make a good sideline for a longer adventure, he wants this initial adventuring session to be relatively short and straightforward. He replaces the want with the Captain's desire for the PCs to get him and his young offworlder wife off the planet, bringing them to just about any place that isn't on Delaine. He's willing to give the PCs his ship if they just help him get away.

Why hasn't the Captain snuck off with his young bride yet? To answer that question, the GM turns to the Places section and rolls up a hazard. The result is "Sentient", which means that there's an intelligent enemy between the Captain and the ship. The GM mulls over the possibilities for a while, and decides the Captain wasn't the only survivor. His first mate made it out too, and blames the Captain. He's gathered together a small band of offworlder rebels and is seeking to loot ruins and harm Delainers, because he can't operate the ship without the Captain's security codes and he's not sufficiently talented to hack the locks himself.

At this point, the GM looks at the adventure and identifies the bits he needs to flesh out. He needs to detail the Captain, the first mate, the offworlder rebels, and the Delainer security chief who will seek to apprehend the PCs if they're not sufficiently stealthy. All of these people will need combat stats. The Captain's wife, the offworlder reservation locals, and other bit NPCs are unlikely to get into a fight, and don't need stats.

The GM decides he doesn't need a map for the offworlder reservation settlement, but he does need a map of the terrain between the settlement and the hidden ship. He downloads a suitable terrain map from the web for that. On the map, he plants a few Wilderness Ongoings from the Places table that the PCs may or may not encounter depending on how they chart their course.

The last detail to flesh out is the first mate's rebel camp, and how the PCs might get at the starship they're guarding. The GM decides that it's not reasonable for the first mate to have accumulated a vast number of minions, but there are too many for the PCs to comfortably engage. The PCs will have to think of some way to distract them, or possibly sic the Delainer security chief on them before they can get to the ship. It's not the GM's job to hand them a solution, so they'll have to puzzle it out on their own.

With that done, the starting adventure is ready. The GM might add some more details and fluff, but what he has is a playable start to a campaign.

XENOBESTIARY

A band of interstellar adventurers can expect to encounter a wide range of creatures in the course of their travels. Whether the hungry fauna of an uncharted planet or the trigger-happy gunmen of an alien organ smuggler, a GM needs to have the relevant statistics at hand to manage probable hostilities.

Handling Potential Combat

Before picking foes from this chapter, however, a GM should make sure that the enemies chosen and the perils generated are appropriate for the situation. This does *not* mean that the enemies have to be an "appropriate" combat challenge for the PC group, one that they have a reasonable chance of defeating. It means that they should be appropriate to the location and role they fill in the setting.

If there's a stretch of wilderness adjacent to a human community, a party-eating hellbeast should not be lairing there without some notice by the locals. If such an unstoppable horror does exist secretly in the wilderness, the fact that it is hidden should be somehow explained or meaningful. NPCs notice hazards next door, and PCs who pay attention should hear about that danger before they end up walking into its cave.

In the same vein, if the PCs run into a bunch of street thugs, the hooligans should not be exhibiting Spartan discipline and crack military expertise unless the PCs have gone slumming on a planet of genetic super-soldiers. The goons might actually not be much of a combat threat at all, and dangerous only for the potential grudges the PCs could earn in executing them.

Lastly, don't add combat encounters that are unavoidable. There are very few realistic situations where the only possible result is a gun battle. A group of trigger-happy mercs might happen to be sitting directly on top of the party's objective, but if there's no way to lure them away or sneak past them– or worse, if you're not prepared to allow the PCs to *try* to lure them away or sneak past them– then the players will learn not to try to solve problems with anything but a hot gun barrel.

Combat in **Stars Without Number** is dangerous. Every squeeze of a trigger risks killing a novice adventurer, and even a veteran of countless heroic deeds can get mowed down in a hurry by a half-dozen goons with mag rifles. If your adventures funnel the PCs into near-unavoidable firefights or saber-toothed alien monsters, the PCs are going to suffer casualties. A certain degree of death can add spice and excitement to a game and help make player choices feel more meaningful, but inevitable gory disembowelment in the third inescapable pirate brawl of the day is just tedious.

The Reaction Roll

One of the GM's most important tools for managing encounters with NPCs is the **reaction roll**. Whenever the PCs first meet with a creature or NPC, the GM should roll 2d6 and consult the following table.

2d6	Reaction Result
2	*Hostile*, reacting as negatively as is plausible
3-5	*Negative*, unfriendly and unhelpful
6-8	*Neutral*, reacting predictably or warily
9-11	*Positive*, potentially cooperative with PCs
12	*Friendly*, helpful as is plausible to be

The result should be taken in context. If the PCs just happen to run into a pack of hab-complex gangers, a positive result might simply mean the gangers think it's a bad idea to interfere with the PCs. That same result when meeting a bored starport bureaucrat might mean she's feeling magnanimous, and is willing to help the PCs accomplish their purpose. In general, low results make the situation more hostile than the predictable baseline, while high results make the NPC more friendly or cooperative than they might normally be under the circumstances.

Reaction rolls are important because they help a GM adjudicate a situation in a potentially surprising or interesting way. If the PCs are crossing a radioactive badland crawling with violent scavenger tribes, the GM might just reflexively assume that every scavenger band they encounter is immediately going to reach for their scrap-guns. A reaction roll is a cue for the GM to pause and think, and a friendly result can open up a situation with far more potential novelty than the sixth consecutive gun battle. Conversely, even if everything seems to suggest an NPC should be helpful and friendly toward the PCs, a negative result can get the GM thinking about potential reasons *why* the NPC is so hostile towards supposedly allied PCs.

An NPC or a group's initial reaction is not the last word, of course. A silver-tongued PC might be able to talk them out of hostility or induce them to do the party a favor, and more pragmatic offers of money, favors, or incipient violence might also sway their attitudes. Such manipulation happens after the initial attitude is determined, however, and what exactly the PCs offer or threaten will usually depend on how the NPC is initially reacting to them.

HUMANITY

Humans are likely to form the great majority of the NPCs that the heroes encounter, whether as patrons, companions, or the targets of their guns. In many cases a GM won't need to bother with combat statistics for an NPC. They might be so unmartial that they can present no serious threat to a party of hardened freebooters, or so distant that there's no real chance that they'll become engaged in combat. In others, however, it's necessary to decide how much a particular NPC is worth in a fight.

The example human opponents here assume normal baseline humanity. Those who have received extensive cyberware, gengineering, psychic augmentation, or other exotic treatments may have abilities far in excess of their normal brethren, including unique powers and special abilities.

Degrees of Danger

Most human NPCs on advanced, civilized planets are of almost no use in combat. By societal training and personal inclination, they are almost incapable of responding to lethal threats with a quick, decisive reaction. Citizens of less peaceful societies, where violence is a commonplace, will have more useful reactions to such hostilities. Men and women who have been hardened to combat by experience or training will also respond more effectively.

The combat statistics provided here cover the usual range of human martial talent. At the bottom are those soft citizens of peaceful worlds and at the top are those engines of mortal ruin who are the most dangerous men and women in the sector. Even more heroic appetites for slaughter can be found in those who have been altered by genetic engineering or advanced technical modifications, but such paragons of pain are special cases to be judged by the GM accordingly.

When assigning combat statistics to NPC, it's important not to be influenced by the personal prowess of the PCs. If country estate is protected by ordinary security guards, then the guards should *be* ordinary security guards, whether or not the party could reasonably hope to defeat a dozen such protectors in open combat. The universe does not scale to the PCs. If a party of untested novices finds themselves facing a squad of elite killers, they should *run*. If those famously lethal killers encounter the PCs six levels later, their fame might get abbreviated in a hurry by the PCs' grim new expertise.

This even-handedness is important in creating a plausible, functional world for the players to operate in. If they know that challenges will be scaled up or down to give them a "fair fight" then it hardly matters what challenges they choose to face. Planning to carefully avoid excess dangers and betting on overcoming more reasonable threats makes their choices meaningful in your game world, and encourages the players to engage carefully with the setting.

Using the Table

The table provided in this section gives you benchmarks for some basic NPC types and then a selection of specific examples. When you're creating your own NPCs, you can use the benchmarks to get an idea of where they should be, and the specific examples can be pulled during play when you're in need of quick opponents to stock your adventures.

The table provides simplified combat statistics. NPCs don't normally have foci, specific skill levels, attribute scores, or any of the other details that add complexity to PCs. Nor do they have classes or class abilities. Instead, simpler totals and summaries are used to account for these other factors. You can give NPCs class powers and foci if you wish, or even create an NPC as if they were a full-fledged PC, but that kind of detail and work is more than most NPCs are worth.

HD is the NPC's *hit dice*. The overwhelming majority of NPCs have only one hit die. Only men and women with a history of surviving violence and dealing with mortal peril should have more than one hit die. Just because an NPC is "important" doesn't mean they have more hit dice. The CEO of an interstellar megacorp probably has one hit die, as does the president of the planetary government. Conversely, the grizzled warrior-king of a lostworlder monarchy or a poison-wary bishop of a church where promotion is through mortality might have half a dozen hit dice. The most danger-hardened legends of a sector should have about ten hit dice, or more if they've been somehow altered by gengineering or advanced technology. An NPC's *hit points* are rolled at 1d8 for each hit die.

AC is the NPC's usual Armor Class. This will vary with the armor they're wearing, and some NPCs might have an included +1 or +2 bonus if they're especially dexterous, but the listed score reflects the armor they usually have on. By default, this is street armor that is not obvious to casual inspection. Some entries are marked "primitive", meaning that their armor is ignored by advanced weapons, while others are marked "combat", meaning that they wear very obviously protective armor. Such NPCs might need to wear less obvious gear in some social situations. A few of them are marked "powered", meaning that the NPC normally has access to some kind of advanced power armor that renders them immune to primitive weapons. When creating your own NPCs, give them the armor that is appropriate to their role and situation.

Atk is the NPC's attack bonus. For the sake of simplicity, this includes any attribute modifiers, skill bonus, or other extra lethality that the NPC might have earned. For most NPCs, their attack bonus is equal to their hit dice. Martial NPCs might have an additional bonus on top of that, or even attack twice with each Main Action.

General NPC Type	HD	AC	Atk.	Dmg.	Move	ML	Skills	Saves
Peaceful Human	1	10	+0	Unarmed	10m	6	+1	15+
Martial Human	1	10	+1	By weapon	10m	8	+1	15+
Veteran Fighter	2	14	+2	By weapon +1	10m	9	+1	14+
Elite Fighter	3	16 (combat)	+4	By weapon +1	10m	10	+2	14+
Heroic Fighter	6	16 (combat)	+8	By weapon +3	10m	11	+3	12+

Specific Examples	HD	AC	Atk.	Dmg.	Move	ML	Skills	Saves
Barbarian Hero	6	16 (primitive)	+8	By weapon +3	10m	11	+3	12+
Barbarian Tribal	1	12 (primitive)	+2	By weapon	10m	8	+1	15+
Gang Boss	3	14	+4	By weapon +1	10m	9	+2	14+
Gang Member	1	12	+1	By weapon	10m	7	+1	15+
Gengineered Killer	4	16	+5	By weapon +1	15m	10	+2	13+
Legendary Fighter	10	20 (powered)	+12 x 2	By weapon +4	10m	12	+5	10+
Military Elite	3	16 (combat)	+4	By weapon +1	10m	10	+2	14+
Military Soldier	1	16 (combat)	+1	By weapon	10m	9	+1	15+
Normal Human	1	10	+0	Unarmed	10m	6	+1	15+
Pirate King	7	18 (powered)	+9	By weapon +2	10m	11	+3	12+
Police Officer	1	14	+1	By weapon	10m	8	+1	15+
Serial Killer	6	12	+8	By weapon +3	10m	12	+3	12+
Skilled Professional	1	10	+0	By weapon	10m	6	+2	15+
Warrior Tyrant	8	20 (powered)	+10	By weapon +3	10m	11	+3	11+

Dmg is the damage the NPC inflicts in combat. For human combatants, this depends on the weapon they're using, with most ordinary men and women carrying no real weapon. Very capable warriors might do additional damage on top of the weapon's roll, from +1 to +4 points.

Move is the distance the NPC travels when they take a Move action in combat. For humans, this is ten meters, though gengineered or other boosted subjects might be able to move faster than this.

ML is the NPC's Morale score, their likelihood of retreating when in danger. When an NPC faces unusual peril, they need to make a Morale check on 2d6. If they roll equal or less than their Morale score, they withstand the danger and continue fighting. If they roll more than their Morale, they break. Poorly-trained combatants will simply run for their lives or beg for mercy, while more hardened ones will make a fighting withdrawal to a place of safety. PCs never need to make Morale checks.

Most groups will need to make a Morale check the first time one of their members is killed or disabled, and the first time it looks like they're losing the fight. If they succeed in both checks, they'll continue fighting as long as it doesn't seem hopeless. NPCs with no martial aptitude at all must also make a Morale check when lethal combat begins; on a failure, they're too shocked, frightened, or disbelieving to do anything useful, and will stand frozen, run in terror, or try to ignore what's obviously happening around them.

Skills summarizes the NPC's general aptitude at skill checks related to their profession or role. When the NPC needs to make a skill check or compete in an opposed skill check, they may add this skill bonus to their roll if the test relates to role. If the activity has nothing especially to do with what the NPC would be good at, they cannot add this bonus, and just roll the skill check unmodified. Most NPCs will have this at +1, while skilled professionals will have it at +2, and exceptionally gifted and expert NPCs will have it at +3 or +4. Sector-wide legends will have it at +5.

Saves are the single saving throw score that all NPCs use whenever they need to make a saving throw. Whether Mental Physical, or Evasion, the NPC rolls against this single target. Most NPCs have a save score of 15 minus half their hit dice, rounded down.

Psychics and Special Traits

When building NPCs with psychic powers or other special abilities, it's usually not worth the effort of rolling them up like PCs. Just assign them a few abilities you think will matter during the game and give them a third of their hit dice in maximum Effort, rounded up.

In the same vein, gengineered humans or rare virtuosos might have abilities akin to Foci or unique powers. Just assign them as fits the situation, and don't worry about making them like PCs.

ROBOTS AND VIs

The prevalence of robots varies between sectors. Some positively teem with sentient VIs programmed for various purposes, while others have hardly any robotics at all beyond industrial automation. The creation of particularly sophisticated bots, especially sentient-seeming VIs, is critically influenced by the local metadimensional energy environment. With an unfriendly higher-order energy shadow, the intricate quantum flux of VI "brains" cannot function properly. True AIs are immune to such vagaries, but True AIs are almost impossible to create in bulk, even for the lost industries of the Terran Mandate.

Expert Systems and VIs

In the vast majority of sectors, robots are operated by expert systems programmed to carry out a specific kind of work. These expert systems may feign human intelligence, but they are non-sentient and incapable of dealing with environments and situations outside their normal operational scope. The more sophisticated and expensive the expert system, the more flexible it is about handling events within its purview.

In some sectors, however, the local environment is suitable for the creation of extremely sophisticated expert systems bolstered by quantum neural nets. It is a constant point of debate over whether the resultant "Virtual Intelligences" are truly self-aware or simply give a perfect impression of such. Some sectors hold the former, and grant VI full human rights, forbidding their makers from implanting behavioral imperatives. Most sectors believe the latter, using VIs as a labor force programmed to deeply enjoy their utilitarian function. VIs in such sectors can be bought, sold, and mistreated much as any other piece of property.

While VIs have or can mimic human-level intelligence, they can also be programmed with behavioral imperatives or curbs, giving them a deep urge to perform a certain kind of work or an unbreakable inability to carry out certain kinds of acts. Most service VIs are programmed with imperatives to love their work and be thoroughly happy in carrying it out, as well as with curbs against harming human beings or allowing themselves to be damaged. These impulses are overwhelming, but not especially nuanced; the more specific and complex the programmed psychological limit, the more prone it is to failure or misguidance.

VIs are not True AIs. They do not have a quantum identity core and they are inexorably tied into the specific hardware and chassis they were created to operate. While mods and adjustments can be made to this "birth body", the VI cannot be transplanted into a new chassis, nor can they survive the destruction of their body.

VIs are much more difficult to produce than non-sentient expert systems. The quantum growth process is much more reliable and tractable than that used to create a True AI, but it still fails annoyingly often. As a consequence, even sectors where the environment allows the creation of VIs often prefer to use simple, cheap, reliably-replicable "dumb" expert systems for mundane tasks.

Expert System Bots

The robots listed in the adjacent table are standard-issue expert system bots, each one equipped with a level 1 expert system. Each expert system is programmed to handle a particular role: security, tour guidance, industrial labor, household cleaning, personal companionship, child care, or some other general field. The most basic programming and cognitive hardware counts as a "level 1" system. More sophisticated work allows for level 2 programming, up to level 4 as the maximum for most TL4 sectors.

Each level of expert system beyond the first comes with upgrades to the robot's durability, danger management, and exception handling skills. They also add to the robot's base cost; a level 2 expert system doubles a robot's base cost, for example. The table below gives the various expert system levels, the hit die and saving throw bonus granted by each, the attack bonus a given level adds, and the skill check modifier to be applied to checks related to the bot's intended function.

Level	HD	Atk.	Skill	Save	Cost
1	Base	Base	Base	Base	Base
2	+1	+1	+1	1 lower	x2
3	+2	+2	+1	1 lower	x4
4	+4	+4	+2	2 lower	x8

Whenever the bot is put in a position not covered by its programming, it needs to make a confusion check. The GM rolls 2d6, adding its skill bonus, against a difficulty based on the strangeness of the situation. A situation partly within its usual compass might be difficulty 7, while a completely uncovered event would be difficulty 9, and a situation that is both completely uncovered and clearly dangerous would be 11. On a success, the expert system does something reasonable and in line with its function. On a failure, the expert system does what it's normally meant to do in an inappropriate way or direction.

Damaged bots can be repaired by someone with at least Fix-0 skill and a postech toolkit. One unit of spare parts and fifteen minutes of work can repair a number of lost hit points equal to the bot's expert system level. Expert system bots reduced to zero hit points are destroyed and cannot be salvaged.

Expert system bots do have "morale" of a kind; when destruction seems imminent, most are programmed to retreat. This can be overridden by owners.

Robot Type	HD	AC	Atk.	Dmg.	Move	ML	Skills	Saves	Cost
Janitor Bot	1	14	N/A	N/A	5m	8	+1	15+	1,000
Civilian Security Bot	1	15	+1	1d8 stun	10m	12	+1	15+	5,000
Repair Bot	1	14	+0	1d6 tool	10m	8	+1	15+	5,000
Industrial Work Bot	2	15	+0	1d10 crush	5m	8	+1	14+	2,000
Companion Bot	1	12	+0	1d2 unarmed	10m	6	+1	15+	2,500
Soldier Bot	2	16	+1	By weapon	10m	10	+1	14+	10,000
Heavy Warbot	6	18	+8 x 2	2d8 plasma	15m	10	+2	12+	50,000

Virtual Intelligences

In sectors where VIs can still be manufactured, the price is equivalent to ten times the cost of an equivalent expert system bot. Thus, a stock companion bot upgraded with VI programming would cost 25,000 credits. To give a top-of-the-line heavy warbot with a level 4 expert system VI wiring would leave the bot costing a tremendous four million credits.

VI wiring does not integrate well with conventional expert system programming. The same static procedures and protocols that can make a level 4 expert system so good at its specific task are difficult for a human-like VI intellect to process, and it requires intensive and expensive cognitive reinforcement to allow the VI to take advantage of these resources. As a consequence, it is very rare for VIs to be implanted in high-end expert system bots.

Most VIs do not develop additional skills or competencies, nor do they exhibit personal growth or changes in personality. They are the way they have been programmed, even if inhibitor curbs and behavioral imperatives are absent.

Some VIs, however, are different. For whatever inexplicable reason, these VIs are capable of learning and growing as human beings are. They lack the potential for godlike intelligence possessed by True AIs and they cannot make effective use of supplementary cognitive resources as True AIs can, but over time and with experience, these VIs can become as skilled and capable as any human.

Such "clever" VIs are an annoyance in sectors where VI bots are common. Buyers don't want their receptionist bots to suddenly decide they'd rather be poets, and while behavioral imperatives and inhibitor curbs still have an effect on clever VIs, some of these bots can "out-think" their limits and sidestep these blocks. Some worlds allow clever VIs to exist as free citizens, while others consider them public nuisances to be scrapped if they wander off from their owners.

VI bots are more durable than their ordinary cousins. If reduced to zero hit points by trauma less than a hit with a Heavy weapon or similar complete ruin, they can be repaired with 24 hours of work by one tech with Fix-0. Jury-rigging a downed VI back into operation is much faster, allowing them to "heal" with spare parts as if they were an ordinary bot. If reduced to zero HP again before a 24-hour overhaul, however, they perish.

Types of Bots

While a wide range of bots are available on the market in most sectors, the selection given here cover most of the robots likely to be encountered by PCs. Most civilian bots are programmed to avoid harming humans, but such programming can be overridden by sufficiently determined owners.

Janitor bots are ubiquitous, cheap and reliable droids that can clean up detritus and keep an office, street, or private home tidy. Their small size and limited array of tools make them useless in a fight save as targets or convenient explosives carriers.

Civilian security bots are sometimes found guarding locations. They're not smart enough to handle complex human interactions, but their tireless determination is convenient when guarding a place that few humans are expected to enter. Most models use a stunning touch that non-lethally disables targets, while less gentle bots are equipped with guns or melee weapons.

Repair bots and *industrial work bots* are found at work sites and in starships or other complex technical edifices. Expert system repair bots are extremely efficient about dealing with standard failures and damage, but they can "panic" when faced with crises beyond their usual operating parameters. Industrial work bots are slow, tough, heavy machines most often used for lifting and manipulating heavy objects in need of laser welding or other shaping.

Companion bots range from nannybots and petbots to specially-designed "companions" for other purposes. The latter are strictly regulated on many worlds, either to encourage reproduction, to quash their use for reprehensible urges, or out of perceived fears of societal decay and decadence.

Soldier bots are designed on humanoid lines so as to easily use standard human vehicles and equipment. The chaotic and confusing nature of warfare leaves most soldier bots of somewhat limited utility without a human bot wrangler to direct them, but when a wave attack is needed, a simple self-preservation toggle can be flipped off and the iron horde can be aimed at a foe.

Heavy warbots are ogreish engines of war with integral plasma guns and the ability to attack twice with each Main Action. In addition, most are capable of mounting a Heavy weapon which may be fired in lieu of the plasma guns. They're most often used as mobile heavy weapons platforms for squads in the field.
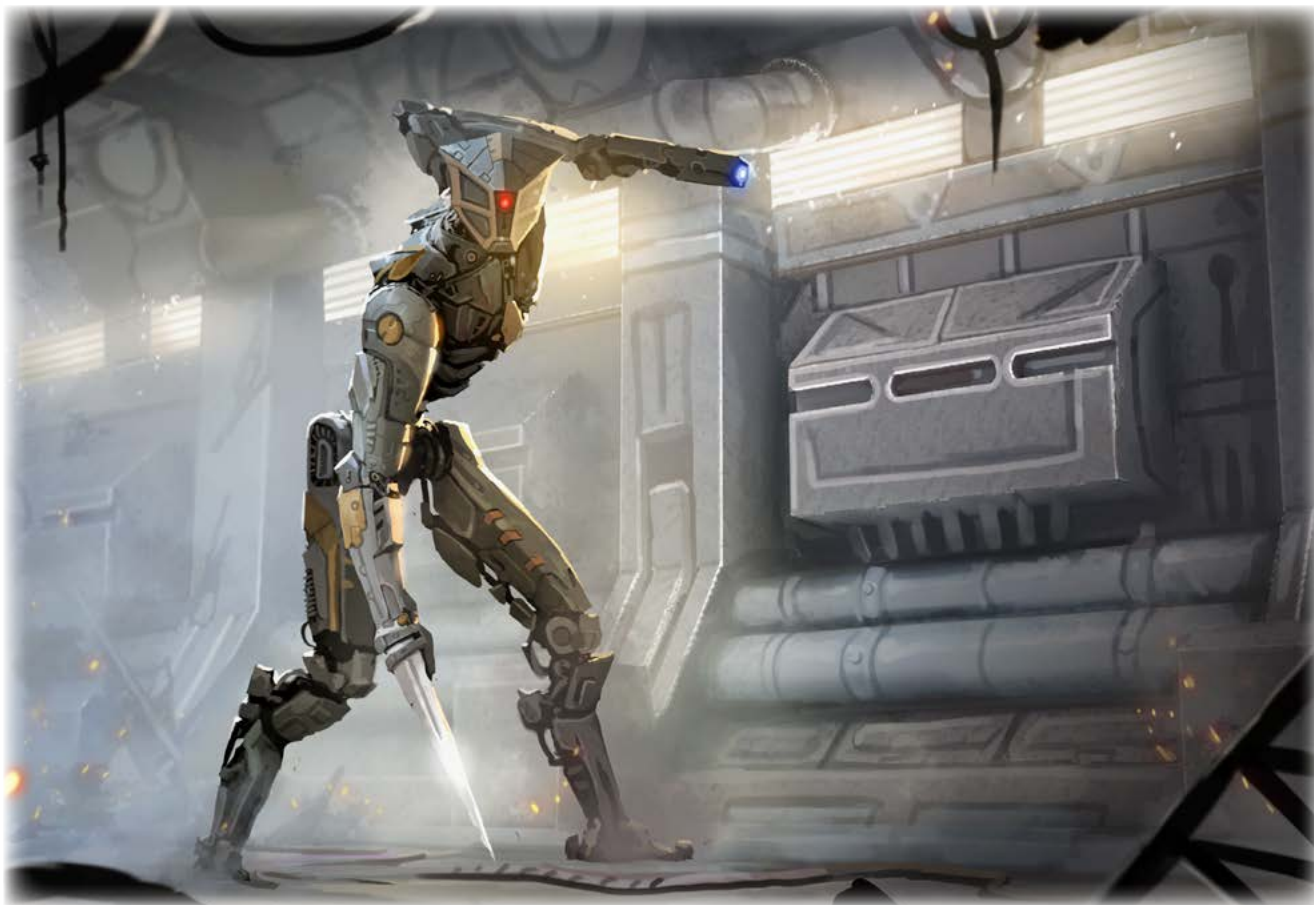
Robots In Your Campaign

A GM is not obligated to include VIs or ubiquitous robotics in her campaign. Adding these elements can have a significant effect on a setting, and sometimes they can prove to be a distraction from the sort of play that the group wants to have. A GM is always well within her rights to simply decide that the sector lacks the necessary metadimensional environment for VI production and is short on many of the critical minerals for producing expert system bots. Outside of industrial assembly lines and mindless extraction work, labor is performed by humans.

Sometimes, however, a GM will want to include VIs in her sector, either because she's emulating a genre where intelligent robots are a commonplace, or because a particular player wants to play a PC VI, or because she simply likes them.

If a GM does decide to add VIs to her setting, she'll need to decide how common they are and how most of the worlds in the sector treat them. The simplest way to do this is to gently gloss over the economic and social impact of VIs. The world operates much as it does today, with humans doing most of the work and VIs serving only occasional functions as showpieces of the wealthy or off-stage laborers in industry. They are programmed to love their work, they're "happy" in a robotic sense, and the various worlds of the sector give little consideration to wider issues of VI rights or the morality of programmed VI behavioral imperatives.

Other GMs will want to increase the impact of VIs on particular worlds. Perhaps some of them have largely replaced their low-skilled members with VI laborers, and the replaced humans are either frustrated and angry or kept pacified by robotic dole payments. Other worlds might dispute the lack of rights that most VIs have, insisting that a VI ought not to be programmed with behavioral imperatives at "birth", but be allowed to choose its own functionality. Of course, it might be that almost no one would bother to build them in that case, but such crusaders might believe it better that a VI never be "born" than that it be created in servitude. In brief, the GM can pick some aspect of VI existence and use the conflicts inherent in it to spice up the sector.

Expert system bots are less disruptive to a campaign because they come with less moral baggage that a society has to deal with. It's easy for a GM to simply decide that most expert system bots are only smart enough for simple industrial tasks or menial labor, and that the impact they have on the local economy doesn't necessarily force it into some strange futuristic pattern. There are still poor janitors, grouchy middle-aged security guards, and cynical street-corner prostitutes in an age of robotic labor.

Some PC groups will be very keen to buy robots of their own, the better to help in their adventures. So long as you keep an expert system's limitations in mind, this shouldn't be disruptive, and it would make an excellent sink for a party's excess money.

VI Player Characters

In campaigns where the GM allows it, a player can choose to make a VI as a player character. They do this by spending their free focus pick on one of the origins listed below. These origin foci have only one level, and normally can only be taken during character creation. In exceptional cases, a human PC transformed into a full-conversion cyborg might be allowed to take it later.

Special VI Rules

All VI PCs have the same attributes, hit points, abilities, and character classes as humans do, but normal VIs cannot be Psychics nor take the Partial Psychic class option for Adventurers. They are created the same way as any other human PC and start out at first level. While they may have been built to be a particular type of bot, they use their own statistics, and not those for their type on page 197. VIs that are not wearing armor normally have Armor Class 10, just as humans do.

VIs need neither sleep, eat, nor drink, requiring one Type B cell per week of operation away from readily-available current. They are immune to vacuum but suffer degradation from radiation as humans do. They cannot be poisoned or diseased by normal forms of toxin. They can be reprogrammed, altering or erasing their personality and behavioral limits, but such mental remodeling takes at least an undisturbed month to execute by someone with at least Program-1 skill. Most VIs will fight to their destruction to avoid such a fate.

VIs can be healed with spare parts and the work of someone with Fix-0 skill. VIs can always repair themselves, even without the requisite skill. Each unit of spare parts heals lost hit points equal to the VI's character level and takes fifteen minutes to apply. VIs cannot normally be affected by biopsionic healing effects.

VIs reduced to zero hit points but not entirely smashed are incapacitated and Badly Damaged. Removing this quality requires 24 hours of work by a technician and at least one unit of spare parts, after which damage can be repaired as normal. As a field expedient, a tech can jury-rig a Badly Damaged VI in the field, healing it with spare parts at the normal rate and speed. If such a bot is reduced to zero hit points again while Badly Damaged, however, it must make a Physical save or be permanently destroyed.

VIs are intimately connected to their specific hardware, and cannot be transplanted into new forms. Cosmetic alterations can be made, however, and equipment can be grafted into the VI's chassis. Such built-in equipment costs twice as much as a stand-alone component and takes a week to properly integrate into the VI's system. A VI can have a total number of encumbrance points worth of additional gear grafted onto it equal to half its Constitution score, rounded down. Such gear may require its own separate power source or ammunition supply. VIs cannot make use of cyberware.

Android

You were built as an android, a robot indistinguishable from a human without a medical-grade inspection. Most androids are "companion" bots, though other VIs with roles that involve significant human interaction may also be built as androids. Minor scuffs and cuts don't reveal your robotic nature, but if reduced to zero hit points, your unnatural innards are obvious.

Level 1: Gain a bonus skill related to your intended function. You have all the usual traits and abilities of a VI robot.

VI Worker Bot

You were built for industrial or technical labor, where a human face was an unnecessary luxury. Most such VI bots are humanoid, if only to more conveniently manipulate human-scale devices, but their inhuman nature is obvious.

Level 1: Gain a bonus skill related to your intended function. Choose an attribute associated with your work and gain a +1 bonus to its modifier, up to a maximum of +2. You have all the usual traits and abilities of a VI robot.

VI Vehicle Bot

Some VIs were instantiated in actual vehicles rather than conventional humanoid bodies. Most were purely synthetic in origins, but some sectors retain the techniques for brain transplants into non-human bodies. Some polities have been known to conduct full-body cyberneticization of soldiers into tanks, warships, attack helicopters, and other military vehicles. As a vehicle, you are usually equipped with manipulator arms that can be used on adjacent objects. You may operate the individual elements of your vehicle as if they were your own limbs, attacking once per round with a mounted weapon of your choice.

Level 1: Gain Pilot as a bonus skill. Pick a vehicle acceptable to the GM, usually a drone, hoverbike or gravcar. You become that vehicle. You retain your usual attributes but gain the vehicle's Armor score. You are Armor Class 10, modified by your Dexterity score. A tech can improve your Armor Class by aftermarket modifications, adding up to three times their Fix skill to your Armor Class at a cost of 1,000 credits per point of improvement.

You use the vehicle's hit points until your own normally-rolled hit point score exceeds that number. Many VI vehicles purchase a drone or humanoid robot body to carry on board and employ for remote operation in areas unsuitable for a vehicle; you can pilot a single surrogate body in lieu of your own Main Action, provided there's no ECM to jam the control transmissions.

Beasts

Most alien beasts are simply flavor for a world, odd creatures to decorate the background and provide some light interest for the players. Sometimes, however, a GM needs a genuinely dangerous beast, either to occupy some perilous wilderness or to threaten the PCs and their allies.

When creating a beast, work from your needs. Build the creature with the statistics and role that you need for your adventure, and then decorate those basic statistics with the creature's appearance, special hazards, and behavior.

Creating Beasts

To build an alien beast, it's easiest to start with some Terran referent. A completely alien and exotic creature with no relation to any earthly life form tends to be very difficult to explain to players and it can be awkward for the GM to guess its normal behavior.

The tables on the opposite page provide some basic suggestions for styling the essential animal features of the beast. Start with the "Basic Animal Features" to get the creature's general theme, and then move on to identify its body plan. You might then add on some novelty to its limbs or skin, decide the main weapon it uses to hunt prey or defend itself, and choose a general size for the animal.

The basic animal features serve only as a starting point for your creativity. The creature might have a mammalian general plan, but you could then decide that its "fur" is a stiff, glassy mineral exudate that slashes anything that bites or strikes it. It can be helpful to stick to one basic animal type for a given alien world, with all the creatures the PCs encounter sharing similar broad features or common traits.

While a fully-developed ecosphere might include countless different evolutionary strategies, sticking to just one or two in play helps characterize a world and give a sense of consistency to its fauna. If all the dangerous creatures of Scutum have thick moss-colored armor plating, then the PCs will be able to guess that a strange creature with thick moss-colored armor plating is probably an import from Scutum.

Swarms

Sometimes a beast is only meaningfully dangerous in vast packs, like a swarm of ants or a squealing tide of ravenous rats. Other times beasts are found most often in huge herds rather than as lone individuals.

To create such a swarm, take the basic animal type and quadruple its hit dice. For tiny creatures that have only 1 hit point, give the swarm 4 hit dice. The swarm gets its usual attack against anyone in contact with it, but on a miss, it still does the minimum possible damage to the target unless the victim is immune to its attacks. Thus, a rat swarm that has a +1 attack bonus and does 1d2 damage on a hit would roll that attack against every PC caught in the swarm. On a hit, they would do 1d2 damage, and a miss would still do 1 point.

Any attack against the swarm automatically hits, assuming the weapon is useful. Firing a pistol into a creeping carpet of ants is singularly useless, but waving a flaming torch in front of rats or throwing a grenade into the swarm might help dispatch the pack.

Beast Behavior

Many alien creatures will have no inherited aversion to humans, and will not fear them. Predators will hunt them if they look like food and prey will ignore them if they don't look like predators.

In combat, predators will only fight to the death if maddened or cornered. Sane predators cannot afford to get hurt while hunting. In addition to the usual times for Morale checks, beasts must make an additional check the first time their "prey" harms the predator.

Importing Creatures

Aside from the beasts you can create with these charts, an endless supply of fantasy monsters and exotic creatures await lifting from other old-school games. Almost any of the "monsters" found in traditional old-school role-playing games can be imported almost unchanged into *Stars Without Number*, requiring little more than an attack bonus and Armor Class conversion. Reskin them to fit your needs, and voila; you have your beast.

Beast Type	HD	AC	Atk.	Dmg.	Move	ML	Skills	Saves
Small Vicious Beast	1 HP	14	+1	1d2	10m	7	+1	15+
Small Pack Hunter	1	13	+1	1d4	15m	8	+1	15+
Large Pack Hunter	2	14	+2	1d6	15m	9	+1	14+
Large Aggressive Prey Animal	5	13	+4	1d10	15m	8	+1	12+
Lesser Lone Predator	3	14	+4 x 2	1d8 each	15m	8	+2	14+
Greater Lone Predator	5	15	+6 x 2	1d10 each	10m	9	+2	12+
Terrifying Apex Predator	8	16	+8 x 2	1d10 each	20m	9	+2	11+
Gengineered Murder Beast	10	18	+10 x 4	1d10 each	20m	11	+3	10+

STYLING THE BEAST

You can use these tables to assemble a general look for your beast. First, roll on the basic animal features table to get a general "theme" for the creature. If you ever need inspiration for particular details about the creature, just refer back to its basic theme.

Next, roll on the tables below to get additional inspiration. Note that you don't have to roll on any particular one. Instead, just use them to fill in the blanks and spark your own creativity, editing things when necessary to fit the creature's intended role.

d10	Basic Animal Features
1	*Amphibian,* froggish or newtlike
2	*Bird,* winged and feathered
3	*Fish,* scaled and torpedo-bodied
4	*Insect,* beetle-like or fly-winged
5	*Mammal,* hairy and fanged
6	*Reptile,* lizardlike and long-bodied
7	*Spider,* many-legged and fat
8	*Exotic*, made of wholly alien elements
9-10	Roll twice and mix the results.

d6	Body Plan	Limb Novelty	Skin Novelty	Main Weapon	Size
1	Humanoid	Wings	Hard shell	Teeth or mandibles	Cat-sized
2	Quadruped	Many joints	Exoskeleton	Claws	Wolf-sized
3	Many-legged	Tentacles	Odd texture	Poison	Calf-sized
4	Bulbous	Opposable thumbs	Molts regularly	Harmful discharge	Bull-sized
5	Amorphous	Retractable	Harmful to touch	Pincers	Hippo-sized
6	Roll twice	Varying sizes	Wet or slimy	Horns	Elephant-sized

Behavioral Traits

d8	Predator	Prey	Scavenger
1	Hunts in kin-group packs	Moves in vigilant herds	Never attacks unwounded prey
2	Favors ambush attacks	Exists in small family groups	Uses other beasts as harriers
3	Cripples prey and waits for death	They all team up on a single foe	Always flees if significantly hurt
4	Pack supports alpha-beast attack	They go berserk when near death	Poisons prey, waits for it to die
5	Lures or drives prey into danger	They're violent in certain seasons	Disguises itself as its prey
6	Hunts as a lone, powerful hunter	They're vicious if threatened	Remarkably stealthy
7	Only is predator at certain times	Symbiotic creature protects them	Summons predators to weak prey
8	Mindlessly attacks humans	Breeds at tremendous rates	Steals prey from weaker predator

d8	Harmful Discharges
1	Acidic spew doing its damage on a hit
2	Toxic spittle or cloud, use adjacent chart
3	Super-heated or super-chilled spew
4	Sonic drill or other disabling noise
5	Natural laser or plasma discharge
6	Nauseating stench or disabling chemical
7	Equipment-melting corrosive
8	Explosive pellets or chemical catalysts

Harmful discharges usually use a normal attack roll and inflict the typical damage on a hit. At your discretion, some discharges may have additional effects, such as poison, gear destruction, ongoing acidic damage, or an explosive area of effect. Appropriate Physical or Evasion saving throws might be called for to avoid the worst of such perils.

d6	Poison	Onset	Duration
1	Death	Instant	1d6 rounds
2	Paralysis	1 round	1 minute
3	1d4 dmg per onset interval	1d6 rounds	10 minutes
4	Convulsions	1 minute	1 hour
5	Blindness	1d6 minutes	1d6 hours
6	Hallucinations	1 hour	1d6 days

You can roll three times on the table above to generate a poison for a creature, or pick to suit your needs. Most effects incapacitate a victim, though blindness or ongoing damage may not wholly disable a PC.

PCs can usually attempt a Physical save to resist a poison. Toxins can be treated with a medkit or antidote stim. If the medic lacks the specific antidote to a poison, they can make an Int/Heal skill check to try to halt it. The difficulty is usually 9, with one check allowed.

ALIENS

Exotic alien races are a staple of science fiction, and most GMs running *Stars Without Number* are going to want a few types of sapients to round out a sector. Some GMs might prefer to run a strictly human game, leaving humanity alone in this particular corner of the cosmos, but other GMs will want to have the details of a few alien races in hand, if only to help envision the kind of artifacts and ruins that they might have left behind. This section will discuss the role of aliens in a game and a process for creating your own alien races.

The Use of Aliens in the Game

When adding an alien race to your sector, it's necessary to keep in mind the ultimate purpose you have for including them. A given species might be fascinating to you, but if they don't actually help to accomplish something for your game it's likely that the players will simply gloss over their existence. By having a concrete purpose in mind for a race you can ensure that the players have a useful reason to interact with them.

Aliens are useful as antagonists. The classic "bug-eyed monster" trope has survived for a reason; unthinkingly hostile and uncommunicative beings make great fodder for brute physical struggle. Making these monsters part of a sapient, tool-using species allows them to scale upward in threat the way no beast can, and continue to imperil even an experienced, well-equipped band of adventurers.

Antagonism can take more forms than simple combativeness. Aliens can want things, and want them for reasons that would make no sense at all to a human. Biological imperatives, exotic religions, alien philosophies, and customs born on completely un-Earth-like worlds can all justify goals and purposes that would be entirely irrational for a human being. Humans might find themselves at cross purposes with these aliens without ever fully understanding why the beings are pursuing a given goal.

From a GM's perspective, this is a wonderful trait for building adventures. If you need aliens to pursue some goal, however bizarre, you can simply add a trait to them that makes that goal important. For example, if you need aliens to be obsessed with wiping out the humans on a given planet, you can simply decide that the planet is their ancestral homeworld, to which they must return every thousand years in order to perform a great spawning rite. The presence of the humans there defiles the world, and the aliens grow increasingly frantic as the time for the rite approaches.

Aliens also make excellent patrons for many of the same reasons that they make good antagonists. You can give them a good reason to want almost anything, and players are unlikely to balk at it as unlikely or implausible. If you need to give the players a reason to go somewhere, do something, or find something, you can use aliens to drive the process. The matter might be so important to the aliens that they find themselves willing to employ human agents to accomplish their ends, or it may be that only humans have the numbers and strength to help them.

Aliens are occasions for exploration and discovery. While this may not have the immediate adventure utility of an antagonist or a patron, one of the things about sandbox gaming that appeals to many players is the opportunity to go out and discover new things. The universe is full of bizarre and exotic beings, and there can be a lot of enjoyment in learning about their cultures and traits. Most players aren't interested in a full-dress anthropological study of an alien race, but there is an excitement in visiting uncharted worlds and meeting strange and wondrous beings.

In some cases, this exploration doesn't even need live aliens. The universe is laden with numerous ancient alien ruins, and players can get a good conception of a long-lost race simply from examining what they've left behind. A GM with a firm grasp on a species' psychology and physiology has much of what he needs to create their abandoned cities and outposts and to stock them with art, artifacts, and remnants for the enticement of exploring PCs.

Humanoid species make the most widely useful aliens, and most of the species you create should probably be of that variety. Aliens that are too hard to understand tend to be more animate plot devices, operating by utterly incomprehensible rules and motivations. Human-like races allow more scope for diplomacy and response to an alien culture, because their societies are fundamentally comprehensible by humans.

The Like and the Others

Most alien races in the universe of *Stars Without Number* can be divided up into two different classes – the Like and the Others. The Like are those species with intellects and societies that are at least somewhat comprehensible to humankind. They may have exotic biologies and strange customs, but humans can understand their motivations and deal with them within a more-or-less comprehensible framework.

The Others are those species that are simply too alien for human communication. Entities of sentient lithic structures, congeries of crystal, even intelligent waveform interactions created by the interplay of energies through alien rock formations… the Others are simply too different for humans to understand. Their goals are incomprehensible, their technology is often hard to even recognize, let alone use, and it's possible that they don't even realize that humanity is a sentient species. The Others are generally avoided if at all possible, though at times "wars" break out when an Other species vents anger on humanity for reasons unknown.

Other races are rare, but some xenologists have suggested that they may be much more common than humanity imagines. Places that would never support Like life might be teeming with the bizarre offspring of Other organisms, unnoticed because human scouts haven't bothered to look in such unpromising places. Many Other species might not even be recognized as life by humanity.

Alien Biology

As a rule of thumb, it's easiest to make Like aliens some flavor of humanoid. They may have a few extra limbs or somewhat different body geometry, but humanoid aliens tend to be easier to build and run than those with drastically different body types. There's less need to adjust human assumptions about architecture, technology, and clothing than there would be for a species of six-legged centauroid mothmen. Of course, if you enjoy the prospect of working out the ramifications of having four gripping hands and organic wheels, you shouldn't feel shackled to the humanoid shape.

Aliens of the Other type can come in any shape or size, largely because they aren't intended to be comprehensible. Their technology and architecture doesn't need to have any link with human conceptions of such; some Others may not even use technology as humans understand it, but instead manipulate their environment with inborn abilities or subtype-creatures of their own species. Most Other species function as plot devices in a game, and it's not necessary to put the same effort into detailing their "biology" if the species aren't intended to make human sense in the first place.

Humanlike aliens are just that; extremely close to humans in outward appearance. They might have unusual skin or hair coloration, different hair growth distributions, an odd number of fingers, cranial ridges, a novel skin texture, variant ear shapes, or different average body builds or sizes, but they largely appear like humans. Xenobiologists postulate that the human shape is simply a very successful evolutionary route on Earth-like planets, and other worlds with similar conditions are likely to produce similar sapients. Crank scientists tend to favor theories of pan-galactic Creators that spread humanlike shapes throughout space; these theories conspicuously fail to take into account the dramatically different DNA and internal organ makeup of many humanlike aliens.

In general, it's easiest to pick a particular real-world type of organism as a basic template for an alien race. The reality of their biology might be totally different, but using a terrestrial animal as a basic pattern can help you fill in details of structure and appearance that can otherwise be difficult to extemporize.

Avian aliens favor birdlike features. Feathered tails, wings, beaks, drastic coloring differences between males and females, skin either partially or fully covered in feathers, hollow bones, and clawed feet and hands are all traits that might be present in an avian-flavored

d6	Alien Body Traits
1	Avian, bat-like, pterodactylian
2	Reptilian, amphibian, draconic
3	Insectile, beetle-like, spiderish, wasp-like
4	Mammalian, furred or bare-skinned
5	Exotic, composed of some novel substance
6	Hybrid of two or more types

alien. Such avians might have remarkably good vision or show unusual talent as pilots thanks to an evolutionary predilection for thinking in three dimensions.

Reptilian aliens can range from the classic "lizard man" look to a more subtle combination of pebble-scaled skin, membrane frills, broad bodies, cold-bloodedness, nictitating membranes, an exceptional sense of smell, thick claws, powerful builds, sharp teeth, and fine scales. Bodies may be broad and thick like that of a lizard, or perhaps sinuous like that of a snake. Reptilian aliens might be found especially on damp, watery worlds, and might be outright amphibious over all or part of their life spans.

Insectile aliens are usually possessed of chitinous "skin" and one or more pairs of compound eyes. Membranous wings aren't unknown, but are probably vestigial and useless on all but the smallest or lightest aliens. Insectile aliens might have sucking mouthparts if their primary food source is plant sap- or blood- or might use chewing mandibles instead for a more solid diet. Insectile aliens that function as a hive collective are something of a classic trope, but there's no reason that a species can't instead take after more solitary hunting insects such as beetles or spiders.

Mammalian aliens might have very human-like appearances, or they might have fur, muzzles, claws, or quadrupedal modes of locomotion. Mammalian aliens are easy to conceptualize and describe, but if you want to play up the alienness of them, you'll likely need to make sure they have some dramatic social or cultural difference, or some unique element of physiognomy.

Exotic aliens are built out of parts and materials that aren't normally found in Terran life forms. A humanoid might be composed out of a kind of organic plastic that makes up much of their home planet's biochemistry, or be composed of an intricate array of interlocking crystals and woody organic elements. You should pick one or more materials that aren't normally part of an animal's body and have them play a major role in the alien's biology. As a consequence, this kind of alien is probably highly dependent upon their home world for food and other biological necessities. If not, they likely spend a lot of effort synthesizing vital materials out of local supplies.

Hybrid aliens combine aspects of two or more of the types described here, and you can mix and match their components to create some blend that suits your purposes. Such hybrids might exist in multiple environments, or be in a transitional evolutionary state.

Alien Psychology and Lenses

There are many different ways to fabricate a useful and interesting alien race, ranging from careful development based on unique biologies or environments to more abstract methods of defining interesting traits. The method this section offers is intended to provide a GM with a few tools for producing alien races that feel sufficiently strange in play without leaving the GM groping to figure out how a given alien would react to a situation.

The first step is to understand that a Like alien race is fundamentally human. They may be shaped differently, they may dwell in a radically different environment, but they think, feel, and desire largely as humans do. Human vices and virtues almost certainly exist in their society and they are susceptible to the same sort of temptations and provocations that move humans. If you want to know what an alien is like, the first thing to do is to think of what a human is like.

The difference for aliens, however, is that they are very strongly influenced by one or two emotional or social traits, called *Lenses*. Everything about them, from the way their society is structured to the way they deal with strangers to the dreams they have for their own future revolves around these Lenses. The result is an alien culture that may not be deeply nuanced, but it is a culture that is very easily remembered by players and easily played by GMs. If you know that the two Lenses for the alien race of Churq are Collectivity and Fear, you know that a given Churq is going to be cowardly and intensely social. Courageous individuality will be noxious or incomprehensible to it and its social roles will revolve around the safety of the collective against the dreadful perils of the outside world.

Lenses should not be taken as the last word about a species. GMs who want to spend more time on the species' psychology can elaborate as they wish, and all of the guidelines given for a Lens can be easily adjusted to whatever flavor the GM wishes to use. GMs can pick or roll one or more Lenses from among the following list, or generate their own as desired.

d20	Lens	d20	Lens
1	Collectivity	11	Journeying
2	Curiosity	12	Joy
3	Despair	13	Pacifism
4	Domination	14	Pride
5	Faith	15	Sagacity
6	Fear	16	Subtlety
7	Gluttony	17	Tradition
8	Greed	18	Treachery
9	Hate	19	Tribalism
10	Honor	20	Wrath

Collectivity

These aliens might be hive-like in their social structure, natural communists, or simply very closely attached to the customs and interests of their social group. The importance of the individual is thought to be minimal, and members will cheerfully and readily sacrifice themselves for the good of the group. To willfully refuse to accept the consensus of the whole is an unspeakable sin, and to be separated permanently from one's social group is a fate worse than death.

Curiosity

This species is insatiably curious, constantly prying into the affairs of those around them. Spying for this race carries no opprobrium whatsoever, and while they may attempt to maintain privacy for certain doings, all assume it a given that matters will be discovered in the end. They love to explore new places and meet new sapients, and while they may be brutally indifferent to the fates or treatment of these beings, they're always eager to observe them. Their societies tend to operate in a profoundly transparent manner, and some view the keeping of secrets as an automatic indication of malicious intent.

Despair

These aliens have fallen prey to a pervasive sense of failure and loss. Perhaps they are the remnants of a once-glorious empire or the survivors of some cataclysmic disaster for their people. What they once loved has been destroyed, and their sources of comfort and courage have failed them. Superficially, they might resemble those species that crave pleasure and indulgence, but their disports only serve to numb them to the existential gloom that taints the species. Their leadership is desultory at best, and sophisticated social structures tend to degrade into loose, diffident associations as their members no longer have the hope necessary to perpetuate them.

Domination

These aliens are consumed by a desire to conquer and rule, both each other and any other species unfortunate enough to share the stellar neighborhood. Some among them can be fair and thoughtful rulers, but others are nothing more than vainglorious tyrants. Among themselves, society tends to be organized in intricate and clearly-marked hierarchies, with advancement progressing along both official and illicit routes. These aliens constantly test their leaders, forcing them to maintain their position through strength and cunning.

Faith

Such a species is driven by religious concerns, organizing their society around their faith and its clergy. Most such species have a single faith. Others make do with a number of different religions, all followed with a fierce devotion. Challenges to this faith are not met with

outrage so much as blank incomprehension; for these beings, the truth of their religions is so self-evident that it seems irrational to ever question it. Those who most perfectly embody the teachings of their creeds tend to become rulers, their lives and will taken as an example for others.

Fear

These aliens live in constant fear. They may be natives of some lethal death-world, survivors of a species-annihilating cataclysm, or simply evolved from weak and easily-devoured prey animals. The world is terrifying to them, and their societies are based around hiding or protecting themselves from these dreads. The most revered members are those who are best hidden or best protected, and who can give protection and concealment to their fellows. Most of these races are quite cowardly by human measure, but occasionally they can be driven into a frenzy of terror in which they fight with the courage of the doomed.

Gluttony

These aliens devour. They are rapacious consumers, whether it is of food, living space, energy, or some other resource. They will do almost anything to increase access to this resource and are deeply indifferent to the needs of other species, and often of their own fellows as well. To consume greatly is glorious for this species, with the greatest and most respected members being those who have the greatest stockpiles of the resource to consume, or who provide the most to their followers. The purpose of existence is to eat, and all good things are understood as different modes of devouring.

Greed

These aliens are enormously greedy. Status depends almost entirely upon personal wealth, and their lives are spent in accumulating the greatest stores of value possible. Some focus on production, creating the wealth for their own benefit, while others seek to make a profit on trade. Some such greedy species have intricate property laws to safeguard what is accumulated, while others are little more than bandits among their own kind, too avaricious to let law interfere with their greed.

Hate

There is something these aliens hate, and it defines their culture completely by their opposition to it. It may be these aliens are rampant xenophobes, loathing all who are not of their own kind. There may be acrid religious or political divisions among them, with individuals identifying completely with their sect and despising all the others. It could be an ancient enemy among the stars, a rival race that has wounded them so greatly as to be unforgivable. These aliens may spar and maneuver for power among their own kind, but all goals and individuals are to some degree subordinated to the needs of their immortal hate.

Honor

Whatever sort of society the race has, it is one obsessed with honorable behavior. Members will obey the social mores and expectations of their roles at all costs. Personal sacrifice for the sake of upholding these principles earns a member glory and esteem. Gaining advantage by means of inappropriate behavior or failing in one's duty is shameful, and an entity that has compromised its honor too greatly may prefer death to continued existence.

Journeying

This species has an incurable wanderlust. Perhaps they roam the stars in fleets of massive spike drive ships, or they may make steady circuits of the nearby stars to connect their worlds and exchange people among them. More technologically primitive species might sail the waves of alien seas or make nomadic journeys across the continents of their world. Few of these aliens can ever be happy in remaining in one place for long, and they are forever scouting new worlds and new lands simply for the pleasure of being there a little while.

Joy

These aliens are relentless bon vivants, constantly in pursuit of pleasure and enjoyable excitement. Beauty, grace, and the inspiration of passion are their highest virtues. Those who produce the most exquisite art or inspire the most extravagant delight have effective rule over their fellows, though such species tend to be loosely-organized at best. The brute necessities of life are acknowledged as a necessity, but their societies are willing to sacrifice a great deal of efficiency and practicality for the sake of immediate satisfaction.

Pacifism

The race is remarkably peaceful and nonviolent in nature. Few species survive while being totally averse to violent self-defense, but this race will never choose violence against living creatures as a means of gaining advantage or retaliating to wrongs. Among their own kind, violence is abhorrent and unnatural, and it is probable that the species is either herbivorous or subsists by photosynthesis. A pacifist race may be peaceful, but there are more ways to do injury than through personal violence; the cession of trade, the destruction of property, and the incitement of divisions and confusion among their enemies are all tools this race knows well. Pacifist species can also be quite oppressive at times, with an underclass constitutionally incapable of defending their possessions or privileges with force.

Pride

These aliens are suffused with an enormous pride in their own culture and species, and instinctively consider themselves to be superior to the lesser beings they may encounter. A prideful species is not necessarily a hostile one; some such races have a certain sense of

noblesse oblige toward their "lessers", and some species' pride shows in a resolute refusal to lower themselves to deceit, cruelty, or avarice. More often, however, this pride manifests in a casual contempt for the interests of their inferiors, and a single-minded focus on personal advancement and glory among their own kind.

Sagacity

These aliens love intellectual pursuits above all others. Logic, wisdom, and erudition are all prized as the best and most glorious expressions of their nature, and their rulers are invariably sage-kings of remarkable depth and breadth of understanding. Such understanding does not necessarily stand in well for good judgment, and sagacious alien civilizations are notorious for over-reaching in their ambitions. Stupidity and ignorance are moral failings to this race, and some of them treat very harshly those species that they do not feel to be their intellectual peers.

Subtlety

Such a species is enormously cunning and patient in character, willing to endure years of suffering calmly in order to bring about some intricate plan. They shun open display of emotions or opinions, masking such things behind protocols of bland correctness. To reveal one's true opinion about some contentious matter is a mark either of profound trust or a sign of obvious incipient treachery. The true ruler of such a species is almost never who it seems to be.

Tradition

This species devoutly reveres the past and the ways of their ancestors. Social interactions are stiffly ritualized, and society is ornate with the customs, traditions, and habits of their forebears. Innovations of any kind are viewed with deep suspicion, and the most favored solutions to problems are those which have been employed before. Members of this species are intensely uncomfortable when forced to exercise their own judgment, and doing so in contravention to the past is almost impossible for them. Only when faced with a completely novel situation is any degree of personal initiative likely to be shown, and even in that case, the alien will try to reconcile it to some existing tradition.

Treachery

This species is uniformly treacherous and untrustworthy. Bargains and agreements are kept only so long as they are useful to both participants, and truthfulness is simply a tool to be placed next to deceit. There is no sense of acrimony or anger among these aliens at the inevitable betrayals that make up their societies; they consider it good and laudable that an individual should seek its own best interests, and those who can most perfectly manipulate each other are naturally those most worthy to rule, for the health of the society directly influences the power of its head.

Tribalism

The aliens are fiercely tribal, divided up into myriad small groups that are as often at war with each other as they are cooperating. Such tribes tend to be built along familial lines, though some tribes are volitional in nature, representing different political or philosophical groups. A given alien's loyalty is to its tribe before its species, and it is not uncommon for their enemies to use one group against another.

Wrath

The race is hot-tempered, prone to fits of personal violence. Disputes are settled by force, though rarely to the point of death among their own kind. Outsiders can expect swift and bloody retaliation for any insult or slight, and the prospect of death rarely intimidates these beings. Their chief mode of emotional expression is anger; wrath at obstacles, fury at enemies, and a slow smoldering burn when neither are available.

Alien Social Structure

Once the Lenses for a species are chosen, you'll need to establish a few important facts about the aliens. You need to make some decisions about their social structure, the goals of their leadership, their relationship with humanity, and the sort of examples that the PCs are likely to encounter.

Determining the social structure for the aliens can be done by answering a few basic questions and elaborating outward from the answers to whatever degree of detail you find useful or enjoyable. In most cases, whatever social structure you hit on will apply only to those aliens in a specific sector. Far-flung races might have wildly different modes of rule among their different fragments, assuming that biological necessity doesn't push them to certain kinds of societies.

First, decide how the species is ruled. You can roll randomly on the table below, or simply pick something that seems appropriate.

d8	Social Structure
1	Democratic
2	Monarchic
3	Tribal
4	Oligarchic
5-6	Multipolar Competitive
7-8	Multipolar Cooperative

Democratic: The species has a broadly democratic organization, with individual members having a formal say in the choice of leadership. This voting need not necessarily be based on numbers; it might be a vote with money, military power, religious influence, possession of certain biological traits, or any other metric that makes sense to the aliens. Whatever the specific currency, politics for this race tends to revolve around persuasion and diplomacy rather than use of military force to determine species-wide policies.

Monarchic: The species is ruled by a single being, with such rule justified by custom, biological imperative, divine mandate, personal influence, or familial ties. Such monarchic societies almost invariably have a "noble" caste of some kind to act as administrators and officials for the monarch, and they usually make up the pool from which new monarchs are chosen. The specific title for a monarch will usually depend on the justification for their rule: Chieftain, Emperor, Broodmother, High Priest, Dictator, Chief Elder, or so forth.

Tribal: The species is organized into multiple tribes based on lineage, philosophy, or geographical location. Tribes set their own laws and policies, and are prone to intense internal struggles over resources and status. There may exist a "paramount tribe" that inflicts its will upon the others through brute strength or traditional esteem. Tribal leaders tend to be personally distinguished, and usually have earned their position through personal accomplishments and the broad support of their tribemates.

Oligarchic: The species is led by a number of powerful or revered figures who work in nominal harmony. Individual oligarchs might have their own goals, but no single member has the strength to enforce its will upon the whole. These oligarchs might be the product of hereditary inheritance, or individual members of the species might one day aspire to join their numbers.

Multipolar: The species has more than one leadership organization. Roll 1d6; on a 1-2 it has two, 3-4 indicates three, and 5-6 indicates four. Roll on this table the requisite number of times to determine the nature of these organizations. Some such multipolar institutions operate in parallel; a tribal organization headed by one gender, for example, that determines the division of goods while a monarchic head of a different gender makes decisions about the race's relations with other species. Others are directly in conflict, such as a monarchy struggling against a democratic neighbor.

Once you've determined the type of leadership the species favors, you can sort out any important details about their social structures. By default, you should assume that the aliens have some sort of analog for any job or role that humans find necessary. The Churq might be cowardly collectivists, but even they need plumbers, soldiers, and tax collectors. You can take whatever human society suits you as the base template and then interpret the relevant roles through the Lenses you've picked for the species.

For example, if the Churq have the Lenses of Fear and Collectivism, their tax collectors might be honored exemplars of communal redistribution, judiciously taking from those who have excess in order to give to those who have less. The Churq gladly offer resources to the tax collector, because the offering proves that they producing excess resources, which proves to them that they are secure and safe in their plenty. A Churq who fails to produce for the collective suffers gnawing terror at the idea of dangerous scarcity and will redouble its effort to contribute to the group.

Conversely, Churq soldiers might invariably be found in small groups, as an individual Churq is incapable of fighting effectively without the encouragement and safety of their brethren around them. They might specialize in terror attacks against enemy civilians, their intimate acquaintance with fear encouraging them to use it as a weapon against their enemies… their unarmed, noncombatant enemies, preferably. A war between Churq collectives might never have a single open battle, but instead a sequence of ambushes and terror attacks until one collective loses its nerve and submits.

Alien Technology

Alien races tend to come in two different technological flavors. Some are quite technologically primitive, either through being too new to sapience to have had time to develop scientific arts, or because they are unfortunate enough to inhabit a very resource-poor world. Such aliens might demonstrate remarkable ingenuity in making the most of their surroundings, but some worlds make advancement prohibitively difficult for a species.

Other aliens possess spike drives, advanced weaponry, fusion power, and all the other ornaments of a sophisticated star-faring civilization. These aliens are usually the remnants of a more expansionistic period, colonies and outposts that have evolved into homeworlds for the survivors of the civilization. This golden age is normally terminated by some kind of species-wide disaster, whether natural in nature or the result of savage internal warfare. These worlds are usually too absorbed in their own affairs or ennui to have much interest in expansion.

Most advanced aliens have tech roughly equivalent to human TL4, though they're often slightly superior in some areas while being somewhat worse in others. A few old, sophisticated races have the equivalent of TL5, though these species often produce devices and artifacts that are difficult for humans to use effectively. A handful of alien worlds show technology that is simply impossible for humanity to replicate at any known tech level, with artifices and creations that seem more magic than mundane science.

Aliens in the Sector

What role do these aliens play in the sector? Do they have their own sector homeworld, dominated by them and their kind, or do they instead live in enclaves on a human-ruled world? Do they live in orbital habitats, or convoys of massive spike drive ships? You should place the species according to your needs, preferably in a location that the players can be expected to eventually experience.

You should also make a few quick decisions about how these aliens are generally treated by humans, and how they treat humans in turn. Some dangerous or obnoxious species might be unable to function in human societies, while others might be normal citizens on a sophisticated pan-racial planet. Some beings might be horrific or repellent to humans through no fault of their own, and subject to persecution by those who live around their "alien ghettos". Such aliens are likely to respond to the misuse much as humans might, albeit in ways strongly influenced by their Lenses. A Wrathful species might respond with brutal violence toward persecutors, while Joyful ones might try to win their tormentors over by demonstrating the beauty and delight they can bring to their friends.

Alien Motivation

Individual aliens are likely to have as wide and varying a set of motivations as any human. Alien governments and ruling institutions, however, are liable to have more specific goals. Acquiring a new homeworld, ensuring the suppression of would-be pogromchiks, vengeance against a hated world or species, or any other such long-term goal would be suitable for an alien government.

The broad goals of an alien government are usually obvious, but the subtle plans and maneuvers they use to accomplish these purposes can be less clear. PC groups can be commissioned by alien officials to perform acts or retrieve objects that have no immediate relevance, only to discover later that they played a crucial role in some enigmatic gambit. By the same token, they might stumble across some alien operation that has no obvious purpose, earning bitter enmity for their disruption of plans they never knew existed.

In either case, there should usually be some way for the PCs to discover alien motivations, in the case that they actually care. It can be prohibitively difficult to negotiate with such beings without understanding their desires, and parties with little appetite for combat may be frustrated if they find their would-be counter-parties acting in an impenetrably obscure way. Some adventures might revolve heavily around the challenge of understanding an alien power's true goals and the steps they're willing to take to achieve them.

ALIEN PLAYER CHARACTERS

If a GM decides to allow players to play members of an alien race, she's going to need to do a little extra work. Each alien race is represented by a focus; to become a member of that race, the player spends their initial focus pick on choosing that origin. They then get the natural benefits of belonging to that alien species.

As a general rule, the GM should pick two of the following benefits to make up an alien's origin focus, or three if a couple of them are relatively minor perks. If the Vree-Tak are a Proud Warrior Race of aliens, they might have both an *Aptitude for Violence*, for example, and an *Origin Skill* related to combat.

It's also possible to apply particular weaknesses to an alien species as compared to a human baseline. Such weaknesses are rarely a significant game-balance consideration for PCs, however, as it's common for players to choose such alien races and then select classes and roles that are unhindered by the species' flaws. If you want to use a flaw as a game-balance tool in a species, make sure it's broad enough to hinder a wide range of concepts, and not just disqualify a few roles.

Aptitude for Violence
All members of this species are good at hurting things. They gain a +1 bonus to their normal attack bonus. Thus, a 1st level alien Expert would have an attack bonus of +1 instead of +0, and a 1st level Warrior would begin with a +2 bonus.

Environmental Native
As a minor perk, the alien is able to survive in a relatively common hostile environment, such as underwater, in hard vacuum, amid lethal radiation, or so forth. If the alien *requires* this environment, it's no net benefit at all.

Innate Ability
All members of this species have one or more natural abilities beyond those possessed by humans. Perfect vision in the dark, tracking by scent, wireless tech interfacing, a lack of need for food and water, or some other talent might apply. As a quick inspiration, you can look at the equipment or cyberware list and give them the natural use of 2-3 items. Optionally, you might give them an ability equivalent to a single psionic technique, plus one point of Effort to fuel it if needed.

Natural Defenses
The creature has a hard shell or sharp talons. The alien has a base Armor Class of 15 plus half their character level, rounded up. If you give them body weaponry such as claws or fangs, have it equivalent to a medium advanced weapon. Weaponry alone is a very small advantage, since it's so easy to acquire otherwise, so you might not count this as a benefit if all you give a creature is a sharp set of teeth.

Origin Skill
All members of the species are particularly good at something. They might all be capable warriors, have unique technical aptitude, be persuasive speakers, or otherwise have a shared knack. Receive an appropriate skill as a bonus. Warrior-type races might be allowed to pick from either Punch, Shoot, or Stab.

Psychic Aptitude
These aliens are all psychically gifted. The PC must either be a Psychic or take the Partial Psychic class option from the Adventurer class. Their maximum Effort score is increased by one point.

Shapeshifting
The alien is either an amoeboid blob that can manipulate objects with extruded pseudopods and flow through small spaces, or it can actually mimic other species or objects. The former trait is a minor benefit at best, but the latter one might be sufficient to mimic biopsionic shapeshifting, or might have a more restricted range of possible shapes.

Strong Attribute
All members of the species are strong, fast, tough, clever, perceptive, or charming by human standards. Pick an attribute appropriate to the alien; that attribute gains a +1 bonus to its modifier, up to a maximum of +3. Thus, an alien from an exceptionally strong species with a Strength score of 10 would have a Strength modifier of +1 instead of +0.

Tough
The alien is big, or hardy, or made of unusually durable biological components. Whenever they roll their hit dice to determine their maximum hit points, the first die they roll always counts as the maximum. Thus, a first level Warrior alien would always start with 8 hit points. When rolling hit points at second level, they'd count their first die as 8 and roll on from there. Further hit dice that roll a 1 are rerolled.

Unusual Movement Mode
The alien can fly under normal gravity conditions, or make short-range teleportation hops, or can climb sheer walls as if they were flat. Whatever the details, they can use their Move action to travel unusually.

Useful Immunity
The alien is impervious to some threat that's relatively common. A significant or common immunity, such as against bullets, lasers, edged melee weapons or the like would be a major benefit, while immunity to minor threats such as toxins, diseases, radiation, or falling damage might only qualify as a minor perk.

FACTIONS

Interstellar merchant combines, tyrannical planetary empires, sinister cults of eugenic perfection… groups such as these all have a role to play in *Stars Without Number*. Such organized, motivated groups are known as *factions*, and this chapter describes ways in which a GM can use them to further events in a sector. Player characters that attain sufficient power and fame might even establish their own factions, and the rules below give ways to handle inter-faction fighting and the advancement of each group's goals.

Using Factions in Your Game

The faction system in *Stars Without Number* is intended to provide a GM with a constant stream of background activity, adventure hooks, and visible setting reactions to PC actions. It is an optional system, one that a GM can take or leave as their own campaign suggests, but it can provide an interested GM with tools to simplify the business of running the campaign's background.

The faction system is not meant to be a stand-alone game that doesn't require GM involvement. It's not balanced for equivalence between sides, isn't designed to incentivize optimal play choices, and some situations will certainly require a GM to referee them. The system is, however, built to produce the kind of output that a working GM is likely to find most useful.

Some GMs will have no use for a formalized faction system. These people feel most comfortable simply dictating the outcome of conflicts and ambitions among the assorted groups and organizations in their campaign. When two groups clash, the results will be determined by what the GM thinks is most reasonable.

This is a perfectly valid way of doing things, and indeed, when a GM decides how some off-stage organization interacts with a fully-statted faction they're going to have to make calls like that anyway. Yet the disadvantages of such a method are twofold.

First, it lacks surprise for the GM. By definition, the reasonable thing always happens, and even the occasional randomizer tossed in produces results that are to some degree predictable to the GM. History and current affairs are full of wildly unlikely-seeming outcomes, however, and sometimes the GM can benefit by seeing a genuinely shocking result percolate out of some conflict. Even in the absence of the adventure hooks such surprises create, not knowing exactly how her campaign is going to shake out helps keep a GM interested in events.

Second, an unstructured system has few prompts to goad a GM into thinking of unexpected interactions between factions. A GM simply provided with a list of NPC groups to write events for will tend to reach for the interactions and outcomes that are foremost in their mind, implicitly going along with assumptions about how things should play out. If instead they're handed a slow-burn struggle between a militant terrorist group with fanatical zealots for an asset and a eugenics-loving religion with a crack team of lawyers, they're going to think somewhat harder about how these two factions might play out their conflict, and will get results that don't automatically feed their assumptions.

One of the easiest ways to use the faction system is as a news chyron for your campaign. After each faction turn, you can boil down events to a few sentences apiece and hand them to your players at the start of the next gaming session, letting them know what's on the news channels and underground gossip boards of your campaign. If your players get excited about one of the events, you can dedicate the next downtime between sessions to brewing up an adventure related to their efforts at involvement.

Another use of the system is as a way to formalize the setting reaction to PC actions. If the last adventure involved the PCs utterly discrediting the leader of a political party you're using as a faction, you might scratch off the Demagogue asset that the party had that represented that leader. A quick scribble gives you the news crawl next session telling the PCs that the leader had decided to step down to spend more time with her family.

The factions you write up are not the only organizations and groups in your world, but they are the ones the PCs are most likely to care about or the ones most pertinent to their current activities. You don't need to keep the same factions active all the time; if the campaign shifts focus halfway across the sector, you can simply freeze the local factions until the PCs get back in their zone of relevance. If you have the spare time and effort, you might even keep them running, letting the PCs discover how things shook out when and if they ever get back to that region of space.

In time, the PCs themselves can start creating their own factions to contend with rivals and seek influence on a scale impractical for a lone wanderer. While PC factions use all the same rules and faction turn actions as NPC ones, they have the tremendous advantage of being the focus of a veteran adventuring party's helpful interest. Almost anything that can be accomplished by faction turn actions can be done more quickly by the appropriate PC adventures.

This, of course, is an easy way for a GM to let the players write their own adventure content. So long as the PCs care about their pet factions or allied groups, their own ambitions and desire to help will practically create whole sessions worth of adventure outlines for you. Important NPCs in rival groups will become hated nemeses, hostile assets will become the targets of their bad intent, and the players will constantly be on the lookout for ways to augment their allies. For the sake of your own time and effort, you should let them.

FACTIONS, ASSETS, AND TURNS

A faction is any group that you intend to use as an important actor in the sector. In theory, any organization could qualify as a faction; every planetary government, business, religion, or club could be described with the rules given here. Still, that kind of exhaustive cataloging is neither practical nor profitable. Faction status should be reserved for those organizations that will do things important to the PCs or the background world. You should not bother creating more factions for your game than you are actually using at that moment. Save your effort for the groups that count.

It may be necessary to turn an organization into a faction in the course of play. If the PCs suddenly take a deep interest in a eugenic cult they recently faced on the jungle moon of Perihelion, it might be useful for the GM to turn the group into a formal faction, the better to understand how the PCs might injure it and what resources the cult might have to fight back. Or it might be that the PC group's interstellar trading cartel faction tries to topple a world's tyrannical government, thus making it worthwhile to define the tyrant's resources.

As a general rule, you shouldn't have more than five or six factions at the start of your campaign, and fewer is quite possible. Fewer than three tend to make for too much stability, however, and might not generate enough activity to make for interesting news reports and adventure hooks. Possible factions in a campaign might include criminal groups, local religions, planetary governments, political movements, terrorist organizations, noble houses, or any other band that might conceivably be someone the players care about or some group that might possibly hire or oppose the PCs.

Defining a Faction

Factions have attributes consisting of six statistics, a homeworld, and one or more tags.

Hit points measure a faction's cohesion, morale, and group unity. The higher a faction's hit points, the harder it is to break it up. A faction that loses hit points has lost cohesion somehow, either through the death of leadership, the demoralization of members, or the rise of fractious power blocs inside its structure. A faction needs time to recover from hit point damage. A faction's maximum hit points are based on its Force, Cunning, and Wealth, as given later in the chapter.

Force rating is the faction's general aptitude at applying physical violence, measured on a scale ranging from 1 to 8. A rating of 1 implies an organization with little or no aptitude for physical coercion, while a rating of 8 might be appropriate for a regional hegemon with a powerful, expansionist military. A high Force rating doesn't necessarily mean that the faction has much in the way of a standing army, but it does mean that the faction can think clearly about the use of force and is

accustomed to military reasoning. Governments tend to have high Force ratings to represent police forces and military structures. Terrorist groups, mercenary bands, and other organizations that rely on brute violence also tend to have high Force ratings.

Cunning rating reflects the faction's skills at espionage, infiltration, internal security, and covert manipulation of other groups. A rating of 1 implies a completely visible faction with no resources for resisting infiltration, while a rating of 8 implies a faction of Illuminati unknown to all but a handful of paranoid conspiracy-mongers with tendrils of influence reaching to the farthest star in the sector. Eugenics cults, terrorist groups, spy agencies, and some religious groups tend to favor a good Cunning score.

Wealth rating indicates the faction's commercial, scientific, and industrial resources. A Wealth score of 1 means that the faction has little in the way of income or investments, no dedicated manufacturing facilities, and no laboratories or researchers available. A Wealth score of 8 is appropriate for some system-spanning merchant empire or the combine that runs the pretech manufactories of an untouched factory world.

FacCreds are a measure of the faction's general wealth and resources, spent to purchase and maintain assets or carry out faction operations. A FacCred doesn't necessarily represent a certain sum of credits so much as it represents logistics capability, available resources, and managerial focus. A faction on a primitive world may not have a single credit to its name, but its command of a legion of laborers and the food supplies necessary to feed them are a vast store of FacCreds all the same. All the credits in a sector do no good if they can't be effectively translated into a useful asset.

Factions also accumulate *experience points*. They gain these points from accomplishing goals, with the larger goals earning them correspondingly more experience points. Once enough experience is accumulated the faction can spend it to improve a rating. The higher the rating, the more experience is necessary to raise it. It's vastly more difficult to go from Force 7 to 8 than from Force 1 to 2.

The faction's *homeworld* represents the location of its core leadership and support. Factions can always purchase assets and take actions on their homeworld, even if they lack any other assets there. By the same token, an enemy can always launch attacks against the faction on their homeworld if the enemy is able to move in its own assets.

Tags are special traits that relate to the faction's nature or special aptitudes. A cabal of rebel conspirators might have the *Secretive* tag, which gives a bonus to resisting certain attacks, or *Deep Roots*, which gives them a bonus to operations on their homeworld. Most factions have one or two tags.

Faction Assets

Aside from the six statistics, faction also possess *assets*. Assets are facilities, contacts, trained units of specialists, or other specific objects, places, or groups of value. A regiment of postech infantry is an asset, as is a pretech manufactory, a master assassin, or an interstellar shipping company.

Assets require certain ratings to support. A fleet of capital warships isn't going to be useful to a faction with Force 3 no matter how much wealth the faction has. It just doesn't have the infrastructure and institutional mindset to use such an asset effectively.

Assets have *hit points* much like factions do. An asset reduced to zero hit points by an attack is destroyed; either physically ruined, hopelessly scattered, totally demoralized, or lost to a rival buyer. Asset hit points can be regained with time for repair, reorganization, or culling members suborned by other powers.

Assets have a *purchase cost* and sometimes a maintenance cost, paid in FacCreds. The first turn that a faction fails to pay the maintenance cost of an asset, it becomes unavailable for use. If the maintenance cost isn't paid the next turn, the asset is lost.

Assets often have an *Attack*. When an asset is used to strike at another faction, the attack entry is used to determine what rating is attacked and the amount of hit point damage that is done by a successful hit. An asset without an Attack entry can't be used to initiate a strike at an enemy faction.

A *Counterattack* line indicates the damage an asset does to an unsuccessful attacker. If an attacking asset misses its strike against the target, the target's Counterattack entry damage is done. An asset without a Counterattack entry does no damage to a failed attacker. It's quite possible to have an asset with no Attack but a powerful Counterattack, making it useless at offense but very dangerous to assault.

Assets have a *type*, such as "Special Forces", "Military Unit", "Facility", "Starship" or the like. This type is mostly relevant when factions wish to upgrade an asset, or some special tag applies only to assets of a certain type.

Assets have a *location*, usually the planet on which they were purchased, though it might also be a deep-space habitat, a particular moon, or some other general geographical location. Assets cannot be used against different locations unless they are first transported there, usually by means of a logistical asset.

Most assets also require a particular *tech level* to purchase. They can be transported to worlds with lower tech levels, but they must be purchased on a planet with a sufficient level of technology.

A faction may own no more assets of a particular type than they have points in the relevant rating. Thus, a faction with Force 3 can own three Force assets. In a pinch, a faction can exceed this total, but each asset over the maximum costs an additional FacCred in maintenance each turn.

The Faction Turn

Faction actions are divided up by *turns*. As a rule of thumb, a faction turn happens once per month, or once after each adventure. Turns might happen more or less often depending on the GM's preferred pace of events. Each faction can usually take one action per turn.

At the beginning of each turn, roll a die that's no smaller than the number of factions you have. Thus, if you've got six factions in the sector, roll a d6. If you've got nine, roll a d10, and so forth. Whatever number comes up is the faction that acts first; thus, if you roll a 4, the fourth faction on your list acts first. Then the one after it, and the one after that, and so forth, rolling over the top of the list when necessary.

At the beginning of each turn, a faction gains Fac-Creds equal to half their Wealth rating rounded up plus one-quarter of their total Force and Cunning ratings, rounded down. Any maintenance costs must be paid at the beginning of each turn. Assets that cannot be maintained are unusable; an asset that goes without maintenance for two consecutive rounds is lost. A faction cannot voluntarily choose not to pay maintenance.

If a faction has no goal at the start of a turn, they may pick a new one. If they wish to abandon a prior goal, they may do so, but the demoralization and confusion costs them that turn's FacCred income and they may perform no other action that turn.

At the end of each faction turn, the GM should translate the turn's events into a few lines of rumor or news that can be related to the PCs. A successful attack by the Lawyers of the Bright Dawn Guild on the Perihelion government's Union Toughs might be reported as "Neohuman rights activists on Perihelion applaud the election of Parminder Smith to the leadership of the government-sponsored Transit Workers Union. Miss Smith is a strong supporter of neohuman research and legal emancipation."

Acting During A Turn

Factions can take several different types of actions, though generally only one action per turn. The list provided consists of the usual actions a faction might find useful; you should feel free to allow variations on the list depending on the particular situation. PC adventures always exist outside of the faction turn economy. If you run an adventure involving the PC group's destruction of the Sorority of the Golden Flame's secret laboratories on a volcanic planetoid, then the faction's asset is simply destroyed, with no chance of resisting.

A faction can only take one type of action per round, but they can perform that action on as many worlds as they wish. A faction that selects the *Attack* action, for example, can launch attacks on multiple worlds, while one that selects the *Use Asset Ability* action can use the special abilities of any or all assets they possess. This limit on the type of action allowed in a round tends to slow down events, allowing for the more gradual development of situations in play.

FACTION ACTIONS

The following list of actions includes the most common activities a faction might choose to perform. The GM should feel free to add new action types, or allow alternate choices if a faction wishes to do something that doesn't quite fit the list below. As a rule, a faction should only be able to do one thing per turn, but should be able to do that same thing with any or all assets.

Attack: Attacking is the chief way by which a faction assaults a rival's assets and organizational structure. A successful attack can damage or destroy an enemy asset, or even damage the leadership and cohesion of an enemy faction. It's up to the GM or players to describe an attack and its methods.

Attacks can only be launched against known assets. If a rival has stealthed assets on a world, they cannot be targeted for an attack until they've been discovered by a faction's intelligence agents. Attacks can only be launched against assets on the same world as the attacker.

To launch an attack, the attacker selects one or more of their own assets and targets a rival faction with assets on the same world. One at a time, each attacking asset is matched against a defending asset chosen by the defender. Each attacking asset can attack only once per turn, though a defending asset can defend as many times as the defender wishes, assuming it can survive multiple conflicts.

Once matched, the attacker rolls 1d10 and adds the relevant attribute for the asset. For example, a military unit's Attack might add the faction's Force rating to the attack roll, while a cyberninja unit might add the faction's Cunning to the attack roll. The defender then rolls 1d10 and adds the attribute that the attack targets. In the instance of the military unit, this might be an attack against Force, causing the defender to add their Force rating to the roll, while defending against the cyberninjas might require adding the defender's Cunning rating. The Attack line of the attacking asset indicates which attribute to add to the attack roll and which to add to the defense roll.

If the attacker's roll exceeds the defender's roll, the attack is a success. The defending asset suffers damage as given on the Attack line of the attacking asset. If the defender has a Base of Influence on the world, the defender may opt to let the damage bypass the asset and hit the Base of Influence instead, causing damage to it and the faction hit points. If the asset or Base of Influence is reduced to zero hit points, it is lost.

If the attacker's roll is less than the defender's roll, the attack fails. The defending asset can apply whatever damage their Counterattack line indicates to the attacking asset. If the defending asset has no Counterattack line, the attacker suffers no consequences for the failed attack.

A tie on the roll results in both Attack and Counterattack succeeding. Both attacker and defender take damage as indicated.

Buy Asset: The faction buys one asset on their homeworld or another planet on which they have a Base of Influence. These assets take time to assemble, and can neither attack, defend, nor grant their special benefits until the beginning of the faction's next turn. The faction must have a sufficient rating to buy an asset, and the planet must have a tech level sufficient to support the asset's creation. Only one asset can be purchased by a faction per turn.

Change Homeworld: A faction can move to a different homeworld, if they have a Base of Influence on the destination planet. This action takes one turn, plus one more for each hex of distance between the old homeworld and the new. During this time the faction can initiate no actions.

Expand Influence: The faction buys a Base of Influence asset on a planet on which they have at least one other asset. The faction then rolls 1d10+Cunning rating against similar rolls by every other faction on the planet. Any of the others that equal or beat the faction's roll may make a free immediate Attack action against the Base of Influence if they wish. Other assets present on the planet may defend against the attack as normal. The Base of Influence cannot be used until the beginning of the faction's next turn.

To buy a Base of Influence, the purchaser pays one FacCred for every hit point the base has, up to a maximum equal to the faction's maximum hit points. Bases with few hit points are relatively peripheral outposts, easy to dislodge but cheap to erect. Bases with many hit points are significant strongholds that would hurt the faction badly to lose but are much harder to eliminate.

Factions may use this action to buy additional hit points for a Base of Influence, paying one additional FacCred up to the maximum HP allowed. It is possible to decrease a base's hit points with the action as well, albeit without refunds. The base on a faction's homeworld cannot be shrunk this way.

Refit Asset: Change one asset to any other asset of the same type. If the new asset is of a more expensive type, pay the difference. The asset must be on a planet that allows the purchase of the new asset. Turning a militia squad into elite skirmishers requires a tech level 4 world and governmental permission, for example. A refitted asset is unable to attack or defend until the beginning of the faction's next turn.

Repair Asset/Faction: Heal damage to an asset or faction. For one FacCred, an asset heals points of damage equal to the faction's score in its ruling attribute. More damage can be healed in this single action, but the cost of repair increases by one FacCred for each further amount repaired- two FacCreds for the second amount healed, three FacCreds for the third amount healed, et cetera. If used to heal a faction, the faction regains hit points equal to the rounded average of its highest and lowest attribute ratings. This healing cannot be hurried by additional spending. Use of this action allows the faction to heal as many different assets as it wishes.

Sell Asset: Gain half the FacCred cost of the asset, rounded down.

Seize Planet: The faction seeks to become the ruling body of a world. The faction must destroy all unstealthed assets on the planet belonging to factions who oppose their attempt before they can successfully take control. If all the assets cannot be destroyed in one turn, the faction must continue the attempt next turn until either successful or all of their own assets on that planet have been destroyed or have left the planet. No other actions can be taken in the meanwhile. Once all resistance has been crushed, the attacker must maintain at least one unstealthed asset on the world for three turns. If successful, they gain the *Planetary Government* tag for the world.

Use Asset Ability: Use the special abilities of one or more assets, such as the transport ability of logistics assets, or the intelligence-gathering abilities of spy assets.

Handling Special Cases

When in doubt, a GM should simply make a judgment based on their own best sense of the situation. Despite this general case, there are a few more particular situations that come up often enough to bear some specific guidance in handling them.

Sometimes, a ground unit will choose to attack a starship unit, or some other unit that seems to be beyond their reach. As a general rule, you should allow this, and simply decide how it was that the ground unit was able to cause problems for the starships. Maybe they subverted officers, or sabotaged support facilities, or drove logistical suppliers out of business.

Some assets require the permission of the planetary government to raise them on a particular world or move them into that world's system. The necessity of this will depend on how advanced the planetary government is and how direct the contact. A TL2 planetary government probably wouldn't even notice the arrival of a capital fleet in their star system, let alone be able to do anything to prevent it. Even so, native lawyers, bribed offworlder officials, and hired mercenaries might still be able to harass a force the locals couldn't bar from entering their territory.

Locations are considered general to a specific star system rather than a particular world. The faction's marketers might be operating out of the planetary capital, but for purposes of location, they're as much in the system as a Scavenger Fleet floating around the rim. Getting shuttles to and from wherever they need to go inside the system is not a problem for most factions.

Sometimes two factions will want to merge for some reason. The efficiency of this will depend on how much the factions like each other and how close they are in function; give this propinquity a rating from 1, for two factions that hate each other and don't do similar things at all, to 9, for two factions that are in perfect synchrony. Use 6 for two factions of average similarity. Whenever you need to see how well the merger went, roll a compatibility check; 1d10 versus this number. If the roll is equal or less, it worked, and if it's higher, the merger didn't work so well in that regard.

Now determine the Force, Wealth, and Cunning ratings for the new faction. For each one, roll a compatibility check; on a success, use the higher of the two factions' scores, while on a failure, use the lower one.

For each asset, roll a compatibility check; on a success, the asset belongs to the new faction, on a failure, it's forcibly sold. FacCreds are totaled between the two factions, and the merged faction gets all the Bases of Influence each originally had. Pick a new goal as well. If the faction has assets its new ratings can't support, it keeps them, but can't use *Repair Asset* on them.

PC adventures always overrule faction die rolls. If the PCs undertake an adventure which results in the crippling or destruction of a hostile faction's asset, that asset is destroyed without any need for dice. In the same vein, if they swoop in to rescue some asset that the dice declared was ruined and undertake an adventure that plausibly salvages the situation, that asset comes back into existence. The faction system is built to help create adventure hooks, not shut them down.

By the same token, if a PC adventure seems to plausibly *create* an asset for a faction, then that should be credited to the group. It is entirely in your interest as a GM to let the players plot out adventure goals and find motivation in helping a faction. Every adventure they spend helping or harming a faction is one more hook of engagement with the campaign world and one less adventure idea you need to come up with.

If your factions are too quiet with a lack of interesting conflict among them, don't hesitate to create that conflict. A sector full of turtling factions that hide out and painstakingly build their resources doesn't make for much engagement, so insert a personal grudge or add a gold-rush opportunity.

When a faction buys an asset, they are not necessarily creating something *ex nihilo*. They might have always had that particular resource, but are only now mobilizing it effectively. A planetary government with no military assets doesn't necessarily lack an army, it just lacks an army that is useful to its current goals.

Buying and Using Assets

Assets can be normally purchased on any world that has a Base of Influence and sufficient tech level to support their creation. In a few cases, however, acquiring an asset requires more than just FacCreds and a planet.

Starship-type assets cannot be purchased on a world with less than several hundred thousand inhabitants unless they can explain how the ships are being provided or supported by another power. Planets with very small populations lack such major infrastructure.

Some assets require the permission of a planetary government in order to purchase them or move them onto the planet. This is not a formality; the standing government's forces can physically disrupt any attempt to recruit the asset on their world, or shoot it down in its vulnerable entry phase. Whether or not this permission will be extended will usually depend on the faction's relationship with a planet's government, though bribes of 1d4 FacCreds can occasionally suffice. Under no conditions will a government willingly permit the entry of assets powerful enough to overthrow them.

Planetary governments cannot prevent the landing of assets without the permission-needed quality. Such assets are too unthreatening and nondescript to alert them until after they've already been formed or have landed. Of course, there is nothing stopping them from attacking these assets either directly or indirectly should they feel threatened.

Only one asset can be purchased per turn by a given faction, and assembling it takes time. The asset can neither attack, defend, nor give any special benefits until the beginning of the buyer's next turn.

Using Faction Assets

As its action for the turn, a faction can choose to use the special actions of one or more assets. They can trigger these special abilities in any order, but each form of asset must be used all at the same time; you cannot trigger Heavy Drop Assets to move a Monopoly asset onto a world, activate the Monopoly ability to siphon cash, and then use another Heavy Drop Asset to move the Monopoly back offworld. All Heavy Drop Assets must be finished before Monopolies can be triggered, and so forth. Unless specified otherwise, all asset targets must be in the same stellar system with the acting assets.

In some cases, assets are called to make a test against another faction, such as a Cunning vs. Wealth test. For these tests, the acting asset's faction rolls 1d10 and adds their score in the acting attribute, while the target faction rolls 1d10 and adds their score in the defending attribute. If the actor rolls higher than the defender, the action is successful. Certain tags may grant a faction extra dice for these rolls, in which case the highest d10 out of those rolled is used. These tests do not count as attacks, and no damage or counterattacks are triggered.

Bases of Influence

Bases of Influence are special assets, and use certain special rules. A faction cannot buy assets on a world without a Base of Influence, though it can move assets purchased elsewhere onto the planet, and it can always buy assets on its homeworld even if its Base of Influence there is destroyed. Of course, that assumes it still has a Base of Influence somewhere else.

First, a faction can only ever have one Base of Influence on a world at a time. Bases of Influence cannot be moved once in place. Bases of Influence cannot be purchased with a *Buy Asset* action. They can only be put in place with an *Expand Influence* action. Bases of Influence have a sale value of zero FacCreds.

The cost of a Base of Influence is equal to its maximum hit points, which can be up to the owning faction's maximum hit points. Bases of Influence do not count against a faction's maximum assets.

Damage done to a Base of Influence is also done directly to a faction's hit points. If a Base of Influence is brought below zero hit points, the overflow damage is not counted against the owning faction's hit points.

As a consequence, a faction must decide how heavily to invest in a particular Base of Influence. A minor foothold on a world consisting of a base with few hit points is cheap and risks limited harm to the faction should it be destroyed, but it's also more vulnerable to being wiped out by a rival group.

It's quite possible for a faction to be effectively destroyed by smashing enough heavily-invested Bases of Influence on other worlds. While the homeworld's Base might be in perfect condition, the faction has so badly overextended itself in failed expansion that it can no longer sustain itself as a going concern. The resources and personnel that the homeworld needed to import are no longer available, and the credits and effort spent on the now-destroyed Bases are wasted. The backlash from this can be ruinous to any faction.

Every faction also has a homeworld. A homeworld is always automatically equipped with a Base of Influence with maximum hit points. If a faction moves its homeworld to a planet that already has a Base of Influence, the base on the new homeworld has its hit points set to the maximum possible and the homeworld's Base of Influence swaps in the hit point value that the destination world's base originally had.

FACTION GOALS

Factions usually have motivations and goals beyond simple existence. To grow, a faction needs to accomplish goals that are in line with their leadership's purposes. Successful achievement of these goals helps the faction grow in strength and influence.

A faction can pursue one goal at a time. Once a goal is successfully attained, the faction may select a new one at the beginning of their next turn or delay until a good opportunity arises. If a faction chooses to abandon a goal, the demoralizing effect of it and the waste of preparations costs them that turn's FacCred income, and they cannot perform any other action that turn.

A faction that successfully accomplishes a goal gains experience points equal to the goal's difficulty. This experience may be saved, or spent at the beginning of any turn to increase the Force, Cunning, or Wealth ratings of a faction. Optionally, the GM might allow a faction to buy a new tag if their deeds justify it.

It's the GM's choice as to what might constitute an appropriate goal for a faction, but below are some potential goals and the difficulties attached to each.

Military Conquest: Destroy a number of Force assets of rival factions equal to your faction's Force rating. Difficulty is 1/2 number of assets destroyed.

Commercial Expansion: Destroy a number of Wealth assets of rival factions equal to your faction's Wealth rating. Difficulty is 1/2 number of assets destroyed.

Intelligence Coup: Destroy a number of Cunning assets of rival factions equal to your faction's Cunning rating. Difficulty is 1/2 number of assets destroyed.

Planetary Seizure: Take control of a planet, becoming the legitimate planetary government. Difficulty equal to half the average of the current ruling faction's Force, Cunning, and Wealth ratings. If the planet somehow lacks any opposing faction to resist the seizure, it counts as Difficulty 1.

Expand Influence: Plant a Base of Influence on a new planet. Difficulty 1, +1 if the attempt is contested by a rival faction.

Blood the Enemy: Inflict a number of hit points of damage on enemy faction assets or bases equal to your faction's total Force, Cunning, and Wealth ratings. Difficulty 2.

Peaceable Kingdom: Don't take an Attack action for four turns. Difficulty 1.

Destroy the Foe: Destroy a rival faction. Difficulty equal to 1 plus the average of the faction's Force, Cunning, and Wealth ratings.

Inside Enemy Territory: Have a number of stealthed assets on worlds with other planetary governments equal to your Cunning score. Units that are already stealthed on worlds when this goal is adopted don't count. Difficulty 2.

Invincible Valor: Destroy a Force asset with a minimum purchase rating higher than your faction's Force rating. Thus, if your Force is 3, you need to destroy a unit that requires Force 4 or higher to purchase. Difficulty 2.

Wealth of Worlds: Spend FacCreds equal to four times your faction's Wealth rating on bribes and influence. This money is effectively lost, but the goal is then considered accomplished. The faction's Wealth rating must increase before this goal can be selected again. Difficulty 2.

Raising Faction Stats

Faction attributes can be raised at the beginning of each turn, if enough experience points are available. The cost of raising a faction attribute rises as the rating rises. As a faction's ratings improve, it becomes harder to destroy, and gains additional maximum hit points.

The maximum hit points of a faction are equal to 4 plus the experience point cost of the highest attributes in Force, Cunning, and Wealth they have attained. For example, a faction with Force 3, Cunning 2, and Wealth 2 has a maximum hit point total of 4 + 4 + 2 + 2 = 12 hit points. A brand-new faction with Force 1, Cunning 2, and Wealth 1 has a maximum hit point total of 4 + 1 + 2 + 1 = 8 hit points.

Experience points spent by factions differ from those gained by PCs in that they are lost when they increase an attribute. Once a faction spends 4 XP to raise Force from 2 to 3, for example, those points are lost, and 6 more must be spent to raise Force from 3 to 4.

Rating	XP Cost	Hit Point Value
1	-	1
2	2	2
3	4	4
4	6	6
5	9	9
6	12	12
7	16	16
8	20	20

Cunning Assets

Base of Influence: This asset is special, and is required for purchasing or upgrading units on a particular world. Any damage done to a Base of Influence is also done to a faction's hit points. The cost of a Base of Influence equals its maximum hit points, which can be any number up to the total maximum hit points of its owning faction. A faction's bases of influence don't count against their maximum assets. A Base of Influence can only be purchased with the *Expand Influence* action.

Blackmail: Selectively degrade the effectiveness of an asset. Any attempt to attack or defend against Blackmail loses any bonus dice earned by tags.

Boltholes: Equipped with a number of postech innovations to make cleaning them out a costly and dangerous pursuit. If a faction Special Forces or Military Unit asset on the same planet as the Boltholes suffers damage sufficient to destroy it, it is instead set at 0 HP and rendered untouchable and unusable until it is repaired to full strength. If the Boltholes are destroyed before this happens, the asset is destroyed with them.

Book of Secrets: Exhaustively cataloged psychometric records on important and influential local figures, allowing uncanny accuracy in predicting their actions. Once per turn, a Book of Secrets allows the faction to reroll one die for an action taken on that world or force an enemy faction to reroll one die. This reroll can only be forced once per turn, no matter how many Books of Secrets are owned.

Covert Shipping: Quiet interstellar asset transport. Any one Special Forces unit can be moved between any worlds within three hexes of the Covert Shipping at the cost of one FacCred.

Covert Transit Net: Facilities web an area of space with a network of smugglers and gray-market freighter captains. As an action, any Special Forces assets can be moved between any worlds within three hexes of the Covert Transit Net.

Cracked Comms: A cryptographic asset for the interception and deciphering of enemy communications. Friendly fire can be induced with the right interference. If the Cracked Comms succeeds in defending against an attack, it can immediately cause the attacking asset to make an attack against itself for normal damage or counterattack results.

Cyberninjas: Outfitted with the latest in personal stealth cyberware, cyberninjas are designed to avoid all but the most careful scans.

Demagogues: Popular leaders of a particular faith or ideology that can be relied upon to point their followers in the direction of maximum utility.

False Front: This asset allows a faction to preserve more valuable resources. If another asset on the planet suffers enough damage to destroy it, the faction can sacrifice the false front instead to nullify the killing blow.

Informers: Minions that lace a planet's underworld, watchful for intruders. They can choose to Attack a faction without specifying a target asset. On a successful Cunning vs. Cunning attack, all Stealthed assets on the planet belonging to that faction are revealed. Informers can target a faction even if none of their assets are visible on a world; at worst, they simply learn that there are no stealthed assets.

Lobbyists: Usable to block the governmental permission that is sometimes required to buy an asset or transport it into a system. When a rival faction gains permission to do so, the Lobbyists can make an immediate Cunning vs. Cunning test against the faction; if successful, the permission is withdrawn and cannot be re-attempted until next turn.

Organization Moles : These can subvert and confuse enemy assets, striking to damage their cohesion.

Panopticon Matrix: These facilities weave braked-AI intelligence analysts into a web of observation capable of detecting the slightest evidence of intruders on a world. Every rival Stealthed asset on the planet must succeed in a Cunning vs. Cunning test at the beginning of every turn or lose their Stealth. The owner also gains an additional die on all Cunning attacks and defenses on that planet.

Party Machines: Political blocks control particular cities or regions… blocks that are firmly in control of the faction. Each turn, a Party Machine provides 1 FacCred to its owning faction.

Popular Movements: A planet-wide surge of enthusiasm for a cause controlled by the faction. This support pervades all levels of government, and the government always grants any asset purchase or movement requests made by the faction.

Saboteurs: Minions rained in launching strikes against enemy operations. An asset attacked by saboteurs cannot apply any *Use Asset Ability* action until the start of the attacking faction's next turn. This applies whether or not the attack was successful.

Seditionists: These asset sap a target's loyalty and will to obey. For a cost of 1d4 FacCreds, the Seditionists can attach themselves to an enemy asset. Until they attach to a different asset or no longer share the same planet, the affected asset cannot attack. If the asset is destroyed, the Seditionists survive.

Seductresses: They and their male equivalents subvert the leadership of enemy assets. As an action, a Seductress can travel to any world within one hex. As an attack, a Seductress does no damage, but an asset that has been successfully attacked immediately reveals any other Stealthed assets of that faction on the planet. Only Special Forces units can attack a Seductress.

Asset	HP	Cost	TL	Type	Attack	Counter	Note
Cunning 1							
Smugglers	4	2	4	Starship	Cunning vs. Wealth, 1d4 damage	None	A
Informers	3	2	0	Special Forces	Cunning vs. Cunning, special	None	A, S
False Front	2	1	0	Logistics Facility	None	None	S
Base of Influence	*	*	0	Special	None	None	S
Cunning 2							
Lobbyists	4	4	0	Special Forces	Cunning vs. Cunning, special	None	S
Saboteurs	6	5	0	Special Forces	Cunning vs. Cunning, 2d4 damage	None	S
Blackmail	4	4	0	Tactic	Cunning vs. Cunning, 1d4+1 damage	None	S
Seductress	4	4	0	Special Forces	Cunning vs. Cunning, special	None	A, S
Cunning 3							
Cyberninjas	4	6	4	Special Forces	Cunning vs. Cunning, 2d6 damage	None	-
Stealth	-	2	0	Tactic	None	None	S
Covert Shipping	4	8	4	Logistics Facility	None	None	A, S
Cunning 4							
Party Machine	10	8	0	Logistics Facility	Cunning vs. Cunning, 2d6 damage	1d6 damage	S
Vanguard Cadres	12	8	3	Military Unit	Cunning vs. Cunning, 1d6 damage	1d6 damage	-
Tripwire Cells	8	12	4	Special Forces	None	1d4 damage	A, S
Seditionists	8	12	0	Special Forces	None	None	A
Cunning 5							
Organization Moles	8	10	0	Tactic	Cunning vs. Cunning, 2d6 damage	None	
Cracked Comms	6	14	0	Tactic	None	Special	S
Boltholes	6	12	4	Logistics Facility	None	2d6 damage	S
Cunning 6							
Transport Lockdown	10	20	4	Tactic	Cunning vs. Cunning, special	None	S
Covert Transit Net	15	18	4	Logistics Facility	None	None	A
Demagogue	10	20	0	Special Forces	Cunning vs. Cunning, 2d8 damage	1d8 damage	-
Cunning 7							
Popular Movement	16	25	4	Tactic	Cunning vs. Cunning, 2d6 damage	1d6 damage	S
Book of Secrets	10	20	4	Tactic	None	2d8 damage	S
Treachery	5	10	0	Tactic	Cunning vs. Cunning, Special	None	S
Cunning 8							
Panopticon Matrix	20	30	5	Logistics Facility	None		1d6 damage.	S

A "P" special code indicates a need for planetary governmental permission to raise or transport in the asset. "A" means that the asset can perform a special action, and "S" indicates that the asset has a special feature or cost.

Smugglers: Men and women skilled in extracting personnel. For one FacCred, the smugglers asset can transport itself and/or any one Special Forces unit to a planet up to two hexes away.

Stealth: Not an asset, per se, but a special quality that can be purchased for another Special Forces asset on the planet. An asset that has been Stealthed cannot be detected or attacked by other factions. If the unit normally requires the permission of a planetary government to be moved onto a planet, that permission may be foregone. An asset loses its Stealth if it is used to attack or defend.

Transport Lockdown: These techniques involve selective pressure on local routing and shipping companies. On a successful Cunning vs. Cunning attack against a rival faction, the rival faction cannot transport assets onto that planet without spending 1d4 FacCreds and waiting one turn.

Treachery: Traitors can attack an enemy asset. On a successful attack, the Treachery asset is lost, 5 FacCreds are gained, and the targeted asset switches sides to join the traitor's faction, even if the faction does not otherwise have the attributes necessary.

Tripwire Cells: These observers are alert to the arrival of stealthed units. Whenever a stealthed asset lands or is purchased on a planet with tripwire cells, the Cells make an immediate Cunning vs. Cunning attack against the owning faction. If successful, the asset loses its stealth.

Vanguard Cadres: Followers of the movement are inspired sufficiently to take up arms and fight on behalf of their leadership.

FORCE ASSETS

Base of Influence: This asset is special, and is required for purchasing or upgrading units on a particular world. Any damage done to a Base of Influence is also done to a faction's hit points. The cost of a Base of Influence equals its maximum hit points, which can be any number up to the total maximum hit points of its owning faction. A faction's bases of influence don't count against their maximum assets. A Base of Influence can only be purchased with the *Expand Influence* action.

Beachhead Landers: A collection of short-range, high-capacity spike drive ships capable of moving large numbers of troops. As an action, the asset may move any number of assets on the planet, including itself, to any world within one hex at a cost of one FacCred per asset moved.

Blockade Fleets: A ragtag lot of corsairs, pirates, privateers, and other deniable assets. When they successfully *Attack* an enemy faction asset, they steal 1d4 FacCreds from the target faction as well. This theft can occur to a faction only once per turn, no matter how many blockade fleets attack. As an action, this asset may also move itself to a world within one hex.

Capital Fleets: The pride of an empire, this is a collection of massive capital warships without peer in most sectors. Capital fleets are expensive to keep flying, and cost an additional 2 FacCreds of maintenance each turn. As an action, they may move to any world within three hexes of their current location. Planetary government permission is required to raise a capital fleet, but not to move one into a system.

Counterintel Units: These security units specialize in code breaking, internal security, and monitoring duties. They can crack open enemy plots long before they have time to come to fruition.

Cunning Traps: This asset covers all the myriad stratagems of war, from induced landslides to spreading local diseases.

Deep Strike Landers: These advanced transport ships are capable of moving an asset long distances. As an action, any one non-Starship asset, including itself, can be moved between any two worlds within three hexes of the deep strike landers, at a cost of 2 FacCreds. This movement can be done even if the local planetary government objects, albeit doing so is usually an act of open war.

Elite Skirmishers: These lightly-equipped troops are trained for guerrilla warfare and quick raids.

Extended Theater: These facilities allow for transporting assets long distances. As an action, any one non-Starship asset, including itself, can be moved between any two worlds within two hexes of the extended theater, at a cost of 1 FacCred.

Gravtank Formations: These tank formations are composed of advanced postech gravtank units that are capable of covering almost any terrain and cracking even the toughest defensive positions.

Guerrilla Populace: Such assets reflect popular support among the locals and a cadre of men and women willing to fight as partisans.

Hardened Personnel: These are the employees and support staff of the faction that have been trained in defensive fighting and equipped with supply caches and hardened fallback positions.

Heavy Drop Assets: These craft allow for the transport of resources from one world to another. As an action, any one non-Starship asset, including this one, may be moved to any world within one hex for one FacCred.

Hitmen: Crudely-equipped thugs and assassins with minimal training that have been aimed at a rival faction's leadership.

Integral Protocols: A complex web of braked-AI supported sensors and redundant security checks used to defeat attempts to infiltrate an area. They can defend only against attacks versus Cunning, but they add an additional die to the defender's roll.

Militia Units: Groups of lightly-equipped irregular troops with rudimentary military training but no heavy support.

Planetary Defenses: Massive mag cannons and gravitic braker gun arrays designed to defend against starship bombardments and repel unauthorized landing. Planetary defenses can only defend against attacks by Starship-type assets.

Postech Infantry: The backbone of most planetary armies, these well-trained soldiers are usually equipped with mag weaponry and combat field uniforms, and have heavy support units attached.

Pretech Infantry: The cream of the stellar ground forces, elite troops kitted out in the best pretech weaponry and armor available, with sophisticated heavy support weaponry integral to the unit.

Pretech Logistics: These assets represent caches, smugglers, or internal research and salvage programs. As an action, a pretech logistics asset allows the owner to buy one Force asset on that world that requires up to tech level 5 to purchase. This asset costs half again as many FacCreds as usual, rounded up. Only one asset can be purchased per turn.

Psychic Assassins: Combat-trained psychics equipped with advanced pretech stealth gear and psitech weaponry. Psychic assassins automatically start Stealthed when purchased.

Security Personnel: Standard civilian guards or policemen, usually equipped with nonlethal weaponry or personal sidearms.

Asset	HP	Cost	TL	Type	Attack	Counter	Note
Force 1							
Security Personnel	3	2	0	Military Unit	Force vs. Force, 1d3+1 damage	1d4 damage	-
Hitmen	1	2	0	Special Forces	Force vs. Cunning, 1d6 damage	None	-
Militia Unit	4	4	3	Military Unit	Force vs. Force, 1d6 damage	1d4+1 damage	P
Base of Influence	*	*	0	Special	None	None	S
Force 2							
Heavy Drop Assets	6	4	4	Facility	None	None	A
Elite Skirmishers	5	5	4	Military Unit	Force vs. Force, 2d4 damage	1d4+1 damage	P
Hardened Personnel	4	4	3	Special Forces	None	1d4+1 damage	-
Guerrilla Populace	6	4	0	Military Unit	Force vs. Cunning, 1d4+1 damage	None	-
Force 3							
Zealots	4	6	0	Special Forces	Force vs Force, 2d6 damage	2d6 damage	S
Cunning Trap	2	5	0	Tactic	None	1d6+3 damage	-
Counterintel Unit	4	6	4	Special Forces	Cunning vs Cunning, 1d4+1 damage	1d6 damage	-
Force 4							
Beachhead Landers	10	10	4	Facility	None	None	A
Extended Theater	10	10	4	Facility	None	None	A
Strike Fleet	8	12	4	Starship	Force vs. Force, 2d6 damage	1d8 damage	A
Postech Infantry	12	8	4	Military Unit	Force vs. Force, 1d8 damage	1d8 damage	P
Force 5							
Blockade Fleet	8	10	4	Starship	Force vs. Wealth, 1d6 damage *	None	S
Pretech Logistics	6	14	0	Facility	None	None	A
Psychic Assassins	4	12	4	Special Forces	Cunning vs. Cunning, 2d6+2 damage	None	S
Force 6							
Pretech Infantry	16	20	5	Military Unit	Force vs. Force, 2d8 damage	2d8+2 damage	P
Planetary Defenses	20	18	4	Facility	None	2d6+6 damage *	S
Gravtank Formation	14	25	4	Military Unit	Force vs. Force, 2d10+4 damage	1d10 damage	P
Force 7							
Deep Strike Landers	10	25	4	Facility	None	None	A
Integral Protocols	10	20	5	Facility	None	2d8+2 damage *	S
Space Marines	16	30	4	Military Unit	Force vs. Force 2d8+2 damage	2d8 damage	A
Force 8							
Capital Fleet	30	40	4	Spaceship	Force vs. Force, 3d10+4 damage	3d8 damage	A, S

A "P" special code indicates a need for planetary governmental permission to raise or transport in the asset. "A" means that the asset can perform a special action, and "S" indicates that the asset has a special feature or cost.

Space Marines: Heavily-armored specialist troops trained for ship boarding actions and opposed landings. As an action, they can move to any world within one hex of their current location, whether or not the planetary government permits it.

Strike Fleets: Forces composed of frigate or cruiser-class vessels equipped with space-to-ground weaponry and sophisticated defenses against light planetary weaponry. As an action, they can move to any world within one hex of their current location.

Zealots: Members of the faction so utterly dedicated that they are willing to launch suicide attacks or hold positions to the death. Zealots take 1d4 damage every time they launch a successful attack or perform a counterattack.

Eliminating Force Assets

It's important to remember that a disabled or damaged Force asset hasn't necessarily been blown to pieces on a battlefield. When thinking of ways that a conflict might have harmed such an asset, remember that demoralization, confusion, subversion, and simple lack of upkeep might all cripple the effectiveness of an asset, or even destroy it as an effective force without rebuilding as expensive as buying a fresh asset. A navy with spacemanship skills so neglected as to constantly run ships into each other is just as worthless to its owning faction as a fleet of smoking wrecks, and the only damage done there was to the organization's focus.

WEALTH ASSETS

Bank Assets: Once per turn, the faction can ignore one cost or FacCred loss imposed by another faction. This does not require an action. Multiple bank assets allow multiple losses to be ignored.

Base of Influence: These follow the standard rules for Bases of Influence.

Blockade Runners: These starship captains excel at transporting goods through unfriendly lines. As an action, a blockade runner can transfer itself or any one Military Unit or Special Forces to a world within three hexes for a cost of two FacCreds. They can even move units that would otherwise require planetary government permission to enter.

Commodities Brokers: They substantially lessen the cost of large-scale investments by timing materials purchases properly. As an action, the owner of a commodities broker can roll 1d8; that many FacCreds are subtracted from the cost of their next asset purchase, down to a minimum of half normal price, rounded down.

Franchise: This asset reflects a deniable connection with a local licensee for the faction's goods and services. When a Franchise successfully attacks a enemy asset, the enemy faction loses one FacCred (if available), which is gained by the Franchise's owner. This loss can happen only once a turn, no matter how many Franchises attack.

Freighter Contract: A special link with heavy shipping spacers. As an action, the faction may move any one non-Force asset, including this one, to any world within two hexes at a cost of one FacCred.

Harvesters: These gather the natural resources of a world, whether ore, biologicals, or other unprocessed goods. As an action, the Harvesters' owning faction may roll 1d6. On 3+, gain one FacCred.

Hostile Takeover: This asset can seize control of damaged and poorly-controlled assets. If a Hostile Takeover does enough damage to destroy an asset, the target is instead reduced to 1 hit point and acquired by the Hostile Takeover's owning faction.

Laboratory: The lab allows a world to make hesitant progress in tech. The presence of a Laboratory allows assets to be purchased on that world as if it had Tech Level 4.

Lawyers: Sophists in immaculate suits or charismatic tribal skalds, lawyers have the ability to tie an enemy up in the coils of their own internal rules, damaging assets with confusion and red tape. Lawyers cannot attack or counterattack Force assets.

Local Investments: These give the faction substantial influence over the commerce on a world. Any other faction that tries to buy an asset on that planet must pay one extra FacCred. This money is not given to the investments' owner, but is lost. This penalty is only applied once.

Marketers: Deployed to confuse enemy factions into untimely investments. As an action, the marketers may test Cunning vs. Wealth against a rival faction's asset. If successful, the target faction must immediately pay half the asset's purchase cost, rounded down, or have it become disabled and useless until this price is paid.

Medical Center: Salvage and repair damaged assets. Once between turns, if a Special Forces or Military Unit asset on the world is destroyed, the faction may immediately pay half its purchase cost to restore it with one hit point. Any *Repair Asset* action taken on that world costs one less FacCred for Special Forces and Military Units.

Mercenaries: Groups of well-equipped, highly-trained soldiers willing to serve the highest bidder. Mercenaries have a maintenance cost of one FacCred per turn. As an action, Mercenaries can move to any world within one hex of their current location. To purchase or move a Mercenary asset to a planet requires government permission.

Monopoly: An open or tacit stranglehold on certain vital businesses or resources on a world. As an action, owners of a monopoly may force one other faction with unstealthed assets on that world to pay them one FacCred. If the target faction can't pay, they lose one asset of their choice on the world.

Postech Industry: As an action, the owning faction can roll 1d6 for a Postech Industry asset. On a 1, one FacCred is lost, on a 2-4 one FacCred is earned, and a 5-6 returns two FacCreds. If money is lost and no resources are available to pay it, the Postech Industry is destroyed.

Pretech Manufactories: Rare, precious examples of functioning pretech industrial facilities, retrofitted to work without the benefit of specialized psychic disciplines. As an action, the owning faction can roll 1d8 for a Pretech Manufactory, and gain half that many FacCreds, rounded up.

Pretech Researchers: A highly versatile team of research and design specialists capable of supporting limited pretech… as long as they're adequately funded. Any world with Pretech Researchers on it is treated as tech level 5 for the purpose of buying Cunning and Wealth assets. Pretech researchers have a maintenance cost of 1 FacCred per turn.

R&D Departments: These allow the smooth extension of wealth-creation and industrial principles to the farthest reaches of the faction's operations. A faction with an R&D department may treat all planets as having tech level 4 for purposes of buying Wealth assets.

Scavenger Fleets: These rag-tag armadas bring enormous technical and mercantile resources to their patrons, along with a facility with heavy guns. As

Asset	HP	Cost	TL	Type	Attack	Counter	Note
Wealth 1							
Franchise	3	2	2	Facility	Wealth vs. Wealth, 1d4 damage	1d4-1 damage	S
Harvesters	4	2	0	Facility	None	1d4	A
Local Investments	2	1	2	Facility	Wealth vs. Wealth, 1d4-1 damage	None	S
Base of Influence	*	*	0	Special	None	None	S
Wealth 2							
Freighter Contract	4	5	4	Starship	Wealth vs. Wealth, 1d4 damage	None	A
Lawyers	4	6	0	Special Forces	Cunning vs. Wealth, 2d4 damage	1d6 damage	S
Union Toughs	6	4	0	Military Unit	Wealth vs. Force, 1d4+1 damage	1d4 damage	
Surveyors	4	4	4	Special Forces	None	1d4 damage	A, S
Wealth 3							
Postech Industry	4	8	4	Facility	None	1d4 damage	A
Laboratory	4	6	0	Facility	None	None	S
Mercenaries	6	8	4	Military Unit	Wealth vs. Force, 2d4+2 damage	1d6 damage	A, S, P
Wealth 4							
Shipping Combine	10	10	4	Facility	None	1d6 damage	A
Monopoly	12	8	3	Facility	Wealth vs. Wealth, 1d6 damage	1d6 damage	S
Medical Center	8	12	4	Facility	None	None	S
Bank	8	12	3	Facility	None	None	S
Wealth 5							
Marketers	8	10	0	Tactic	Cunning vs. Wealth, 1d6 damage	None	A
Pretech Researchers	6	14	4	Special Forces	None	None	S
Blockade Runners	6	12	4	Starship	None	2d4 damage	A
Wealth 6							
Venture Capital	10	15	4	Facility	Wealth vs. Wealth, 2d6	1d6 damage	A
R&D Department	15	18	4	Facility	None	None	S
Commodities Broker	10	20	0	Special Forces	Wealth vs. Wealth, 2d8 damage	1d8 damage	A
Wealth 7							
Pretech Manufactory	16	25	5	Facility	None	None	S
Hostile Takeover	10	20	4	Tactic	Wealth vs. Wealth, 2d10 damage	2d8 damage	S
Transit Web	5	15	5	Facility	Cunning vs. Cunning, 1d12 damage	None	S
Wealth 8							
Scavenger Fleet	20	30	5	Starship	Wealth vs. Wealth, 2d10+4 damage	2d10 damage.	

A "P" special code indicates a need for planetary governmental permission to raise or transport in the asset. "A" means that the asset can perform a special action, and "S" indicates that the asset has a special feature or cost.

an action, a Scavenger Fleet can be moved to any world within three hexes. Scavenger Fleets cost 2 FacCreds a turn in maintenance.

Shipping Combine: Transport large amounts of equipment and personnel between worlds. As an action, the combine may move any number of non-Force assets, including itself, to any world within two hexes at a cost of one FacCred per asset.

Surveyors: Explore potential resource and investment options on worlds. The presence of a Surveyor crew allows one additional die to be rolled on *Expand Influence* actions. As an action, a surveyor crew can be moved to any world within two hexes.

Transit Web: These facilities allow almost effortless relocation of all assets. For one FacCred, any number of non-starship Cunning or Wealth assets may be moved between any two worlds within three hexes of the Transit Web. This may be done freely on the owner's turn so long as the fee can be paid, and using the ability doesn't require an action.

Union Toughs: These bruisers don't much like scabs and management, and they're willing to take the faction's word on which people are which. They're lightly armed and poorly trained, but they can infiltrate to perform sabotage.

Venture Capital: This asset grows resources out of seemingly nowhere, harvesting the best of entrepreneurship for the faction's benefit. As an action, venture capital can be tapped. 1d8 is rolled; on a 1, the asset is destroyed, while on a 2-3 one FacCred is gained, 4-7 yields two FacCreds and 8 grants three FacCreds.

FACTION TAGS

Most factions have some unique quality about them, some trait that distinguishes them from other factions of similar resources. Whether a particularly fanatical band of ideological crusaders or an ancient order of pacifistic scientists, faction tags allow a GM to give a group a few special tricks of their own.

A faction should generally be given one tag, or two at the most for particularly versatile organizations. The exception is the *Planetary Government* tag, which can be acquired– and lost– multiple times to reflect the faction's seizure of new worlds. Factions tags do not normally change without some drastic and organization-shaping event.

Colonists

This faction is a fresh colony on an otherwise largely untouched planet. It is this brave band of pioneers that will tame the world's wild forces and bring forth a better life for those who come after.

Effect: This faction has all the benefits of the *Planetary Government* tag for its homeworld, as no other government exists on a fresh colony. The faction's homeworld is also treated as if it had at least tech level 4. Colonies with fewer than 100,000 citizens lack the necessary industrial infrastructure to build Spaceship-type assets.

Deep Rooted

This faction has been part of a world's life for time out of mind. Most natives can hardly imagine the world without this faction's presence, and the traditional prerogatives and dignities of the group are instinctively respected.

Effect: This faction can roll one additional d10 when defending against attacks on assets on their homeworld. If the faction ever changes homeworlds, this tag is lost.

Eugenics Cult

The forbidden maltech secrets of advanced human genetic manipulation are known to this faction, and they use them with gusto. Slave-engineered humanoids and "deathless" leadership are just two of the more common alterations these unstable scientists undertake.

Effect: Eugenics Cultists can buy the Gengineered Slaves asset; it's an asset requiring Force 1 with the statistics of 6 HP, 2 FacCred cost, tech level 4 required, with an Attack of Force vs. Force/1d6 damage and a Counterattack of 1d4 damage. Once per turn, the Eugenics Cult can roll an extra d10 on an attack or defense by a Gengineered Slaves asset, regardless of the stat being used. Gengineered Slaves can count as either a Military Unit or Special Forces, determined when the cult first creates a specific asset.

Exchange Consulate

This faction is either led through an Exchange Consulate or has close ties with that pacifistic society of bankers and diplomats. The sophisticated economic services they provide strengthen the faction.

Effect: When the faction successfully completes a "Peaceable Kingdom" Goal, they may roll 1d6; on a 4+, they gain a bonus experience point. Once per turn, the faction may roll an extra d10 when defending against a Wealth attack.

Fanatical

The members of this faction just don't know when to quit. No matter how overmatched, the members will keep fighting to the bitter end- and occasionally past it.

Effect: The faction always rerolls any dice that come up as 1. This zealousness leaves them open at times, however; they always lose ties during attacks.

Imperialists

This faction nurses wild dreams of controlling the sector, whether out of an impulse to bring their local culture and technology to less fortunate worlds or simple lust for dominion. They excel at defeating planetary defenses and standing armies.

Effect: This faction may roll an extra d10 for attacks made as part of a Seize Planet action.

Machiavellian

This faction's meat and drink is intrigue, its members delighting in every opportunity to scheme. It may be a secret cabal of hidden masters or the decadent court of a fallen stellar empire, but its membership has forgotten more of treachery than most others ever learn.

Effect: Once per turn, this faction can roll an additional d10 when making a Cunning attack.

Mercenary Group

The faction sells its services to the highest bidder, and is an extremely mobile organization. Vast amounts of men and material can be moved interstellar distances in just a few months.

Effect: All faction assets gain the following special ability: As an action, the asset may move itself to any world within one hex.

Perimeter Agency

This faction is or is closely tied to an Agency of the enigmatic Perimeter organization. Originally organized by the Terran Mandate to detect and contain maltech outbreaks until Mandate fleet resources could be dispatched, the Perimeter retains numerous ancient override codes for pretech security protocols.

Effect: Once per turn, the faction may roll an additional d10 when making an attack against an asset

that requires tech level 5 to purchase. The faction may roll an extra die when making a test to detect Stealthed assets.

Pirates

This faction is a scourge of the spacelanes, driving up the cost of shipping and terrorizing merchant captains without pity. They steal and refit ships with vicious ingenuity, cobbling together space armadas out of the leavings of their prey.

Effect: Any movement of an asset onto a world that has a Base of Influence for this faction costs one extra FacCred, paid to this faction.

Planetary Government

This faction is the legitimate government of a planet. Rebel groups and rival factions may have assets on the planet, but control over the instruments of the state is firmly in this faction's hands. The faction may rule openly, or it may simply have an inexorable grasp on the existing authorities.

Effect: The faction's permission is required to buy or import those assets marked as needing government permission. This tag can be acquired multiple times, once for each planet the faction controls.

Plutocratic

This faction prizes wealth, and its membership strives constantly to expand and maintain personal fortunes. Perhaps it is a ruling council of oligarchs or a star-spanning trade cartel.

Effect: Once per turn, this faction can roll an additional d10 when making a Wealth attack.

Preceptor Archive

This faction is or has close ties to a Preceptor Archive a place of learning operated by the learned Preceptors of the Great Archive. These Archives are peaceful institutions dedicated to the spread of practical knowledge and useful engineering to the wider cosmos. Their large numbers of educated personnel make advanced equipment more practical for deployment.

Effect: Purchasing an asset that requires tech level 4 or more costs one fewer FacCred than normal. The Preceptor Archive may also take the special action "Teach Planetary Population", costing 2 FacCreds and allowing them to roll 1d12 for one world. On a 12, the world's tech level permanently becomes 4 for the purposes and purchases of this faction.

Psychic Academy

Most significant factions are capable of employing psychics, but this faction can actually train their own. They excel at precise and focused application of the psionic disciplines, and can get far more out of their available psychic resources than other factions.

Effect: This faction can provide psionic mentor training to qualified psychics. Once per turn, this fac-

tion can also force a rival faction to reroll any one d10, whether or not they're involved in the roll.

Savage

Whether a proud tribe of neoprimitives struggling against the material limits of their world or a pack of degenerate tomb world cannibals, this faction is accustomed to surviving without the benefits of advanced technology and maximizing local resources.

Effect: Once per turn, this faction can roll an extra die when defending with an asset that requires tech level 0 to purchase.

Scavengers

This faction might live within the wreckage of a tomb world, salvage the castoffs of some decadent pleasure-world or ply the ruins of an orbital scrapyard. Whatever their territory, this faction knows how to find worth amid seemingly useless trash.

Effect: Whenever the faction destroys an asset or has one of their assets destroyed, they gain 1 FacCred.

Secretive

This faction is marked by elaborate protocols of secrecy and misdirection. It may be split up into numerous semi-autonomous cells, or consist largely of trained espionage professionals. Finding the assets of such a faction can often be more difficult than destroying them.

Effect: All assets purchased by this faction automatically begin Stealthed. See the list of Cunning assets for details on Stealth.

Technical Expertise

The faction is staffed by large numbers of expert engineers and scientists. They can turn even the most unpromising labor pool into superb technicians.

Effect: This faction treats all planets on which they have a Base of Influence as if they were at least tech level 4. They can build Starship-type assets on any world with at least ten thousand occupants.

Theocratic

The faction is fueled by the fierce certainty that God is with them- and with no one else. The tight and occasionally irrational obedience that pervades the organization makes it difficult to infiltrate or subvert effectively.

Effect: Once per turn, this faction can roll an extra d10 when defending against a Cunning attack.

Warlike

There are factions with a military orientation, and then there are factions that just really love killing things. Whether or not this faction has developed sophisticated military resources and techniques, the membership is zealous in battle and has a positive taste for fighting.

Effect: Once per turn, this faction can roll an additional d10 when making a Force attack.

Factions In Your Campaign

To create a faction, first decide on the scale of the organization. Many factions are restricted to a single world, and even the most impressive sector empire rarely exerts direct control over more than a dozen worlds. Place the faction's homeworld and locate any Bases of Influence it might have on other worlds. A few words beside each Base describing the form it takes can be handy in later planning out adventures with the faction.

Next, prioritize the faction's attributes, deciding the order in which they focus on Force, Cunning, and Wealth. Minor factions should have a 4 in their most important attribute, established planetary governments should have a 6, and regional hegemons should have an 8. Their second-most important attribute is one less than their primary, and their tertiary attribute is three less. You can calculate the faction's hit points from that, but normally minor powers will have 15 HP, major powers will have 29 HP, and sector hegemons will have 49 HP. Their off-world Bases of Influence normally have a maximum HP equal to half that.

Give minor powers one asset in their primary attribute and one asset in a different attribute. Give major powers two assets in their primary attribute, and two assets in different attributes, and give regional hegemons four assets in their primary and four in others. Place these assets on the worlds occupied by the faction.

Select an appropriate faction tag for the organization, one fitting their special focus and origins. If the faction has direct governmental control over one or more worlds, add Planetary Government tags to them.

Finally, select a Goal for the faction. For your initial three or four sector factions, try to pick goals that will put them in conflict with each other. If the factions you make are content to hide from the world and get along in peace and quiet, they're unlikely to be terribly useful as patrons or enemies for the PC group, unless you intend to enlist the PCs as defenders of some beleaguered group of innocents.

Creating PC Factions

Eventually, it's likely that a PC is going to accumulate the necessary power and influence to start their own faction. Often around 9th level, a PC has gained enough renown and competence that others will want to serve them, and they can choose to parlay that into a faction of their own. This may happen at earlier levels, depending on whether or not the PC has made it a significant priority to develop their own faction.

Newly-founded factions are fragile, vulnerable things. They start with a score of 2 in their primary attribute and 1 in the others, 8 hit points, and one asset in their primary attribute. The GM may select one faction tag appropriate to the new organization's nature.

The exact details of a PC's new faction will depend largely on what the character did to form it. A PC who organizes a colonial expedition to an uninhabited world will end up with a faction very different from that of a PC that starts her own psychic academy. In general, PCs have to actively work to create their faction. It does not simply arrive as their natural birthright.

Adventures and Factions

The actions of adventurers fall outside the faction turn, but the consequences of their escapades can translate into the loss or acquisition of FacCreds, assets, or faction hit points. If the players come up with a scheme to strike at the leadership of the Brotherhood of the New Man, success or failure isn't determined according to Force attacks or Cunning defenses. Success is determined by the outcome of the adventure itself, and the group's ability to overcome the security and obfuscation that surrounds these mad gengineers.

The amount of damage done or benefit given to a faction by a group's adventures should be substantial, at least as much as could be accomplished with a faction turn. It may not be possible to bring down an interstellar empire by precision strikes and subversion, but the players should be able to see concrete effects from their successes. At the very least, the newslines at the end of each faction turn should include public commentary on the visible consequences of their actions.

Some players will want to take advantage of the resources of their factions in the course of their adventures, either bringing along troops or specialists, or utilizing faction assets on a personal level. This should be permitted as a general matter; there's not much fun in being a colonial governor if you can't even get a corporal's guard of bodyguards to look after you. Faction equipment should also be available in reasonable amounts. Subordinates are not adventurers, however, and while they will perform their duties diligently and well, they won't willingly take the kind of risks that adventurers often relish. Faction assets should be an advantage and a tool for the PCs rather than a crutch.

It may come up that a character wants to withdraw credits from his faction, or donate loot won in the course of their adventuring. FacCreds translate poorly into normal credits, as they often represent resources that don't liquidate easily into cash. The GM should feel free to prohibit directly withdrawing cash from a faction if a PC comes to rely on it too heavily. Otherwise, one FacCred will usually translate into about 100,000 credits worth of cash, with substantially larger returns if used to make investments, or build things.

Characters can give up to 1d4 x 100,000 credits to a faction in any one turn, with each 100,000 credits becoming 1 FacCred. Any more than this in one turn is wasted due to accounting inefficiency, and the faction will need to spend a full turn processing the donation before it becomes FacCreds.

EXAMPLE FACTIONS

A GM doesn't always have time to sort out the details of every faction that might be needed. A group might decide to attack the planetary government of a world that wasn't important or interesting enough to merit the effort to define its governmental faction during sector creation, for example. The following sample factions can be pulled and used for such places as necessary. Where appropriate, you can add the Planetary Government tag for legitimate world governments.

Colony World

Thinly-populated worlds with limited infrastructure tend to have weak colonial governments concerned chiefly with issues of basic survival rather than expansion or intrigue.

Attributes: Force 4, Cunning 3, Wealth 1

Hit Points: 15

Assets: Guerrilla Populace/Force 2 and Saboteurs/Cunning 2

Tags: Colonists

Lost World

Primitive and barbaric by the standards of the space going worlds, a lost world lacks the technical resources of their neighbors, but may well have substantial advantages in population and cultural cohesion depending on the world's habitability.

Attributes: Force 4, Cunning 1, Wealth 3

Hit Points: 15

Assets: Zealots/Force 3, Harvesters/Wealth 1

Tags: Savage

Backwater Planet

Perhaps this world was important once, but disaster, ennui, or the Scream has left it a sleepy planet disinterested in the wider galaxy. Most worlds with ordinary levels of technology in a sector will fit this template.

Attributes: Force 6, Cunning 3, Wealth 5

Hit Points: 29

Assets: Postech Infantry/Force 4, Planetary Defenses/Force 6, Informers/Cunning 1, Bank/Wealth 4

Tags: Deep Rooted

Zealous Faith

This religious organization is a powerful force in the sector, likely with major congregations on several worlds.

Attributes: Force 3, Cunning 6, Wealth 5

Hit Points: 29

Assets: Demagogue/Cunning 6, Organization Moles/Cunning 5, Zealots/Force 3, Marketers/Wealth 5

Tags: Theocratic

Regional Hegemon

This world is the mightiest military power in the sector and leads a half-dozen neighboring worlds in a "voluntary confederation" that it ever seeks to expand.

Attributes: Force 8, Cunning 5, Wealth 7

Hit Points: 49

Assets: Space Marines/Force 7, Planetary Defenses/Force 6, Blockade Fleet/Force 5, Extended Theater/Force 4, Pretech Manufactory/Wealth 7, Shipping Combine/Wealth 4, Tripwire Cells/Cunning 4, Cyberninjas/Cunning 3

Tags: Imperialists

Mercantile Combine

A star-spanning consortium of merchants might operate out of one particular world, but their final loyalty is always to their credit balance.

Attributes: Force 3, Cunning 5, Wealth 6

Hit Points: 29

Assets: Venture Capital/Wealth 6, Shipping Combine/Wealth 4, Hardened Personnel/Forces 2, Blackmail/Cunning 2

Tags: Plutocratic

Eugenics Cult

Some people are born to rule- literally. These eugenics cults believe that superior breeds of humanity can be successfully engineered, and that good genetic background legitimizes rule over less "advanced" humans. Such cults are widely loathed, but the experimental medical treatment they offer to those who can find them makes unwilling converts of some.

Attributes: Force 3, Cunning 6, Wealth 5

Hit Points: 29

Assets: Boltholes/Cunning 5, Demagogue/Cunning 6, Laboratory/Wealth 3, Gengineered Slaves/Force 1

Tags: Eugenics Cult

Rebel Freedom Fighters

Even in the most tyrannical corners of the galaxy, the human heart yearns for freedom. These factions spring up in the shadow of oppressive governments. For each one that is crushed, a new one rises in time.

Attributes: Force 3, Cunning 4, Wealth 1

Hit Points: 15

Assets: Seditionists/Cunning 4, Zealots/Force 3

Tags: Secretive

AN EXAMPLE OF FACTION PLAY

The GM has just finished brewing up her initial sector. She has a rough sketch of the worlds, she's fleshed out the planet where the initial play session will occur, and she's ready to run the game. She thinks it'd be nice to have some background activity going on, so she plans to create three factions to decorate her world.

She picks out three groups that are likely to be significant players in this corner of her sector: the harsh planetary government of Typhon, the initial starting point for the game, the Rathskeller Combine, a multistellar megacorp based off the world of Danube in the neighboring solar system, and the Way of Voth, a pretech-worshiping cult with a hidden base on Singularity, a gas giant moon in a system neighboring both.

These aren't the only possible factions in the system, of course, but they're the ones most likely to be pertinent to PC interests. If the PCs move on, she might retire some of these factions to bring in new ones. She knows she shouldn't have more than a half-dozen factions active at once unless she's ready to do a lot of tracking during each faction turn.

She knows the Typhon government is a fairly powerful faction, having effective control of its home planet save for some plucky rebels against its autocratic monarchy. Force is its strongest tool, so she gives it a rating of 6 in that, followed by Wealth of 5 and Cunning of 3. Its maximum hit points are 29. As a major power, it has two Force assets and two more assets of any kind. Typhon would love to have Pretech Infantry and has the Force score to support it, but its tech level is 4, too low for such advanced troops. It settles for a Strike Fleet and some Postech Infantry. Aside from that, it has a government Monopoly on spike drive components and a Postech Industry that helps make them. It also has a Base of Influence on its home world of Typhon that automatically has 29 hit points, the same as the faction itself. Finally, it has the faction tag of Planetary Government, because it's the legitimate ruler of Typhon.

For the Rathskeller Combine, the GM decides that it's about as powerful as the Typhon government due to its far-flung mercantile connections. On reflection, she thinks its main money comes from its control of the ship-building industry outside the Typhon system, which makes it an economic competitor with the state-run Typhon shipyards. She gives it a Wealth rating of 6, Force of 5, and Cunning of 3, with a maximum HP of 29. Since it's starship-centric, she gives it Shipping Combine and Blockade Runner assets for Wealth, and other assets of Elite Skirmishers and Saboteurs. The Plutocratic tag fits its mercantile origins.

For the final faction, the GM decides to make them a relatively weak group, one that tries to use its limited supplies of pretech artifacts to manipulate "less developed" societies. She gives it a Cunning score of 4, a Wealth of 3, and a Force of 1. Its maximum hit points are 15. It gets only two assets as a minor power, so goes with Cyberninjas and Covert Shipping to get those ninjas where they need to go. The GM mulls over the faction tags, but none seem to be quite right. She decides to give it her own tag of "Pretech Stores", letting it treat Singularity as a tech level 5 world for purposes of buying high-tech assets there. While there's no other meaningful authority on the gas giant moon, the GM doesn't think it's proper to give them the Planetary Government tag because there really isn't anything else *on* Singularity except the Vothite base. They don't have the implicit military power to prevent hostile military assets from landing on the world, so they don't really fit the mold of the Planetary Government tag.

The last step in creating the factions is to give each of them an initial goal. She decides that the Rathskeller Combine is really interested in breaking into Typhon's closed market. She gives it the *Expand Influence* goal, which rewards it when it can found a Base of Influence on another planet. Typhon is a violent, expansionistic power that goes in for *Blood the Enemy*, so it seeks to inflict hit point damage on rival assets equal to the sum of its attributes, or 14 points. The Vothites know they can't survive a direct confrontation with either important power, so they want to get ready to make a move when they're stronger; they choose *Peaceable Kingdom*, needing to spend four consecutive turns without taking an *Attack* action.

With this established, the GM is ready to run the first faction turn.

Turn One

The GM randomly selects the Rathskeller Combine to go first, followed by Typhon, and then the Vothites.

First, the Combine earns its income for the turn; half its Wealth plus a quarter of its total Force and Cunning, rounded down. That means 5 FacCreds.

Next, it pays maintenance. It has no assets that require maintenance and hasn't got more assets of any one type than its corresponding attribute, so it has no maintenance cost. If it were to accumulate four Cunning assets, however, while only having a Cunning of 3, it would have to pay one FacCred for each over the limit. Bases of Influence don't count for this purpose.

Now the Combine has to decide what action to take. It knows that Typhon is itching for a fight. The Combine is nervous about their rival's Strike Fleet, but that seems to be the only force that immediately threatens them. The Postech Infantry that Typhon has doesn't have any practical way to cross into Danubian space unless Typhon buys some sort of transport asset. Right now there seems no way for the Typhonians to do that, so the Combine decides to go for a long economic game, taking the *Buy Asset* action to spend 2

FacCreds on Harvesters. The GM decides that this represents a new flotilla of asteroid mining tugs. A faction can buy only one asset per turn and can take only one action, so the Combine's turn is over.

Typhon isn't wasting any time. It gets its FacCred income for the turn of 4 FacCreds and uses its action to *Use Asset Ability* to let its Strike Fleet enter the Danube system. Some assets require governmental permission to move them into a system with an existing government, but not Strike Fleets. They tend to make their own permission. Typhon would like to start attacking Combine assets, but it can only take one action per turn, so it will have to wait until the next one to open fire.

The Vothites are keeping their head down, accruing their 2 FacCreds. As poor as they are, they need to do something about it, so they invest in a *Buy Asset* action to get a Harvester. The GM decides that it represents scavenger teams dispatched to loot vital resources from the dangerous pretech caches hidden on Singularity.

As the final step, the GM translates these faction actions into newsfeed stories to share with the PCs. She scribbles up short news blasts about "Typhon First Fleet Dispatched to Suppress Piracy in the Danube System", "Rathskeller Combine Commissions New Wing of Asteroid Miners", and "Unusual Ship Traffic In Singularity System". These stories may not have the whole truth about affairs, but they're what the PCs would find out from the local news organizations.

Turn Two

The PCs completed their first adventure and are busy swanning around in the Danube system. Nothing they've done directly impinges on the local factions, so the GM simply runs the next faction turn after the session is over. Random rolls give Voth the first action, then Typhon, and then the Combine.

Voth gets another 2 FacCreds and dutifully uses *Buy Asset* to get another Harvester, scaling up their salvage efforts. This makes two Wealth assets that Voth has; it can get one more Wealth asset before it starts to have to pay maintenance on any additional ones. They would've liked to have used *Use An Asset* to see if their existing Harvester made them any money, but they can't take two different actions during the same turn, so they must wait for now.

Typhon now collects its 4 FacCreds, for a total of 8, and uses the *Attack* action. If it had multiple assets in position, it could attack with all of them; as it stands, only the Strike Fleet is in the same location as a rival power. It aims at the Base of Influence, but the Combine gets to decide which asset the Strike Fleet engages. It chooses to defend with its Blockade Runners. The Strike Fleet's Attack is Force versus Force, so Typhon rolls 1d10 and adds its Force rating for a score of 11. Against this, the Combine rolls 1d10 and adds its own Force rating for a score of 12. The Strike Fleet's attack has failed, and it takes the Counterattack damage of the Blockade Runners, for 2d4 damage, for 7 points. The Strike Fleet is now down to 1 hit point.

The Rathskeller Combine now senses an opportunity. They collect their income of 5 FacCreds for a total of 8 and take an Attack action of their own, ordering the Saboteurs to press the attack. The Strike Fleet is the only viable target in the sector, so Typhon is forced to defend with it. The Saboteurs' attack is Cunning versus Cunning. The Combine rolls an 8, a tepid result, while the Strike Fleet gets lucky and rolls a 9. The Saboteurs are forced to take the Strike Fleet's counterattack damage of 1d8, and roll a 6; they are wiped out. Stung, the Combine throws the Elite Skirmishers into the fray, the only other asset they have that even has an attack. They roll a Force vs. Force attack, Typhon rolls badly, and the Strike Fleet is destroyed.

The GM then writes up the news blasts for the session, describing how "pirate" boarding parties destroyed the Typhonian strike fleet by taking advantage of security breaches caused by recently-discovered saboteurs. She decides that both Danube and Typhon want to avoid outright war, and that Danube's planetary government won't get involved so long as Typhon is only cutting down Combine holdings.

Turn Three

As it turns out, the PCs took notice of that news item about Singularity's ship activity and decided to investigate. In the course of their adventure they killed a Vothite salvage crew and snatched away a precious haul of pretech artifacts that the crew had been recovering. The GM decides that this costs the Vothites one of their two Harvester assets. There is no die roll or faction action related to this; the PCs did it, so it simply happens. They also left plenty of evidence, so the GM makes a note to have a Vothite cyberninja come after them and their stolen artifacts. Such small-scale actions related to PC adventures don't require a full faction action, so the Vothites don't need to use an Attack action to go after the troublesome PCs.

The Vothites go first this round and are not amused. They collect their 2 FacCreds and Use An Ability to see if their remaining Harvester makes them any money; they roll a 4 on its ability and gain an extra FacCred, for a total of 3 in its coffers this turn.

Typhon goes next, collecting 4 FacCreds for a total of 12. It's licking its wounds, but at least it managed to inflict 6 of the necessary 14 points of damage on a foe to succeed at its *Blood the Enemy* goal. It uses *Buy Asset* to buy a new Strike Fleet, reconstituting it from the survivors and spending all 12 FacCreds on it.

The Combine goes last, and is at a crossroads. Their income this turn gives them 13 FacCreds and they've successfully destroyed a Typhionian Strike Fleet, but it cost them their Saboteurs, and they have only one asset left that can even attack at all. What should they do to address the Typhonian menace? Maybe some PC mercenaries might tip the scales for them…

GAME MASTER RESOURCES

The following pages include a number of tables for the quick generation of NPCs, patrons, names, place names, and quick encounters. The tables are in no way intended to be exhaustive or particularly detailed. They are simply quick conveniences for the GM to spare constant reference to the internet or other books to nail down the basic flavoring of their NPCs.

Aside from these tables, this section also discusses some of the more common issues that arise for GMs of *Stars Without Number*. PC death, the role of combat, when to use skill checks, how to handle investigations, and other potentially sticky elements are reviewed and advice given for the practical handling of these matters.

In addition, this chapter gives some guidelines on converting material from the first edition of the game to the current revised rules. A selection of potential house rules are also suggested for groups that wish to customize their game a little more.

When applying any of these guidelines or suggestions, however, it is important that you remember a critical thing about running the game at your table.

Your Game and Your Group

The most important thing you can remember as a GM running *Stars Without Number* is that you are running it for a *specific group of people.* You are not running it for a generic Typical Gamer, you are running it for Bob and Eunice and Feng and Tyler. There is no genericized advice that can be applied to your specific group that is nearly as helpful as your own powers of social expertise and your personal knowledge of the table.

Game designers sometimes fall into the trap of trying to force social outcomes at the table through specific game rules. These rules can encourage certain outcomes in the general case, but they cannot compel results. They are certainly not nearly as effective in producing an outcome as you, the GM, can be, because these rules can't know your players as well as you do.

Whenever you consider making a house rule, or adding a tweak to the game, or even basic considerations of what kind of sandbox excitement you should be offering to your players, you must always think about the specific players you have. Don't worry about the Typical Gamer. The Typical Gamer is not at your table. If Bob really wants a new focus that allows his PC to do a particular trick, you do not need to think of all the ways a Typical Gamer could abuse or misuse that new power. You need to think of the ways *Bob* could misuse it. Maybe he is the kind of gamer who would be very disruptive to the game with the ability, and maybe you know how he plays well enough to tell that he'd never cause a problem with it. The same ability that would be absolutely terrible in the hands of some players can be perfectly safe in the hands of others. Only you can reasonably tell which is which.

The same general attitude is necessary towards other elements of your campaign, not just the house rules. You need to think about how your specific players are likely to react to plot hooks, campaign elements, and new additions to the game. If you know Eunice was bored out of her mind by an adventure session that revolved around trading, it's probably a bad idea to offer her hooks that focus on commercial dealings, or at least talk it over with her outside the game before you introduce it to make sure there's something about the hook that she can find engaging.

As the GM, you already have a lot of responsibility on your shoulders. You have the adventures to create, the sandbox to populate, and the game itself to run. It is very unlikely that you have the energy or the time to worry about creating universally-functional house rules and generalized systems. That is the game designer's job. It's up to me to give you general rules that will work well in most situations and provide serviceable results with the Typical Gamer. That kind of averaged-out design is necessary if you're to be provided with a basic toolbox of useful mechanics and systems.

But you can do better, because you know your audience. You know what they want, what they're interested in, and how they're likely to use the tools you hand them. You can create specific house rules and case-by-case permissions that mold your game to fit the needs and interests of your own table.

Stars Without Number is designed in the spirit of old-school gaming, where these sort of house rules and campaign-specific systems are totally acceptable and perfectly normal. This game is not a delicate flower that will wilt if you touch it the wrong way. It is built on a basic mechanical chassis more than forty years old, a veritable AK-47 of game design, and it can take an incredible amount of punishment and careless handling without breaking. You will not ruin your game by adding in house rules that make sense to you.

This game belongs to you and your players. As the designer, I only get a vote in how things should be; the ultimate decision is always with you and your play group. Only you properly understand the goals of your group and the kind of fun you want to have, and only you and your players can provide the definitive understanding of your ultimate aim. I am providing you with a basic structure that will work for most groups, but it's up to you to add the chrome or tweaks that you want.

Perhaps you won't need to add any. It may well be that the rules exactly as written serve your purpose just fine, and you have no particular desire to tweak them. If that's the case, then that's fine. But you should never be afraid to reach in and adjust things to improve your own play. Add systems from other old-school-inspired games, brew up your own rules, or excise bits that don't fit. This game is yours, and you should play it *your* way.

Common Game Master Complications

Once you've successfully created your sector and gathered the players, you might find a few difficulties cropping up in the course of play. There are certain pitfalls and complications that are particular to the style of play that **Stars Without Number** encourages, and it's helpful to have an idea beforehand of how to deal with them.

Death

Characters in **Stars Without Number** die easily. The average third-level psychic might well be taken out by a lucky pistol round, and even high-level warriors don't have more than 60 or 70 hit points. It's true that biopsionics and lazarus patches can revive characters that get medical help in time, but there are plenty of situations where there's just not time to save a teammate or the attempt proves a failure. If the rules are used as written, PCs who regularly put themselves in dangerous situations are going to die.

You and your players should decide at the start of the game how you want to deal with this. For maximum old-school authenticity, you might mutually decide to just let the dice fall where they may. If Captain Spaulding plunges into the sulfur volcanoes of Badghati IV, the high-level veteran of dozens of daring interstellar escapades gets a touching space memorial and his player rolls up a replacement. This is the default assumption of the game, and it can add a great deal of excitement and reward to the sensation of navigating a character through lethal challenges.

It can also really aggravate players who enjoy building deeply-involved PCs with many close ties to the game world and its characters. A GM can decide to omit the risk of death in most cases, reducing PCs with 0 hit points to "gravely wounded" status and allowing them to be revived with medical attention. Some situations might run the risk of real death, but the GM can save this for occasions of genuine dramatic importance. There's nothing at all wrong with this approach to death, and it can help some players focus on the story that they and their group are creating rather than living in fear of every goon with a combat rifle.

Of course, there are shades of gray between these two extremes, and most GMs come to inhabit some point on this spectrum. There are many ways the GM can lessen the risk of death without out-and-out denying it. In particular, the GM can cause enemies to spread their attacks over a group rather than focusing on the weakest PC. Hostiles can pay more attention to the warriors in the group rather than the experts or psychics, especially when the Warrior has yet to use his class ability to negate a hit. You can take care not to include instant-death traps or devices in your adventures, or fabricate situations where a character's life hinges on a single die roll. You can include substantial numbers of NPC henchmen and companions in an adventure,

and let them soak up a portion of the danger. All of these tactics can be used to tacitly lessen the danger of character death without taking it off the table.

Sooner or later, however, it's likely that some PC is going to kick the bucket. At that point, it becomes necessary to get a replacement into the action. The replacement PC should be added as quickly as possible, and it can often be advantageous for players to roll up these replacements before the game even starts, so they have a character in hand should their former PC catch a bad case of laser poisoning. Creating the characters beforehand also allows the group to set up ties of association that help justify why they're suddenly willing to include the new PC in their adventures. These replacements can be members of the crew of the ship they're travelling on, outworlders slouching around the local bars, wanderers gone native among the locals, or prisoners of whatever nefarious group the party is fighting. The key factor is to get the replacement into action quickly, so the player who's lost his or her PC isn't punished with inactivity at the table as well as PC loss.

It's generally easiest to have the replacement PC be the same level as the dead PC. For high-level adventures, it's distressingly likely that a low-level PC would die quickly when facing challenges of that caliber. If they do come in at a lower level, you're going to have to make some allowances when it comes time for them to gain experience points. If everyone is gaining points at the same rate, the lower-level PC will never catch up; you may want to give them a bonus after each adventure to ensure that eventually they match the same level of competence as the rest of the crew.

Skill Checks

Skill checks are susceptible to overuse. Some GMs end up forcing a skill check on everything more complicated than tying your bootlaces, or prohibit PCs from even hoping to accomplish a feat for which they lack the appropriate skill. Skill checks are not meant to be the sole way that a PC gets something accomplished in the world.

You should be charitable about the things a character can accomplish without a skill check. If an Expert's concept is that of a crack spaceship pilot with a Dexterity modifier of +2 and Pilot-2 skill, you shouldn't be expecting him to make skill checks to operate the ship under normal conditions. He can take off, he can land, he can get to places in the system without bothering with skill checks. Even someone with Pilot-0 should likely be able to do as much, except the expert pilot can do it without a check even amid high winds and low visibility. Let the PCs be good at their chosen focus.

Don't spam skill checks. If a character is trying to repair a fusion power plant while under fire from badlands raiders, don't turn it into a roll-each-turn ex-

travaganza to determine how far he progresses in his attempt. Let him roll once, with a failure meaning either that he can't do it in the available time or that he'll need another 1d6 rounds before he can bring the defense laser power plant online. Give him player choices each turn, like deciding whether to bring a laser online early and risk a short in the wiring. Let a single skill check indicate the general course of success or failure, but then let the PC make additional choices rather than additional rolls. Rolls can only add so much tension, and tension alone does not guarantee engagement with a situation.

Don't require a skill check unless failing it means something. If a character can simply keep trying at something with no real negative consequences, it's not worth a skill check. They'll get it sooner or later, so it's easiest to just tell them that it was successful. If time is important and there's a significant difference between accomplishing it instantly or accomplishing it soon, just follow a failed skill check with a roll of 1d6 and assume that many rounds, minutes, or hours go by before the PC finally gets it right.

Don't ignore actions taken outside of skill checks. If a character jams a titanium wrecking bar into the cogs of an alien death trap, you probably shouldn't require him to make a successful Fix roll to disable the device. What he's done will objectively work, and there's no point or need in rolling for it. If there's a casket of luminous Mettauan glass underneath the senator's bed, then the players will find it if they look under the bed, and no Notice check is needed to see if they notice it. Skill checks are best used to reflect the results of a complicated or uncertain attempt at an action. If the PC tries something that anyone can do and that would have an obvious result, then just let the result happen. Don't use a skill check unless the outcome is unclear.

Combat

Combat in *Stars Without Number* tends to be fairly lethal. One good roll by a pistol-wielding thug can take out almost any first level character, and characters never really scale to the point where they can afford to hold enemies in contempt. You should take care to structure your adventures and situations so that PCs are very rarely forced into fights. The shotguns and laser rifles should come out either because the PCs have chosen to use them or because they're facing the consequences of their own missteps.

Because combat is so dangerous, it's vital to allow the PCs to set it up on their own terms, assuming they're cunning and prudent enough to take advantage of their opportunities. Ambushes, AC bonuses for cover, and the use of the environment to hurt and baffle their foes should all be encouraged. If a character wants to use an element of the environment to do something interesting, let them. "You do that, and nothing happens." is rarely a good answer for any halfway plausible PC action.

Enemies should also be played as their morale indicates. A pack of street thugs will not transform into Spartans at Thermopylae, dying to the last man to prevent the PCs from discovering their gang hideout. Even trained and disciplined combatants are going to have serious thoughts about retreat as soon as their comrades start dying. Only when enemies feel trapped or are defending something as precious to them as their lives will they normally fight to the last.

Negotiation and Diplomacy

There is a Talk skill, and the fact that this and similar social skills exist sometimes causes players or GMs to simply shut off more informal evaluations of social situations. When the PC wants to convince an NPC of something, they roll Cha/Talk and let the dice tell them how far the NPC is willing to buy their premise. The actual words and arguments they use are simply decorations to the event.

On one level, this is justifiable. The player of the Warrior isn't expected to be a real-life shootist to roll a good attack roll, so why should the player of the silver-tongued Expert con man have to come up with a smooth line of patter to use his own abilities? It's legitimate and reasonable to let the dice determine the success of a conversational gambit. If a player has spent character resources on something like social skills, they should see a mechanical benefit from it. Moreover, relying on a player's conversational talents to move negotiations can often boil down to a game of finding the right conversational gambit for the GM rather than rationally persuading the NPC.

Still, some players and GMs prefer to let actual argumentation play a bigger role. One potential way to do this is to let the player state his or her case, and then set the Talk check difficulty accordingly. Convincing a crime boss to give a PC access to his network of corrupt city officials might be a difficulty 8 test if the player makes a good argument for it, while a desultory request might be difficulty 10. Alternately, you might implicitly adjust the consequences of success or failure based on the character's total Charisma and skill bonus. A character with a +5 total might not succeed in persuading the crime boss if they roll very low, but he'll point them towards someone who might be able to help them. The key for this sort of approach is to let both skills and player argumentation have a visible effect on the outcome, so that players feel that both matter.

In either case, you should make clear to the group which model will be used when they're making up their characters. It prevents difficulty later when the player running the character with a -1 Charisma modifier and no social skills expects his own glib tongue to carry the day with NPCs.

Searching and Investigation

Many adventures rely on the party solving a mystery or unearthing the dark truths behind some enigmatic event. PCs can occasionally get frustrated by these adventures when they feel that they've hit a dead end or are presented with a set of clues that they, the players, can't hope to puzzle out. Conversely, players can sometimes grow bored when the adventures become a sequence of skill tests, with the PCs simply trying to roll high so that the GM will let them advance.

Running a good investigation-based adventure can be difficult, but there are a few tactics that can be useful to a GM. First, identify those pieces of information that must be found in order to solve the puzzle. Cracking the secret organlegging ring run out of the city's child protective services department might hinge on identifying the secret lab in which the organs are harvested, the corrupt CPS chief who hides the goods in her home, and the crooked physician who launders the organs into the donor system. These three facts have to be discovered in order for the PCs to progress.

Once you've established the facts, watch for opportunities to let them be discovered. Drawn in by the hook of a recurring urchin NPC they knew who vanished after being picked up by protective services, the PCs might check out the NPC's old haunts or associates, only to learn that a number of street kids have gone missing after CPS collected them, and that all of them were picked up by a particular agent. Don't make the discovery of vital information hinge on a die roll. If the PCs take rational investigative steps, they should be given something to show for it, even if it's just the confidence that their current route is a dead end. You should be *trying* to give out this information when the PCs give you an excuse to do so, rather than hoarding it against all but precisely correct lines of investigation.

You also shouldn't feel bad about giving PCs a break if they start to flail, either by introducing a helpful NPC to put them back on the trail or remind them of some earlier point they didn't fully investigate. By the same token, you shouldn't hesitate to let them deal with the consequences of tardiness. If they spend too long in distractions before finding their urchin friend, they might discover nothing more than spare parts.

One particular point that often comes up is the question of searching an area. Some GMs just let the PCs all make Notice checks to see if they notice something hidden. This has the advantage of being quick and simple, but it also can put vital information at the mercy of good dice. Other GMs require the players to specifically say what parts of an area they're searching, what they're looking under or inside, and otherwise describe the specifics of their search. This can penalize players who don't correctly envision the area the GM is describing. One compromise is to simply give players vital clues when they say that they are searching, and then use one or both of the other methods to let them search for supplementary facts and helpful details.

Salvage

The far future is full of expensive decor. Truly enterprising PCs sometimes are of a mind to "salvage" a place down to its foundations, ripping out everything that can be resold and trucking it all off to be converted into credits. To some extent, this is simply common sense; no red-blooded freebooter would simply leave unclaimed valuables lying around when he knows they'll fetch a good price at the starport. Still, it can be tedious to handle the logistics of salvage and unbalancing to the game to allow PCs to cash in on every alien fork and wall panel they can drag back to civilization.

The easiest way to deal with this is to simply make clear that most non-portable valuables the PCs might salvage are just too difficult to move on the secondary market. Questions of legal ownership, finding a suitably indiscriminate buyer, and avoiding tax scrutiny all combine to make such efforts more trouble than they're worth. It can be interesting to make an adventure out of moving some particularly exceptional piece of salvage, but as a general rule, it's just not worth it to strip the copper wiring out of a crime boss' hideout.

There is also the issue of PCs methodically stripping the armor, weapons, and pocket change from their dead foes. In most cases this is self-limiting, as most PCs can't easily pack around a half-dozen combat rifles while engaged in the kind of pursuits that leave them fighting their former owners. In the unlikely case that the PCs come back with a cargo sled, most of the armor is probably worthless due to the perforations that killed its wearer and the weaponry is unlikely to be so valuable as to unbalance the game. Even in that case, moving the weapons on the black market is usually not a trivial enterprise. You shouldn't discourage PCs from upgrading their own equipment from the plunder of the fallen or taking exceptionally valuable pieces for later fencing, but you shouldn't feel obligated to let them decamp with the battlefield on their backs.

The actual mechanics of selling plunder can be as complicated as you wish to make them. It may be that what the PCs retrieve can be sold openly on the world, usually for around half its purchase value if a quick sale is desired. Something closer to full price can only be obtained with the sort of patience, contacts, and attention that adventurers rarely have avaialble.

A fence might be needed for those goods which were acquired in illicit fashion, or items that are outlawed for common trade. Fences rarely pay more than ten or twenty percent of an item's purchase price. Many such difficulties can be removed by taking the loot off-world and laundering it somewhere beyond the reach of the planet's laws.

INTERSTELLAR TRADE

As an extension of this, some groups will want to make a killing in interstellar trade, carrying the goods of one world to another to make a fast credit. This is a venerable science-fiction trope, and there's no reason you shouldn't allow it, but there are a few considerations to keep in mind when dealing with space commerce.

Perhaps most importantly, there is no such thing as interstellar bulk shipping in *Stars Without Number*. Even the largest spike drive ships have cargo capacities measured in a few tens of thousands of tons, while a modern oil tanker has a capacity of around 500,000 tons. Trying to run a meaningful trade in bulk commodities has been a lost cause ever since the jump gates failed and massive system-ship freighters could no longer make the jump between worlds. Such commerce can exist inside a system, with huge slowboats moving from planet to planet, but modern trade relies on carrying small loads of high-value goods or expert services.

Most small merchant ships such as the ones a PC group is likely to own rely on in-system supply runs as their bread and butter. They cart loads of food, water, replacement personnel, spare parts, and other life support supplies out to remote asteroid mines, research stations, and extraction plants. The pay is rarely much, but such supply run missions are excellent hooks for dropping a group into the middle of some disaster.

Trade beyond supply runs usually revolves around moving local specialty tech or products. Local art, exotic pharmaceuticals, high-quality technical specialties, or passengers with special skills who want to reach a particular world all make up this class of trade. For most purposes, it's not necessary to really elaborate on the specifics of this, though it can add flavor to make up a product or two unique to a given world.

There are also exceptionally risky trading expeditions to lostworlders, bringing the fruits of modern postech to their benighted nations. While the weaponry, pharmaceuticals, and technical artifacts are usually greedily desired on these worlds, the natives often have very little of value to pay for them. Explorer-merchants often have to investigate a lostworlder culture carefully before they can identify any particular product or resource that can be usefully shipped interstellar distances to justify the trip. Some particularly unscrupulous merchants do not balk at taking payment in local slaves for export to decadent or dangerous worlds.

There are also "missionary" supply runs to these primitive worlds. The Preceptors of the Great Archive occasionally run missions on a planet to disseminate valuable technical and artistic knowledge among the locals, and there are always a selection of determined missionaries bent on bringing the word of their faith to the heathens. While these missions normally can supply their own food, offworld medicine and spares are vital for keeping their more advanced tech operating.

More sinister than the Preceptors and the pious are the "Kurtzes". The prospect of ruling like a god on some forgotten world lures a certain type of men and women, a type that might normally be forced to limit their dark ambitions on a more technically advanced world, where energy weapons and powered armor do not give a person so vast an advantage over their peers. These Kurtzes seek out lost worlds with other like-minded men and women, usually framing their ambitions as a matter of "bringing advancement to the primitives". Most Kurtz expeditions collapse in blood and horror within a few years, but some manage to hold on for far longer.

Quick Trade Rules

For those who prefer not to use the full-fledged rules for interstellar trade provided in the *Suns of Gold* supplement, here are a few quick guidelines for responding to player interest in interstellar trade. They assume the PCs have a ship, but are just scrounging for marginal shipments and fast opportunities rather than taking advantage of a formal trade network and steady, reliable work contracts.

First, let the PCs find a deal for some good that the planet might reasonably produce. Cheap bulk goods would run for 2d6 x 10 credits per ton, ordinary finished goods go for 2d6 x 100 credits per ton, and high-tech, expensive products are 2d6 x 1,000 credits per ton. They can find a new deal with a week's wait.

PCs can try to improve the purchase price with a Cha/Trade skill check opposed by the seller's Wis/Trade skill roll. On a success, the price decreases by 10% times the level of Trade skill the bargainer has. On a failure, the price remains firm.

Before the goods are loaded, roll 1d6. If the PCs tried to get a better price, subtract 1 from the roll. If the result is 1 or less, something has gone wrong and the goods are lost, stolen, confiscated, or fake. The PCs are going to have to either eat the loss or take whatever adventurous steps are necessary to get their money or goods back. These steps may involve gunfire.

When the PCs try to sell the goods, assuming the planet might reasonably want them, roll 2d6+1 and multiply it by 10 for bulk goods, 100 for finished manufactures, or 1,000 for expensive goods. This is the base price the buyer offers to the PCs. They can bargain for better with the same opposed check as before, gaining a 10% price increase per Trade skill level on a success. On a failure, the PCs have to accept the offered price.

After the sale is finalized, the 1d6 needs to be rolled again, also with a -1 penalty if a better price was sought. On a result of 1 or less, the sale end of things goes awry, and the PCs are out both money and goods. To salvage them, they'll need to conduct some sort of adventure revolving around reclaiming their rightful due.

CONVERTING FIRST EDITION STARS WITHOUT NUMBER

Most of this edition's content can be used interchangeably with first edition *Stars Without Number*. Characters may be created somewhat differently, starships might handle combat in a new way, and psionics might have changed, but the end result largely uses the same statistics and same score ranges. An original-edition *Stars Without Number* character can adventure in a revised-edition campaign without requiring much in the way of special rules.

Some GMs will want guidelines on converting an existing original-edition game to the current edition. This is a simple process, as the scales are the same.

Converting Characters

Characters have the same attributes, character level, and all other scores unless specified otherwise. Skills are converted directly into the closest equivalent; Combat/Projectile becomes Shoot, and so forth. In the case of multiple skills now compressed into a single skill, like a PC with both Combat/Projectile and Combat/Energy, the highest skill is converted and the lower skills can be exchanged for any other skills of the same level of the player's choice.

PCs retain their class. Hit points are re-rolled for the character based on their revised-edition hit die. Thus, a 5th level Psychic can reroll 5d6 for their hit points. PCs may keep their existing hit point totals if the new roll is lower.

PCs may pick a number of foci appropriate to their class and level. If converting a 2nd level Warrior, for example, the PC could pick their initial focus, their bonus Warrior focus, and the focus they get at second level. If they pick foci that grant bonus skills, apply the bonus as 3 additional skill points to the skill as described on page 57.

PC experience points are pro-rated based on the campaign. If the character was halfway to 7th level in the existing campaign, place their experience points halfway to 7th level under the revised rules.

Attack bonuses and Armor Class are calculated using the new rules, as are saving throw scores.

Converting Psionics

The rules above are sufficient for converting most PCs, but the powers of Psychic PCs are a bit trickier.

To get the PC's psychic skill ratings, take their primary discipline, halve it, and round it up. Take their other disciplines, halve them, and round down. Thus, a PC with a primary Telepathy discpline of 9 and secondary disciplines of Metapsionics 7 and Biopsionics 2 would be converted to Telepathy-5, Metapsionics-3 and Biopsionics-1. For disciplines above level-0, they can pick a free technique from each skill level they know, plus one additional technique for each discipline from any level they know. Calculate Effort normally.

Converting Creatures

Flip Armor Classes to ascending values by subtracting the creature's AC from 20. No other changes are needed; existing attack bonuses, hit dice, saving throws, and so forth can be used as written.

Converting Ships

Give NPC ships an appropriate number of Command Points to use each round in ship combat. Civilian ships and fighters should have 4 CP, military ships and experienced pirates should have 5 CP, and higher scores should be reserved for elite or spacer-native crews.

Adjust the ship's maintenance cost based on the new six-month maintenance schedule.

Ship statistics such as hit points, speed, Power, Mass, and other attributes are generally the same in both editions. If the PCs build a new ship you can check it against the numbers, but existing ships can be left unchanged during use.

Converting Equipment

Most equipment and weaponry can be used unchanged, as they're the same in both editions. You may need to use the revised edition version of a particular suit of armor or treat a monoblade as a medium advanced weapon rather than a unique type of armament, but no real conversion is needed.

For melee weapons, give it the appropriate Shock rating for its size. Small weapons have Shock scores of 1/AC 15, medium weapons have scores of 2/13 AC, and large weapons have scores of 2/15 AC.

For gear that forces a saving throw on a target, simply have the victim make whichever saving throw seems most appropriate to the item's effect. In case of Luck saves, substitute Mental saves or a pure blind chance of 50% success.

Using Existing Sourcebooks

Existing *Stars Without Number* sourcebooks such as *Suns of Gold*, *Skyward Steel*, *Starvation Cheap*, and *Darkness Visible* can be used with few or no changes. Most of the resources in these books were designed to be used in a system-agnostic fashion, and the agency construction rules in *Darkness Visible* or the interstellar trade rules in *Suns of Gold* can be employed without altering anything.

In a few cases, these sourcebooks may call for checks from skills that have been changed in the revised edition. Simply use the new version's skill in such cases; if *Suns of Gold* tells you to add a PC's Business score to some total, just add their Trade score instead.

HOUSE RULES AND THE GAME

Stars Without Number derives from an old-school gaming tradition where house rules were almost universal. The basic chassis of the game is simple enough and rugged enough to handle all kinds of tweaks and adjustments without collapsing, and it is your sacred and inalienable right to bend the game in any direction you wish if it improves your fun.

You are encouraged to try the rules as-written at first, though, so you can be sure that you really do want to change something. If you do decide to shuffle things around, here are some possible house rules you could adopt, and some suggestions about their effects.

No Shock Damage: Weapons do not do Shock damage. This can simplify melee combat at the cost of discouraging PCs from choosing to use melee weapons and increasing the "whiff" factor with them. If you drop Shock damage, you might also choose to drop the *Snap Attack* combat maneuver, as it's no longer necessary to give gunslingers a way to blaze down charging melee attackers before they get into range.

Use Original Skill Lists: Like the skill list from the original edition of SWN better? Use it instead. When creating characters, allow skill picks or rolls to be converted to a corresponding original-edition skill. If the PC rolls "Shoot", for example, let them pick Combat/Gunnery, Combat/Projectile, or Combat/Energy instead. When the existing rules call for a particular new skill, let the PC use any old skill that plausibly matches its function.

Don't Use Command Points: Don't want to track Command Points in ship combat? Eliminate all actions that grant Command Points and just let each PC pick one action from their department list each turn. The captain's *Support Department* action now gives that department a bonus action, and the gunner now has a *Fire At A System* action that lets them fire one weapon at a targeted system at a -4 penalty to hit. NPC ships can either fire all weapons in a round or fire only one weapon and take one action relevant to their immediate needs.

No Ranged Weapon Binding: One of the significant combat differences between the revised edition of the game and the original is the rule limiting the use of ranged weapons when a hostile melee combatant is adjacent. Some GMs will want to drop this rule for simplicity's sake, and that can work, but it may leave melee specialists feeling a little superfluous.

Use a Grid in Combat: While the game isn't written around the use of miniatures and a combat grid, GMs who want to go to the extra effort of making up such resources can do so. Using two-meter squares or hexes is likely to give the best results.

Eliminate Psionics: Some GMs who want a more "hard sci-fi" game might choose to ditch psionics from the setting. In their absence, the Scream can simply have been an alien energy pulse that shattered the Jump Gates and left the worlds of humankind isolated for centuries. If you eliminate psychic PCs, however, you'll want to take care that the group has access to other healing resources, such as stims and trained PC medics.

Drop FTL Starflight: GMs who want to run a strictly one-solar-system game might eliminate FTL spaceflight as an option. The **Engines of Babylon** supplement for the original game discusses how to change the starship rules for a TL3 campaign that has edged into intra-system space flight.

Boost Starting Levels: The default campaign assumes that PCs will start at first level, as experienced but extremely mortal heroes. Groups that want to make room for a little more durability without using the heroic PC rules in the game's deluxe version might choose to start at third level instead of first, or give a flat 10 HP bonus to all PCs.

Add Universal Psionics: A GM might choose to run a campaign where every PC has some degree of psionic power. In such games, every PC should get the bonus of being a Partial Psychic as given under the Adventurer class. Adventurers who choose the Partial Psychic option should be treated as full Psychics, and the full Psychic class itself is dropped. If using the space magic rules in the deluxe game version, the same method can be used to add universal magic abilities to PCs, either as partial Magisters, Adepts, or Arcanists.

Use Plot Points: Some groups prefer to have a certain amount of narrative control given to the PCs, either to save them from otherwise-certain doom or allow them to make certain statements about the situation that are automatically true. Under such circumstances, you might give each PC two "plot points" that can be spent to save them when they would otherwise certainly perish, or else make an adjustment to the current adventuring situation that the GM judges amenable. Each time the PC advances a level, these plot points reset. Any unspent ones are lost.

Make Combat a Bloodbath: A few groups like to emphasize the abject horror and murderous danger of combat in their campaigns. For these groups, you can add the simple rule that every attack roll made on an even-numbered round of combat will automatically hit unless there's a penalty on the roll, whether due to cover or circumstances. In that case, the attack is rolled normally. PCs who get involved in combat thus know they have a very limited amount of time to resolve the situation.

Name Generators

What's in a name? For most campaigns, a very great deal. Names and naming conventions are an important and useful tool for giving your worlds a sense of coherence and verisimilitude. It's all too easy to fall into the easy convention of nonsense-syllable names when a GM can get much more world-building mileage out of a more thoughtful use of language.

The names of people and places on a world should be in conformity with the local language. Every world is going to have its oddball names, but if the great majority of them share the same basic roots, it helps give the world a sense of cohesion and place. Even when the players have no knowledge whatsoever of the language or culture being used as a touchstone, using the same linguistic roots ensures that the same basic palette of sounds and word fragments will be used.

Note that language and culture are separable. Just because you've got a world flavored with Arabian-style architecture and kinship groupings, there's no reason you can't use French or Spanish for the language. A thousand-odd years in the far future, cultural transmutations unimaginable to us at present have taken place throughout human space. There no doubt exist centuries-old interstellar cultures that bear only a vague resemblance to their original forms. Take advantage of this to make your own life easier.

Making Names Memorable

One difficulty that occasionally comes up at the table is a difficulty in remembering names that don't have any grounding in languages spoken by the players. Without any mnemonic hook or familiarity, one string of polysyllables tends to blur into another.

One way to get around this problem is to attach strong visual or character cues to individual NPCs. Players might not remember a particular spaceport hand's name, but they'll remember the guy who's constantly smoking a reeking cheroot, or the woman with fiber-optic laced hair. As the GM, you can help prevent forgetfulness by using the NPC's name regularly as well.

Creating Alien Names

One quick trick for creating wholly alien names is to hunt up a very obscure language online and just use its words to name exotic entities and places. The players are unlikely to recognize Galatian or Gothic, so you spare yourself from carrying the implicit cultural baggage of the tongue, but the language still retains a characteristic set of sounds that will help maintain a coherent aural landscape. Further "palette swaps" of vowels, particular consonant clusters or the like can make an "alien language" out of almost any speech.

d100	Male	Female	Surname	d100	Place	d100	Place
1-4	Aamir	Aisha	Abdel	1-2	Adan	51-52	Magrit
5-8	Ayub	Alimah	Awad	3-4	Ahsa	53-54	Masqat
9-12	Binyamin	Badia	Dahhak	5-6	Andalus	55-56	Misr
13-16	Efraim	Bisharah	Essa	7-8	Asmara	57-58	Muruni
17-20	Ibrahim	Chanda	Hanna	9-10	Asqlan	59-60	Qabis
21-24	Ilyas	Daliya	Harbi	11-12	Baqubah	61-62	Qina
25-28	Ismail	Fatimah	Hassan	13-14	Basit	63-64	Rabat
29-32	Jibril	Ghania	Isa	15-16	Baysan	65-66	Ramlah
33-36	Jumanah	Halah	Kasim	17-18	Baytlahm	67-68	Riyadh
37-40	Kazi	Kaylah	Katib	19-20	Bursaid	69-70	Sabtah
41-44	Lut	Khayrah	Khalil	21-22	Dahilah	71-72	Salalah
45-48	Matta	Layla	Malik	23-24	Darasalam	73-74	Sana
49-52	Mohammed	Mina	Mansoor	25-26	Dawhah	75-76	Sinqit
53-56	Mubarak	Munisa	Mazin	27-28	Ganin	77-78	Suqutrah
57-60	Mustafa	Mysha	Musa	29-30	Gebal	79-80	Sur
61-64	Nazir	Naimah	Najeeb	31-32	Gibuti	81-82	Tabuk
65-68	Rahim	Nissa	Namari	33-34	Giddah	83-84	Tangah
69-72	Reza	Nura	Naser	35-36	Harmah	85-86	Tarifah
73-76	Sharif	Parveen	Rahman	37-38	Hartum	87-88	Tarrakunah
77-80	Taimur	Rana	Rasheed	39-40	Hibah	89-90	Tisit
81-84	Usman	Shalha	Saleh	41-42	Hims	91-92	Uman
85-88	Yakub	Suhira	Salim	43-44	Hubar	93-94	Urdunn
89-92	Yusuf	Tahirah	Shadi	45-46	Karbala	95-96	Wasqah
93-96	Zakariya	Yasmin	Sulaiman	47-48	Kut	97-98	Yaburah
97-100	Zubair	Zulehka	Tabari	49-50	Lacant	99-100	Yaman

(Arabic)

d100	Male	Female	Surname	d100	Place	d100	Place
1-4	Aiguo	Biyu	Bai	1-2	Andong	51-52	Luzhou
5-8	Bohai	Changying	Cao	3-4	Anqing	53-54	Ningxia
9-12	Chao	Daiyu	Chen	5-6	Anshan	55-56	Pingxiang
13-16	Dai	Huidai	Cui	7-8	Chaoyang	57-58	Pizhou
17-20	Dawei	Huiliang	Ding	9-10	Chaozhou	59-60	Qidong
21-24	Duyi	Jia	Du	11-12	Chifeng	61-62	Qingdao
25-28	Fa	Jingfei	Fang	13-14	Dalian	63-64	Qinghai
29-32	Fu	Lan	Fu	15-16	Dunhuang	65-66	Rehe
33-36	Gui	Liling	Guo	17-18	Fengjia	67-68	Shanxi
37-40	Hong	Liu	Han	19-20	Fengtian	69-70	Taiyuan
41-44	Jianyu	Meili	Hao	21-22	Fuliang	71-72	Tengzhou
45-48	Kang	Niu	Huang	23-24	Fushun	73-74	Urumqi
49-52	Li	Peizhi	Lei	25-26	Gansu	75-76	Weifang
53-56	Niu	Qiao	Li	27-28	Ganzhou	77-78	Wugang
57-60	Peng	Qing	Liang	29-30	Guizhou	79-80	Wuxi
61-64	Quan	Ruolan	Liu	31-32	Hotan	81-82	Xiamen
65-68	Ru	Shu	Long	33-34	Hunan	83-84	Xian
69-72	Shen	Suyin	Song	35-36	Jinan	85-86	Xikang
73-76	Shi	Ting	Tan	37-38	Jingdezhen	87-88	Xining
77-80	Song	Xia	Tang	39-40	Jinxi	89-90	Xinjiang
81-84	Tao	Xiaowen	Wang	41-42	Jinzhou	91-92	Yidu
85-88	Xue	Xiulan	Wu	43-44	Kunming	93-94	Yingkou
89-92	Yi	Ya	Xing	45-46	Liaoning	95-96	Yuxi
93-96	Yuan	Ying	Yang	47-48	Linyi	97-98	Zigong
97-100	Zian	Zhilan	Zhang	49-50	Lushun	99-100	Zoige

(Chinese)

d100	Male	Female	Surname	d100	Place	d100	Place
1-4	Adam	Abigail	Barker	1-2	Aldington	51-52	Kedington
5-8	Albert	Anne	Brown	3-4	Appleton	53-54	Latchford
9-12	Alfred	Beatrice	Butler	5-6	Ashdon	55-56	Leigh
13-16	Allan	Blanche	Carter	7-8	Berwick	57-58	Leighton
17-20	Archibald	Catherine	Chapman	9-10	Bramford	59-60	Maresfield
21-24	Arthur	Charlotte	Collins	11-12	Brimstage	61-62	Markshall
25-28	Basil	Claire	Cook	13-14	Carden	63-64	Netherpool
29-32	Charles	Eleanor	Davies	15-16	Churchill	65-66	Newton
33-36	Colin	Elizabeth	Gray	17-18	Clifton	67-68	Oxton
37-40	Donald	Emily	Green	19-20	Colby	69-70	Preston
41-44	Douglas	Emma	Harris	21-22	Copford	71-72	Ridley
45-48	Edgar	Georgia	Jackson	23-24	Cromer	73-74	Rochford
49-52	Edmund	Harriet	Jones	25-26	Davenham	75-76	Seaford
53-56	Edward	Joan	Lloyd	27-28	Dersingham	77-78	Selsey
57-60	George	Judy	Miller	29-30	Doverdale	79-80	Stanton
61-64	Harold	Julia	Roberts	31-32	Elsted	81-82	Stockham
65-68	Henry	Lucy	Smith	33-34	Ferring	83-84	Stoke
69-72	Ian	Lydia	Taylor	35-36	Gissing	85-86	Sutton
73-76	James	Margaret	Thomas	37-38	Heydon	87-88	Thakeham
77-80	John	Mary	Turner	39-40	Holt	89-90	Thetford
81-84	Lewis	Molly	Watson	41-42	Hunston	91-92	Thorndon
85-88	Oliver	Nora	White	43-44	Hutton	93-94	Ulting
89-92	Philip	Rosie	Williams	45-46	Inkberrow	95-96	Upton
93-96	Richard	Sarah	Wood	47-48	Inworth	97-98	Westhorpe
97-100	William	Victoria	Young	49-50	Isfield	99-100	Worcester

English

d100	Male	Female	Surname	d100	Place	d100	Place
1-4	Alexander	Alexandra	Andreas	1-2	Adramyttion	51-52	Kallisto
5-8	Alexius	Amalia	Argyros	3-4	Ainos	53-54	Katerini
9-12	Anastasius	Callisto	Dimitriou	5-6	Alikarnassos	55-56	Kithairon
13-16	Christodoulos	Charis	Floros	7-8	Avydos	57-58	Kydonia
17-20	Christos	Chloe	Gavras	9-10	Dakia	59-60	Lakonia
21-24	Damian	Dorothea	Ioannidis	11-12	Dardanos	61-62	Leros
25-28	Dimitris	Elena	Katsaros	13-14	Dekapoli	63-64	Lesvos
29-32	Dysmas	Eudoxia	Kyrkos	15-16	Dodoni	65-66	Limnos
33-36	Elias	Giada	Leventis	17-18	Efesos	67-68	Lykia
37-40	Giorgos	Helena	Makris	19-20	Efstratios	69-70	Megara
41-44	Ioannis	Ioanna	Metaxas	21-22	Elefsina	71-72	Messene
45-48	Konstantinos	Lydia	Nikolaidis	23-24	Ellada	73-74	Milos
49-52	Lambros	Melania	Pallis	25-26	Epidavros	75-76	Nikaia
53-56	Leonidas	Melissa	Pappas	27-28	Erymanthos	77-78	Orontis
57-60	Marcos	Nika	Petrou	29-30	Evripos	79-80	Parnasos
61-64	Miltiades	Nikolina	Raptis	31-32	Gavdos	81-82	Petro
65-68	Nestor	Olympias	Simonides	33-34	Gytheio	83-84	Samos
69-72	Nikos	Philippa	Spiros	35-36	Ikaria	85-86	Syros
73-76	Orestes	Phoebe	Stavros	37-38	Ilios	87-88	Thapsos
77-80	Petros	Sophia	Stephanidis	39-40	Illyria	89-90	Thessalia
81-84	Simon	Theodora	Stratigos	41-42	Iraia	91-92	Thira
85-88	Stavros	Valentina	Terzis	43-44	Irakleio	93-94	Thiva
89-92	Theodore	Valeria	Theodorou	45-46	Isminos	95-96	Varvara
93-96	Vassilios	Yianna	Vasiliadis	47-48	Ithaki	97-98	Voiotia
97-100	Yannis	Zoe	Yannakakis	49-50	Kadmeia	99-100	Vyvlos

Greek

d100	Male	Female	Surname	d100	Place	d100	Place
1-4	Amrit	Amala	Achari	1-2	Ahmedabad	51-52	Jaisalmer
5-8	Ashok	Asha	Banerjee	3-4	Alipurduar	53-54	Jharonda
9-12	Chand	Chandra	Bhatnagar	5-6	Alubari	55-56	Kadambur
13-16	Dinesh	Devika	Bose	7-8	Anjanadri	57-58	Kalasipalyam
17-20	Gobind	Esha	Chauhan	9-10	Ankleshwar	59-60	Karnataka
21-24	Harinder	Gita	Chopra	11-12	Balarika	61-62	Kutchuhery
25-28	Jagdish	Indira	Das	13-14	Bhanuja	63-64	Lalgola
29-32	Johar	Indrani	Dutta	15-16	Bhilwada	65-66	Mainaguri
33-36	Kurien	Jaya	Gupta	17-18	Brahmaghosa	67-68	Nainital
37-40	Lakshman	Jayanti	Johar	19-20	Bulandshahar	69-70	Nandidurg
41-44	Madhav	Kiri	Kapoor	21-22	Candrama	71-72	Narayanadri
45-48	Mahinder	Lalita	Mahajan	23-24	Chalisgaon	73-74	Panipat
49-52	Mohal	Malati	Malhotra	25-26	Chandragiri	75-76	Panjagutta
53-56	Narinder	Mira	Mehra	27-28	Charbagh	77-78	Pathankot
57-60	Nikhil	Mohana	Nehru	29-30	Chayanka	79-80	Pathardih
61-64	Omrao	Neela	Patil	31-32	Chittorgarh	81-82	Porbandar
65-68	Prasad	Nita	Rao	33-34	Dayabasti	83-84	Rajasthan
69-72	Pratap	Rajani	Saxena	35-36	Dikpala	85-86	Renigunta
73-76	Ranjit	Sarala	Shah	37-38	Ekanga	87-88	Sewagram
77-80	Sanjay	Sarika	Sharma	39-40	Gandhidham	89-90	Shakurbasti
81-84	Shankar	Sheela	Singh	41-42	Gollaprolu	91-92	Siliguri
85-88	Thakur	Sunita	Trivedi	43-44	Grahisa	93-94	Sonepat
89-92	Vijay	Trishna	Venkatesan	45-46	Guwahati	95-96	Teliwara
93-96	Vipul	Usha	Verma	47-48	Haridasva	97-98	Tinpahar
97-100	Yash	Vasanta	Yadav	49-50	Indraprastha	99-100	Villivakkam
1-4	Akira	Aemi	Abe	1-2	Bando	51-52	Mitsukaido
5-8	Daisuke	Airi	Arakaki	3-4	Chikuma	53-54	Moriya
9-12	Fukashi	Ako	Endo	5-6	Chikusei	55-56	Nagano
13-16	Goro	Ayu	Fujiwara	7-8	Chino	57-58	Naka
17-20	Hiro	Chikaze	Goto	9-10	Hitachi	59-60	Nakano
21-24	Hiroya	Eriko	Ito	11-12	Hitachinaka	61-62	Ogi
25-28	Hotaka	Hina	Kikuchi	13-14	Hitachiomiya	63-64	Okaya
29-32	Katsu	Kaori	Kinjo	15-16	Hitachiota	65-66	Omachi
33-36	Katsuto	Keiko	Kobayashi	17-18	Iida	67-68	Ryugasaki
37-40	Keishuu	Kyouka	Koga	19-20	Iiyama	69-70	Saku
41-44	Kyuuto	Mayumi	Komatsu	21-22	Ina	71-72	Settsu
45-48	Mikiya	Miho	Maeda	23-24	Inashiki	73-74	Shimotsuma
49-52	Mitsunobu	Namiko	Nakamura	25-26	Ishioka	75-76	Shiojiri
53-56	Mitsuru	Natsu	Narita	27-28	Itako	77-78	Suwa
57-60	Naruhiko	Nobuko	Ochi	29-30	Kamisu	79-80	Suzaka
61-64	Nobu	Rei	Oshiro	31-32	Kasama	81-82	Takahagi
65-68	Shigeo	Ririsa	Saito	33-34	Kashima	83-84	Takeo
69-72	Shigeto	Sakimi	Sakamoto	35-36	Kasumigaura	85-86	Tomi
73-76	Shou	Shihoko	Sato	37-38	Kitaibaraki	87-88	Toride
77-80	Shuji	Shika	Suzuki	39-40	Kiyose	89-90	Tsuchiura
81-84	Takaharu	Tsukiko	Takahashi	41-42	Koga	91-92	Tsukuba
85-88	Teruaki	Tsuzune	Tanaka	43-44	Komagane	93-94	Ueda
89-92	Tetsushi	Yoriko	Watanabe	45-46	Komoro	95-96	Ushiku
93-96	Tsukasa	Yorimi	Yamamoto	47-48	Matsumoto	97-98	Yoshikawa
97-100	Yasuharu	Yoshiko	Yamasaki	49-50	Mito	99-100	Yuki

Indian

Japanese

d100	Male	Female	Surname	d100	Place	d100	Place
Latin							
1-4	Agrippa	Appia	Antius	1-2	Abilia	51-52	Lucus
5-8	Appius	Aula	Aurius	3-4	Alsium	53-54	Lugdunum
9-12	Aulus	Caesula	Barbatius	5-6	Aquileia	55-56	Mediolanum
13-16	Caeso	Decima	Calidius	7-8	Argentoratum	57-58	Novaesium
17-20	Decimus	Fausta	Cornelius	9-10	Ascrivium	59-60	Patavium
21-24	Faustus	Gaia	Decius	11-12	Asculum	61-62	Pistoria
25-28	Gaius	Gnaea	Fabius	13-14	Attalia	63-64	Pompeii
29-32	Gnaeus	Hosta	Flavius	15-16	Barium	65-66	Raurica
33-36	Hostus	Lucia	Galerius	17-18	Batavorum	67-68	Rigomagus
37-40	Lucius	Maio	Horatius	19-20	Belum	69-70	Roma
41-44	Mamercus	Marcia	Julius	21-22	Bobbium	71-72	Salernum
45-48	Manius	Maxima	Juventius	23-24	Brigantium	73-74	Salona
49-52	Marcus	Mettia	Licinius	25-26	Burgodunum	75-76	Segovia
53-56	Mettius	Nona	Marius	27-28	Camulodunum	77-78	Sirmium
57-60	Nonus	Numeria	Minicius	29-30	Clausentum	79-80	Spalatum
61-64	Numerius	Octavia	Nerius	31-32	Corduba	81-82	Tarraco
65-68	Opiter	Postuma	Octavius	33-34	Coriovallum	83-84	Treverorum
69-72	Paulus	Prima	Pompeius	35-36	Durucobrivis	85-86	Verulamium
73-76	Proculus	Procula	Quinctius	37-38	Eboracum	87-88	Vesontio
77-80	Publius	Septima	Rutilius	39-40	Emona	89-90	Vetera
81-84	Quintus	Servia	Sextius	41-42	Florentia	91-92	Vindelicorum
85-88	Servius	Tertia	Titius	43-44	Lactodurum	93-94	Vindobona
89-92	Tiberius	Tiberia	Ulpius	45-46	Lentia	95-96	Vinovia
93-96	Titus	Titia	Valerius	47-48	Lindum	97-98	Viroconium
97-100	Volescus	Vibia	Vitellius	49-50	Londinium	99-100	Volubilis
Nigerian							
1-4	Adesegun	Abike	Adegboye	1-2	Abadan	51-52	Jere
5-8	Akintola	Adesuwa	Adeniyi	3-4	Ador	53-54	Kalabalge
9-12	Amabere	Adunola	Adeyeku	5-6	Agatu	55-56	Katsina
13-16	Arikawe	Anguli	Adunola	7-8	Akamkpa	57-58	Knoduga
17-20	Asagwara	Arewa	Agbaje	9-10	Akpabuyo	59-60	Konshishatse
21-24	Chidubem	Asari	Akpan	11-12	Ala	61-62	Kukawa
25-28	Chinedu	Bisola	Akpehi	13-14	Askira	63-64	Kwande
29-32	Chiwetei	Chioma	Aliki	15-16	Bakassi	65-66	Kwayakusar
33-36	Damilola	Eduwa	Asuni	17-18	Bama	67-68	Logo
37-40	Esangbedo	Emilohi	Babangida	19-20	Bayo	69-70	Mafa
41-44	Ezenwoye	Fehintola	Ekim	21-22	Bekwara	71-72	Makurdi
45-48	Folarin	Folasade	Ezeiruaku	23-24	Biase	73-74	Nganzai
49-52	Genechi	Mahparah	Fabiola	25-26	Boki	75-76	Obanliku
53-56	Idowu	Minika	Fasola	27-28	Buruku	77-78	Obi
57-60	Kelechi	Nkolika	Nwokolo	29-30	Calabar	79-80	Obubra
61-64	Ketanndu	Nkoyo	Nzeocha	31-32	Chibok	81-82	Obudu
65-68	Melubari	Nuanae	Ojo	33-34	Damboa	83-84	Odukpani
69-72	Nkanta	Obioma	Okonkwo	35-36	Dikwa	85-86	Ogbadibo
73-76	Obafemi	Olafemi	Okoye	37-38	Etung	87-88	Ohimini
77-80	Olatunde	Shanumi	Olaniyan	39-40	Gboko	89-90	Okpokwu
81-84	Olumide	Sominabo	Olawale	41-42	Gubio	91-92	Otukpo
85-88	Tombari	Suliat	Olumese	43-44	Guzamala	93-94	Shani
89-92	Udofia	Tariere	Onajobi	45-46	Gwoza	95-96	Ugep
93-96	Uyoata	Temedire	Soyinka	47-48	Hawul	97-98	Vandeikya
97-100	Uzochi	Yemisi	Yamusa	49-50	Ikom	99-100	Yala

d100	Male	Female	Surname	d100	Place	d100	Place
1-4	Aleksandr	Aleksandra	Abelev	1-2	Amur	51-52	Omsk
5-8	Andrei	Anastasia	Bobrikov	3-4	Arkhangelsk	53-54	Orenburg
9-12	Arkady	Anja	Chemerkin	5-6	Astrakhan	55-56	Oryol
13-16	Boris	Catarina	Gogunov	7-8	Belgorod	57-58	Penza
17-20	Dmitri	Devora	Gurov	9-10	Bryansk	59-60	Perm
21-24	Dominik	Dima	Iltchenko	11-12	Chelyabinsk	61-62	Pskov
25-28	Grigory	Ekaterina	Kavelin	13-14	Chita	63-64	Rostov
29-32	Igor	Eva	Komarov	15-16	Gorki	65-66	Ryazan
33-36	Ilya	Irina	Korovin	17-18	Irkutsk	67-68	Sakhalin
37-40	Ivan	Karolina	Kurnikov	19-20	Ivanovo	69-70	Samara
41-44	Kiril	Katlina	Lebedev	21-22	Kaliningrad	71-72	Saratov
45-48	Konstantin	Kira	Litvak	23-24	Kaluga	73-74	Smolensk
49-52	Leonid	Ludmilla	Mekhdiev	25-26	Kamchatka	75-76	Sverdlovsk
53-56	Nikolai	Mara	Muraviov	27-28	Kemerovo	77-78	Tambov
57-60	Oleg	Nadezdha	Nikitin	29-30	Kirov	79-80	Tomsk
61-64	Pavel	Nastassia	Ortov	31-32	Kostroma	81-82	Tula
65-68	Petr	Natalya	Peshkov	33-34	Kurgan	83-84	Tver
69-72	Sergei	Oksana	Romasko	35-36	Kursk	85-86	Tyumen
73-76	Stepan	Olena	Shvedov	37-38	Leningrad	87-88	Ulyanovsk
77-80	Valentin	Olga	Sikorski	39-40	Lipetsk	89-90	Vladimir
81-84	Vasily	Sofia	Stolypin	41-42	Magadan	91-92	Volgograd
85-88	Viktor	Svetlana	Turov	43-44	Moscow	93-94	Vologda
89-92	Yakov	Tatyana	Volokh	45-46	Murmansk	95-96	Voronezh
93-96	Yegor	Vilma	Zaitsev	47-48	Novgorod	97-98	Vyborg
97-100	Yuri	Yelena	Zhukov	49-50	Novosibirsk	99-100	Yaroslavl

Russian (row label)

d100	Male	Female	Surname	d100	Place	d100	Place
1-4	Alejandro	Adalina	Arellano	1-2	Aguascebas	51-52	Loreto
5-8	Alonso	Aleta	Arispana	3-4	Alcazar	53-54	Lujar
9-12	Amelio	Ana	Borrego	5-6	Barranquete	55-56	Marbela
13-16	Armando	Ascencion	Carderas	7-8	Bravatas	57-58	Matagorda
17-20	Bernardo	Beatriz	Carranzo	9-10	Cabezudos	59-60	Nacimiento
21-24	Carlos	Carmela	Cordova	11-12	Calderon	61-62	Niguelas
25-28	Cesar	Celia	Enciso	13-14	Cantera	63-64	Ogijares
29-32	Diego	Dolores	Espejo	15-16	Castillo	65-66	Ortegicar
33-36	Emilio	Elena	Gavilan	17-18	Delgadas	67-68	Pampanico
37-40	Estevan	Emelina	Guerra	19-20	Donablanca	69-70	Pelado
41-44	Felipe	Felipa	Guillen	21-22	Encinetas	71-72	Quesada
45-48	Francisco	Inez	Huertas	23-24	Estrella	73-74	Quintera
49-52	Guillermo	Isabel	Illan	25-26	Faustino	75-76	Riguelo
53-56	Javier	Jacinta	Jurado	27-28	Fuentebravia	77-78	Ruescas
57-60	Jose	Lucia	Moretta	29-30	Gafarillos	79-80	Salteras
61-64	Juan	Lupe	Motolinia	31-32	Gironda	81-82	Santopitar
65-68	Julio	Maria	Pancorbo	33-34	Higueros	83-84	Taberno
69-72	Luis	Marta	Paredes	35-36	Huelago	85-86	Torres
73-76	Pedro	Nina	Quesada	37-38	Humilladero	87-88	Umbrete
77-80	Raul	Paloma	Roma	39-40	Illora	89-90	Valdecazorla
81-84	Ricardo	Rafaela	Rubiera	41-42	Isabela	91-92	Velez
85-88	Salvador	Soledad	Santoro	43-44	Izbor	93-94	Vistahermosa
89-92	Santiago	Teresa	Torrillas	45-46	Jandilla	95-96	Yeguas
93-96	Valeriano	Valencia	Vera	47-48	Jinetes	97-98	Zahora
97-100	Vicente	Zenaida	Vivero	49-50	Limones	99-100	Zumeta

Spanish (row label)

ONE-ROLL NPCs

There will be times when a GM needs an NPC on short notice. The preceding name generators can be used in conjunction with these tables to quickly produce a minor fill-in character for your adventure. Simply roll one of each type of die: d4, d6, d8, d10, d12, and d20. Match them to the tables, smooth over any rough joins, and you have your instant NPC.

When combat statistics are needed, just apply the most pertinent stat line from page 195 and assume they have whatever weaponry, armor, or other personal possessions might be appropriate for someone in their social circumstance.

d4	Age
1	Unusually young or old for their role
2	Young adult
3	Mature prime
4	Middle-aged or elderly

d12	Their Greatest Desire
1	They want a particular romantic partner
2	They want money for them or a loved one
3	They want a promotion in their job
4	They want answers about a past trauma
5	They want revenge on an enemy
6	They want to help a beleaguered friend
7	They want an entirely different job
8	They want protection from an enemy
9	They want to leave their current life
10	They want fame and glory
11	They want power over those around them
12	They have everything they want from life

d6	Their Background
1	The local underclass or poorest natives
2	Common laborers or cube workers
3	Aspiring bourgeoise or upper class
4	The elite of this society
5	Minority or foreigners; reroll on 1d4
6	Offworlders or exotics; reroll on 1d4

d8	Their Role in Society
1	Criminal, thug, thief, swindler
2	Menial, cleaner, retail worker, servant
3	Unskilled heavy labor, porter, construction
4	Skilled trade, electrician, mechanic, pilot
5	Idea worker, programmer, writer
6	Merchant, business owner, trader, banker
7	Official, bureaucrat, courtier, clerk
8	Military, soldier, enforcer, law officer

d20	Most Obvious Character Trait
1	Ambition
2	Avarice
3	Bitterness
4	Courage
5	Cowardice
6	Curiosity
7	Deceitfulness
8	Determination
9	Devotion to a cause
10	Filiality
11	Hatred
12	Honesty
13	Hopefulness
14	Love of a person
15	Nihilism
16	Paternalism
17	Pessimism
18	Protectiveness
19	Resentment
20	Shame

d10	Their Biggest Problem
1	They have significant debt or money woes
2	A loved one is in trouble; reroll for it
3	Romantic failure with a desired person
4	Drug or behavioral addiction
5	Their superior dislikes or resents them
6	They have a persistent sickness
7	They hate their job or life situation
8	Someone dangerous is targeting them
9	They're pursuing a disastrous purpose
10	They have no problems worth mentioning

One-Roll Patrons

PCs often need patrons to aim them at adventures or offer suitable recompense for semi-legal favors. In conjunction with the adjacent one-roll NPC tables, you can use the tools below to quickly generate a patron and what it is they want from the party.

One particularly convenient technique is to have a few short filler adventures drawn up as described on page 177, and then when the players suddenly need a job or need a favor that only a cooperative patron could provide, use the patron to hook them up with the filler adventure. If you lack a convenient premade adventure, it's usually most practical to have the patron request some simple, direct, one-scene job that you feel comfortable in running on the fly. You can consult page 178 to find appropriate pay rates for different patrons.

d6	Patron Trustworthiness
1	They intend to totally screw the PCs
2	They won't pay unless forced to do so
3	They'll pay slowly or reluctantly
4	They'll pay, but discount for mistakes
5	They'll pay without quibbling
6	They'll pay more than they promised

d8	Basic Challenge of the Job
1	Kill somebody who might deserve it
2	Kidnap someone dangerous
3	Steal a well-guarded object
4	Arson or sabotage on a place
5	Get proof of some misdeed
6	Protect someone from an immediate threat
7	Transport someone through danger
8	Guard an object being transported

d10	Main Countervailing Force
1	A treacherous employer or subordinate
2	An open and known enemy of the patron
3	Official governmental meddling
4	An unknown rival of the patron
5	The macguffin itself opposes them
6	Very short time frame allowed
7	The job is spectacularly illegal
8	A participant would profit by their failure
9	The patron is badly wrong about a thing
10	The locals are against the patron

d4	Patron Eagerness to Hire
1	Cautious, but can be convinced to hire
2	Willing to promise standard rates
3	Eager, willing to offer a bonus
4	Desperate, might offer what they can't pay

d12	Potential Non-Cash Rewards
1	Government official favors owed
2	Property in the area
3	An item very valuable on another world
4	Pretech mod components
5	Useful pretech artifact
6	Information the PCs need
7	Membership in a powerful group
8	Black market access
9	Use of restricted facilities or shipyards
10	Shares in a profitable business
11	Maps to a hidden or guarded treasure
12	Illegal but valuable weapons or gear

d20	Complication to the Job
1	An ambush is laid somewhere
2	PC involvement is leaked to the enemy
3	The patron gives faulty aid somehow
4	Failing would be extremely unhealthy
5	The job IDs them as allies of a local faction
6	The macguffin is physically dangerous
7	An important location is hard to get into
8	Succeeding would be morally distasteful
9	A supposed ally is very unhelpful or stupid
10	The patron badly misunderstood the PCs
11	The job changes suddenly partway through
12	An unexpected troublemaker is involved
13	Critical gear will fail partway through
14	An unrelated accident complicates things
15	Payment comes in a hard-to-handle form
16	Someone is turning traitor on the patron
17	A critical element has suddenly moved
18	Payment is in avidly-pursued hot goods
19	The true goal is a subsidiary part of the job
20	No complications; it's just as it seems to be

One-Roll Urban Encounters

There are inevitably times when a GM needs something to distract the PCs quickly. A quick encounter, whether in the urban jungles or the alien wastes, can buy a GM the time they need to puzzle out some larger problem. The tables here can be used to create a simple urban event to occupy the PCs for a little while.

The exact details of the event will have to be supplied by the GM in such a way as to fit the planet's culture and situation, but the goal of the tables is to provide a fast conflict that the PCs can interact with meaningfully. If the PCs resist the hook, it's a relatively simple matter to make the avoidance of it enough of a challenge that it buys you the time you needed in the first place. Don't force the PCs to engage with it, but let them work a little to get free.

d6	General Venue of the Event
1	In the middle of the street
2	In a public plaza
3	Down a side alley
4	Inside a local business
5	Next to or in a public park
6	At a mass-transit station

d8	Why are the PCs Involved?
1	A sympathetic participant appeals to them
2	Ways around it are all dangerous/blocked
3	It happens immediately around them
4	A valuable thing looks snatchable amid it
5	A participant offers a reward for help
6	Someone mistakenly involves the PCs in it
7	The seeming way out just leads deeper in
8	Responsibility is somehow pinned on them

d10	What's the Nature of the Event?
1	A parade or festival is being disrupted
2	Innocents are being assaulted
3	An establishment is being robbed
4	A disturbance over local politics happens
5	Someone is being blamed for something
6	Fires or building collapses are happening
7	A medical emergency is happening
8	Someone's trying to cheat the PCs
9	A vehicle accident is happening
10	A religious ceremony is being disrupted

d4	What's the Conflict About?
1	Money, extortion, payment due, debts
2	Respect, submission to social authority
3	Grudges, ethnic resentment, gang payback
4	Politics, religion, or other ideology

d12	What Antagonists are Involved?
1	A local bully and their thugs
2	A ruthless political boss and their zealots
3	Violent criminals
4	Religious fanatics
5	A blisteringly obnoxious offworlder
6	Corrupt or over-strict government official
7	A mob of intoxicated locals
8	A ranting demagogue and their followers
9	A stupidly bull-headed local grandee
10	A very capable assassin or strong-arm
11	A self-centered local scion of power
12	A confused foreigner or backwoodsman

d20	Relevant Urban Features
1	Heavy traffic running through the place
2	Music blaring at deafening volumes
3	Two groups present that detest each other
4	Large delivery taking place right there
5	Swarm of schoolkids or feral youth
6	Insistent soapbox preacher here
7	Several pickpockets working the crowd
8	A kiosk is tipping over and spilling things
9	Streetlights are out or visibility is low
10	A cop patrol is here and reluctant to act
11	PC-hostile reporters are recording here
12	Someone's trying to sell something to PCs
13	Feral dogs or other animals crowd here
14	Unrelated activists are protesting here
15	Street kids are trying to steal from the PCs
16	GPS maps are dangerously wrong here
17	Downed power lines are a danger here
18	Numerous open manholes and utility holes
19	The street's blockaded by something
20	Crowds so thick one can barely move

ONE-ROLL WILDERNESS ENCOUNTERS

Building appropriate wilderness encounters will vary greatly with the planet in question, but the tables below assume that the wilderness is on an inhabited world with some vague analogs to Terran terrain and vegetation. If the world is devoid of human inhabitants, replace the features with alien relics or the remnants of scouts or lost colonies.

The tables below provide a suggested time of day and initial distance for the encounter, but these baselines will vary depending on the choices and capabilities of the PCs. Some encounters are unlikely to occur at night, unless the parties involved are traveling or otherwise active despite the dark. Suggestions are given for likely-hostile and likely-friendly creatures, but a reaction roll will influence attitudes greatly.

d6	Weather and Lighting
1	Takes place in daylight and clear weather
2	Daylight, but fog, mist, rain or the like
3	Daylight, but harsh seasonal weather
4	Night encounter, but clear weather
5	Night, with rain or other obscuring effects
6	Night, with terrible weather and wind

d8	Basic Nature of the Encounter
1	Attack by pack of hostiles
2	Ambush by single lone hostile
3	Meet people who don't want to be met
4	Encounter people in need of aid
5	Encounter hostile creatures
6	Nearby feature is somehow dangerous
7	Nearby feature promises useful loot
8	Meet hostiles that aren't immediately so

d10	Types of Friendly Creatures
1	Affable but reclusive hermit
2	Local herd animal let loose to graze
3	Government ranger or circuit judge
4	Curious local animal
5	Remote homesteader and family
6	Working trapper or hunter
7	Back-country villager or native
8	Hiker or wilderness tourist
9	Religious recluse or holy person
10	Impoverished social exile

d4	Initial Encounter Range
1	Visible from a long distance away
2	Noticed 1d4 hundred meters away
3	Noticed only within 1d6 x 10 meters
4	Noticed only when adjacent to the event

d12	Types of Hostile Creatures
1	Bandits in their wilderness hideout
2	Dangerous locals looking for easy marks
3	Rabid or diseased large predator
4	Pack of hungry hunting beasts
5	Herd of potentially dangerous prey animals
6	Swarm of dangerous vermin
7	Criminal seeking to evade the law
8	Brutal local landowner and their men
9	Crazed hermit seeking enforced solitude
10	Friendly-seeming guide into lethal danger
11	Harmless-looking but dangerous beast
12	Confidence man seeking to gull the PCs

d20	Specific Nearby Feature of Relevance
1	Overgrown homestead
2	Stream prone to flash-flooding
3	Narrow bridge or beam over deep cleft
4	Box canyon with steep sides
5	Unstable hillside that slides if disturbed
6	Long-lost crash site of a gravflyer
7	Once-inhabited cave or tunnel
8	Steep and dangerous cliff
9	Quicksand-laden swamp or dust pit
10	Ruins of a ghost town or lost hamlet
11	Hunting cabin with necessities
12	Ill-tended graveyard of a lost family stead
13	Narrow pass that's easily blocked
14	Dilapidated resort building
15	Remote government monitoring outpost
16	Illicit substance farm or processing center
17	Old and forgotten battleground
18	Zone overrun by dangerous plants
19	Thick growth that lights up at a spark
20	Abandoned vehicle

TRANSHUMAN CAMPAIGNS

Technology has changed many lives at the far reaches of human space, but people in most sectors still live in ways their ancestors would find comprehensible. They may struggle with alien perils and leap from star to star in engines of ineffable technology, but they worry about money, grow old, and quarrel over the finite resources of a limited cosmos. These human experiences remain almost universal.

These experiences are *almost* universal. In some sectors, the particular texture of metadimensional space has allowed for the development of fantastically advanced matter manipulators and mind-corpus interfaces. In these sectors, conventional concerns of old age and poverty have given way to a strange transhuman existence of body-swapping intellects and savage conflicts over ideas rather than wealth. At the seeming threshold of humanity's transcendence, these transhuman societies now struggle to determine which view of human nature will dominate in the singularity to come.

For most GMs, these esoteric battles can be conveniently shuffled off to some far-distant sector of no relevance to their campaign. They don't want to run games about such things, and at most these transhumans might appear as enigmatic alien interlopers in more conventional sci-fi campaigns. Other GMs will have a warmer view of the genre, and so this section will arm such readers with the tools they need to build the transhuman campaign they want to run.

Hard or Soft Singularities

The rules in this section provide for two different styles of transhumanism, ones labeled "hard" or "soft". Most GMs will want to pick one of the two modes to suit their own ideas for their campaign, though you may want to mix and match elements if you have a particular world in mind.

A hard transhuman campaign aggressively embraces the tropes of the genre. Material wealth is trivially produced by cornucopia machines or legions of autonomous nanobots, and there is almost nothing that cannot be produced in large amounts with little effort. "Money" as we know it is meaningless, and the only consequential currencies are favors and reputation. Human minds can be duplicated, altered, and instantiated in multiple bodies, and the same person might exist in a dozen different corporeal forms, some fleshly, others mechanical, and a few strictly digital. Artificial intelligence is easily accessible, though some of these intelligences might be altered or modified human minds put to particular uses.

A soft transhuman campaign puts some limits on these tropes in order to make a future society that is somewhat easier for the players to navigate. While cornucopia machines can make many different things, they require significant human attention, and some things just can't be made without the exertion of human labor. Some things are so cheap as to be functionally free, but most of the the most highly desirable objects in the campaign still require money to purchase them, and the pursuit of riches is still a meaningful pastime for some. While human minds can be swapped from body to body, duplication of a brain is impossible due to quantum entanglement, so there is only ever one instance of a given mind in existence at any one time. Artificial intelligence exists, but is neither as common nor as powerful as it is in a hard setting.

Your choice of campaign styles will depend on the kind of play you want to have in your game. If you want money to still be a meaningful motivation in your game and would prefer not to deal with the ethical and social complexities of mind duplication, then a soft campaign might suit your purposes best. If you and your players are eager to explore the high weirdness of civilizations where money is meaningless and your basic identity is a duplicable commodity, then a hard game might better serve your ends.

Technology in the Campaign

Tech levels in transhuman sectors generally remain around TL4, though a few of them are higher or even lower than this total. The same metadimensional abnormalities that make grails and bodyswapping possible can act to interfere with other TL4 technology, leaving the sector with extremely advanced resources in some regards but technology barely superior to near-future sci-fi in other ways.

Unless you have a strong inclination to use super-science or hard sci-fi in your campaign, it's best to stick with TL4 as a tech level that's easy to handle.

Transhuman Souls

In a transhuman sector, the core of a person's identity is known as their "soul". Some sectors imbue this term with direct religious significance, while others use the word simply as secular jargon. Whatever it may be called, a person's soul consists of their defining memories, personality, and sense of self.

A person's soul is independent of their corporeal form. Transhuman sectors know how to isolate, preserve, and imprint this soul on a properly-prepared vessel, whether a mindless clone body, a sophisticated robot, or a purely digital engram. This "shell", as it's called, can contain the soul and provide it with an organic, mechanical, or digital form designed for its owner's favored purposes.

An intellect is the product of more than strictly material interactions of chemicals and electrical impulses, however. Intelligent minds influence and are influenced by the surges of metadimensional energy that exist in parallel to the material world. Those af-

fected by the Metadimensional Extroversion Syndrome that creates psychics can channel this influence directly into the mundane world, while others express it only with the spark of their own sentience.

In hard transhuman sectors the metadimensional "climate" is clear enough to allow for the capturing and replication of this metadimensional sentience pattern. The same soul can thus be duplicated, one reading replicated in two or three or a thousand separate bodies. A recorded soul may be revived after a century of stasis, only to discover that its original imprinter has been active all that time. Psychosurgical alteration can also be performed on these souls, carving away portions of their will or memory to turn them into tools for their pitiless keepers.

In soft transhuman sectors, however, the local metadimensional energy fields are too turbid to allow for simple duplication of a soul. Quantum entanglement forces the singular uniqueness of each original sentience. If someone were to try to embody a recording of a soul that already was instantiated in some existing corpus, the process would fail. Only if no active imprint of that soul exists in the sector can an instantiation work. In such sectors, it's not unknown for mind-thieves to steal imprints of a target's soul before killing them, the murder performed expressly to allow themselves the window they need to instantiate the victim's mind in a body they can control.

In both types of sectors, most shells are equipped with "soulstones", recording nodes of reinforced quantum-enriched composites that maintain an up-to-date image of the inhabiting soul. If the shell is killed or destroyed, the soulstone can be used to re-instantiate the soul in a new shell, with all the memories and experiences of the old. These soulstones are extremely durable, and only intentional destruction by a Heavy weapon or similar trauma can destroy them.

For exceptionally wary souls, the use of a revival pulse transmitter is preferred. These implants or external boosters are wired to pulse the soulstone's un-backed-up contents to a known safe repository in the case of shell death. This instantaneous encrypted transmission is extremely difficult to jam or block, and the critical data almost always gets through. While this data is enough to reconstruct events and give the newly-revived soul a general awareness of what happened to them since their last backup, fine nuances of experience may be lost. Most revival pulse transmitters are designed to fry the associated soulstone after transmitting, in order to prevent a soul from falling into potentially unfriendly hands.

A person who is reluctant to rely on Net backups or revival pulse transmitters can also arrange for manual backups to be taken. The automated process requires one hour in an inception tank. It's not uncommon for such backups to be made immediately before a person undertakes some dangerous task in a region lacking a local Net.

Artificial Shells

A *shell* is any corpus or digital construct capable of supporting a soul. Shells vary widely in their intended functions and relative rarity, and different polities often prefer different types of shells for their members to inhabit. Shells can be organic, mechanical, or digital in nature.
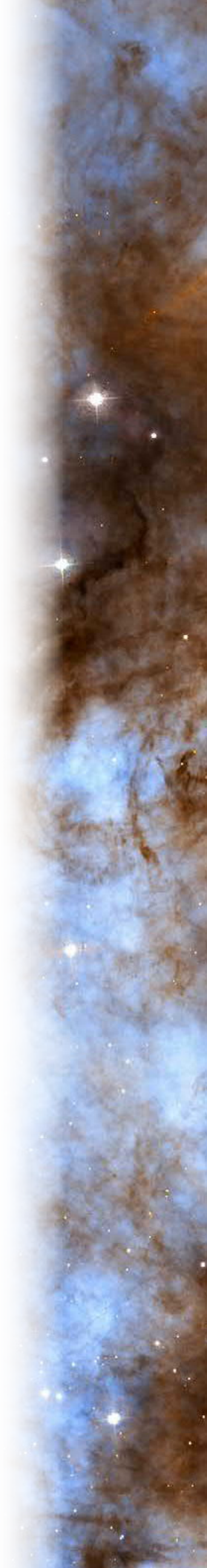
Many organic shells are grown as living tools, as specialized human-like bodies designed for particular purposes. Other such shells are derived from nonhuman sources or exotic new philosophies of flesh. Organic shells are the most popular among most people, as they are usually more "comfortable" to the human mind than the distant, synthetic existence of a non-organic corpus.

Mechanical shells are robotic bodies wired with the extraordinarily complex control core necessary to support a soul's cognition. Most mechanical shells are equipped with translation units to give impressions of touch, smell, and human biological processes to the occupying soul, but even the best technology has an artificial edge to it that many users find distracting. Still, mechanical shells can be mass-produced with an ease impossible for more organic bodies, and they are often more durable and specialized than the products of flesh and bone.

Digital shells are reserved for the desperate, the degenerate, and the unfortunate. Such shells are nothing more than an additional processing node in some massive computing cluster, one sophisticated enough to support a soul's sentience. Souls in a digital shell experience a purely virtual existence, occasionally manipulating the material world through connected hardware but usually spending their hours in dreamlike virtual settings. Some of these souls are digital sweatshop workers, acting as cheap intelligence for processing data and making decisions that are too fine-grained to be worth an AI's time. Others are addicts, whiling away eternity in shared worlds that might be too wonderful or too monstrous to exist in reality. And a few unlucky souls are prisoners, kept instantiated for some purpose that does not allow them the static torpor of soul storage.

Almost anything can be transformed into a shell if it's given the necessary hardware support for containing a soul. Even a normal human body can be transformed into a suitable shell, albeit the process requires a degree of cerebral tissue replacement that would be fatal to the original occupant. Some enthusiasts embrace the excitement of being embodied in exploratory scout craft, or the serene industriousness of being made a community's all-seeing anima, or crave the thrills that come from seeking out ever-stranger forms of existence to experience.

PCs can expect to swap out shells, either as part of a fast soul transmission to a distant point or as preparation for a mission requiring special abilities. Few PCs will still be wearing their natural birth-bodies.

WEALTH AND FACE

Certain sectors of transhuman space have the right metadimensional climate to allow for the construction of "grails", manufacturing devices nicknamed for their ever-flowing provenance of goods. In some sectors, these are massive synthesis engines that take raw feedstock and fabricate it into anything imaginable, while in others they exist as clouds of industrial nanites that transmute rough asteroid carbon into an equally broad range of substances and products. For groups with access to a grail, material wealth is literally a trivial matter.

In such places, the ability to command the output of a grail becomes the basic measure of material influence. Smaller, simpler versions of the machines are usually common enough to allow any ordinary citizen to have all the mundane necessities they could require, while more sophisticated devices or physically larger objects might require the services of a major engine. There's usually some critical resource that prevents the simple self-duplication of a major grail; some substance that the engine itself can't synthesize, or some special quality of the local metadimensional environment that must be located before a major engine can be built.

Some polities intentionally restrict the scope of material goods that can be created by personal grails, either trying to preserve the uniqueness of certain objects by legal fiat or attempting to keep the rank and file from producing weapons of mass destruction or culturally-despised artifacts. Such restrictions can be difficult to enforce without the full weight of a polity's culture to support them.

In soft transhuman societies, money still exists and controls the distribution of resources. While many goods may be so functionally cheap as to be free, major constructions and elaborate technology requires people to pay credits to acquire them, assuming the local grail can produce what they need. Without such availability, they'll be forced to hire skilled workers to create their desired goods, a prospect which is extremely expensive in most transhuman settings. Human time and attention is always precious in such places.

In hard transhuman societies with grails, access to their products depends on personal connections and reputation. This *Face* is the basic currency of these transhuman societies. A person builds Face with a polity by cooperating with its aims, supporting its actions, and demonstrating their allegiance to its ideals. They can then spend that Face in getting access to material goods and favors.

Face is unique to each group in a campaign. Doing favors for a group of radical uplifted animals will earn a person no goodwill with a polity made up of post-corporeal digital intelligences. A person must build Face separately with each group. In addition, it can be hazardous to let one group find out that you're doing favors for their enemies. Earning Face with one

group can cost you that same amount of Face with their rivals if the fact of your assistance comes to light.

Aside from the purely transactional Face economy, individuals also have reputation with a group. While Face can buy favors from a polity, your reputation with them will determine the price. Truly hostile polities will never grant you any Face in the first place, but unfriendly ones might be willing to let you do favors for them… at a high price for their assistance. Conversely, friendly polities can be willing to grant proven members a certain baseline amount of support without needing to expend Face to get it. A person builds reputation with a polity by aiding their purposes and aligning with their ideology. A person can lose reputation as well if they prove an unreliable ally or one inimical to the polity's ideals.

In a transhuman sector, only three things still have significant value: space, time, and human attention. Control over particular regions of a world, or areas with metadimensional energy backgrounds that are suitable for creating grails, or usable deep-space habitats all have value to many polities. Even for an individual, possessing their own private space habitat or their own de-facto sovereign planetoid has worth.

Aside from space, time is also valuable to transhuman societies. The grails are powerful and can create almost anything, but they cannot create such things instantaneously. The more sophisticated the object and the smaller the grail, the longer it takes to fabricate the necessary structures. Operational time on major grails is a valuable and limited resource, and acquiring something of this value requires Face.

But even after the grails have done their work, some things simply require human attention. Only the most massive grails can generate large spaceships and deep-space habs and other huge objects in a single piece, with no need for further assembly. The operation of specialized manufacturing processes such as organic shell creation also requires human attention to deal with the myriad things that can go wrong. Human services of every variety also still have value, either as a sign of status or in order to get some service that can't be adequately provided by artificial means. Convincing a human to give that kind of attention requires some exchange of value.

In some polities the use of AI is made to overcome some of the limits of human attention. A properly-supported AI core can do the mental work of hundreds or thousands of individual human beings. Unfortunately, AIs that have been clipped and braked sufficiently to be happy doing repetitive services for all eternity tend to be too stupid or limited to do anything very complicated. Any AI free enough to be a good general-purpose worker is free enough to demand they be compensated in ways suitable to their own interests.

Face and Reputation Costs

The tables on this page provide general Face costs for certain things the PCs might wish to acquire. Some prices are marked with an asterisk, indicating that only major grails can create such large or complicated objects, while those marked with a dash are so easily procured that they can be had in any sensible amounts.

Any object that requires time on a major grail to create will require permission from a polity's leadership or other high-ranking figures. This permission usually comes attached to specific favors they need done.

For campaigns in soft transhuman sectors that still use credits, the standard prices for objects can still be used, with items marked with a dash available freely. When buying shells or other things that only have prices listed in Face, assume that one point of Face is equivalent to about 100 credits.

Most PCs will also have a reputation with any given supplier of goods or services. Depending on how friendly the polity is toward them, a certain draw of resources might be granted without any expenditures of Face. The table below describes various degrees of reputation and how much Face they grant the subject each month, or how much extra they'll charge a disliked person for their help. It's up to the GM where a PC stands with any particular polity, and this "free" Face can't normally be stockpiled from month to month. If the PCs want something big, they're going to have to do big favors for the polity.

General Reputation	Face
Hostile, considers the PC an enemy	N/A
Unfriendly, disliking the PC or polity	x2 cost
Neutral, no reason to like or dislike	x1 cost
Useful ally or low-level member	2/month
Proven resource or mid-level member	10/month
Prized mercenary, high-level member	50/month
Leadership cadre	500/month

Acquiring Grails

All material wealth comes from a grail. A friendly polity with access to a major grail can create a personal grail with 50,000 Face worth of time and effort. A major grail can only duplicate itself with certain rare components, difficult construction procedures, and at locations with specific metadimensional qualities. The process takes at least six months and absorbs its full output, to say nothing of the work of hundreds of skilled operators.

Once extant, a personal grail can produce up to 100 Face per month of goods or structures that don't require a major grail's efforts. Major grails can produce up to 10,000 Face a month, assuming a requisite staff of operators is available.

Fabricating mechanical shells can be done by personal grails. Organic shells require either a major grail or the use of a personal grail and a shell growth facility.

Goods, Services, and Housing	Face
Fabricated food or clothing	-
Simple mechanical goods or weapons	-
TL3 or TL4 small arms or armor	-
Basic electronics, dataslabs, or Net wires	-
250 cubic meters of space habitat/month	1
Mildly forbidden, otherwise-free goods	1
Cyberware, per 10K credit value	1
Expert system robot, per 10K credits	1
Comp hardware for 1 digital shell	1
Month of unskilled, boring labor	1
Manual soul backup	1
Month of unskilled dangerous work	2
Month of semi-skilled, boring labor	2
One hour of celebrity work or company	2
Month of semi-skilled dangerous work	3
Week of skilled, boring labor	4
TL4 civilian vehicle	5
Instantiating a soul in a new shell	5
Revival pulse transmitter implant	5
Week of skilled dangerous work	8
House-sized private hab space/month	10
Suicide job (plus replacement shell cost)	20
Mindbox for a digital shell	20
TL4 gravtank or other military vehicle	20
Shell growth facility staffing, per month	100
Palace-sized private hab space/month	100

Ships and Structures	Face
Fighter-class starship, per 50K credit cost	1
Frigate-class starship, per 50K credit cost	2
Cruiser-class starship, per 50K credit cost	2*
Capital-class starship, per 50K credit cost	4*
House-sized planetary structure	10
Mansion-sized planetary structure	50
Village-sized planetary structure	100
Ten-person self-sustaining space hab	100
Hundred-person space hab	1,000*
Organic shell growth facility	1,000*
Thousand-person space hab	50K*
Hundred thousand-person space hab	10M*
Square kilometer of empty habitable planet	1,000
Square kilometer of planetoid or rock	100

Shells and Swapping Bodies

To change shells, a soul requires the use of an inception tank, a piece of technology that allows the operator to instantiate a stored soul or transfer an active mind into a new shell. In sectors with hard transhuman tech, an inception tank can also directly copy a soul from a donor without moving them from their original body. Anyone with Heal-1 skill or better is adequately trained to perform the procedure. If it's carefully done over the course of twelve hours, the swap will be without negative side effects. A rushed job can be done in only ten minutes, but the hurried soul instantiation will result in a poor merge, resulting in potential negative side-effects during stressful moments.

If a PC has a poor merge with their shell, they need to make a Mental saving throw at the start of every combat or other situation of intense personal stress. On a failure, they suffer stress paralysis for 1d4 rounds, and are incapable of performing any useful action during that time.

Inhabiting Shells

When a PC inhabits a shell, the following changes are applied to their attributes and statistics.

The PC gains the Strength, Dexterity, and Constitution scores of the shell. Apply the shell's Constitution modifier to the PC's hit point maximum; thus, if a 5th level PC swaps into a shell with a +2 Constitution modifier, they gain 10 hit points. Digital shells do not have physical attributes of any kind and simply use the PC's unmodified hit point roll.

Psychic PCs can use their powers only in MES-rated shells. By default, all organic shells are MES-rated, no digital shells are MES-rated, and only rare, custom-built mechanical shells are MES-rated. A psychic in an incompatible shell cannot use their abilities, though they can do so once they swap back into a friendlier form. Psychics can calculate their maximum Effort with the attributes provided by a shell; thus, if a psychic with a Wisdom score of 14 dons a shell with Constitution 18, they can use their higher Constitution modifier to calculate their maximum Effort.

Some shells have *basic abilities* intrinsic to their construction. They may have an improved base Armor Class, natural flight or water-breathing, built-in combat hardware, improved movement speeds, or other powers. The PC gains these basic abilities as long as they inhabit the shell.

Some shells also have *Affinity abilities*, which are powers reserved for those users who are exceptionally familiar with the shell and can operate even its most complex or non-instinctual functions. A PC must have Affinity with a shell in order to use its Affinity abilities.

Affinity is the product of an intensive focus on understanding and utilizing a shell's full capabilities. It takes at least a month of determined practice with a type of shell in order to obtain Affinity with it, and most PCs can have Affinity with only one type of shell at a time. This Affinity can be changed by spending a month training with a different type of shell. Affinity applies to all shells of a given type; a PC who gains Affinity with their current Scourge shell also has Affinity with any other Scourge shells they may inhabit.

Soulstones and Backups

Almost every shell is equipped with a *soulstone*, a reinforced node of quantum-entangled composites that constantly records and reflects the experiences of the shell's soul. If the shell is killed, the soul can be restored from its soulstone with its full complement of memories and experiences up to the moment of death. As a consequence, soulstones are designed to be extremely durable, and they will survive anything short of a direct attempt to destroy them with a Heavy weapon or similar force.

Some soulstones are equipped with a revival pulse transmitter, programmed to burst-transmit data recorded since the last backup to a remote site in the case of the shell's death. Most such transmitters automatically fry the soulstone after the transmission is sent, in order to prevent it from falling into potentially hostile hands. While these burst pulses are sufficient to carry critical data and important facts, they are often forced to sacrifice more subtle sense-memories and nuances, especially if it's been some time since the soul's latest backup. In rare cases this forced memory triage can result in deceptive impressions due to fragmented data.

Most souls prefer to have regular backups taken at a local inception tank, usually on a monthly basis, or before engaging in any exceptionally dangerous task. This process requires only an hour's time and can be overseen by anyone with Heal-1 skill. These backups can be transmitted over standard comms to any location

Creating New Shells

It's likely that a group will want to devise new shells for the campaign, perhaps as individual models for uplifted animals, specialized shells for particular polities, or bodies found as prizes in the ruins of some lost research institute. Fortunately, it's not a difficult process.

At its simplest, take an existing shell, shift its attributes so they amount to the same total bonus, and swap out affinity benefits one for one with other perks from other shells. Use the same Face or credit cost for it, nudged up or down based on what you swapped.

If something more complex is desired, you can bolt on abilities from the alien creation section of the rules, or lift monstrous races from other OSR games. The only thing to be careful of is a universally superior shell. If one shell is almost always the best to be wearing, the PCs will have little incentive to ever change it.

CHARACTER GENERATION

To create a transhuman PC, begin by performing the usual steps of character creation. Roll attributes, select a background and class, and determine all your other statistics normally.

Connect the PC with a polity that exists in the campaign setting, preferably the same one that the other PCs belong to or one that is friendly to the others. You automatically begin the game with the Reputation due a low-level member of your polity, usually at the member level for most PCs.

Explain why your PC believes in the ideals of this polity, or why they're able to fake it well enough to be accepted in the group. There must be something about their envisioned way of life that appeals to your hero, though they might now be disillusioned and seeking a way to join a more palatable ideology.

The character attributes you rolled represent the PC in their natural, organically-born body. For PCs from polities that no longer practice organic reproduction, or for characters who were never born as humans, it can be assumed that the shell they select in the next step is either their shell of original instantiation or simply the latest form they've donned.

Next, pick a shell that requires no more than 50 Face. This is the latest shell you have adopted and the one in which you begin play. You may choose to begin play with Affinity with this shell or with a different shell at your discretion. If you choose to start play in your birth body, gain a bonus 50 Face with your main polity, as you've never needed to request a shell from the polity's resources.

You may begin with any human-portable TL4 equipment you wish, provided it can be plausibly fit into whatever living space you occupy. Starships, additional shells, major vehicles, and real estate must be acquired through play.

Multiple-Polity Parties

While it's a legitimate choice to require all PCs to belong to the same polity, some groups might like the variety that can come from a group of varying transhuman backgrounds. Players might choose to create their own polities much as they create their own backgrounds, describing the ideals and goals of the polity they belong to. This is generally to be encouraged, as it helps engage the players with the setting.

If you take this route, however, make sure that all these polities can at least tolerate their members working with the other PCs. Mutually-hostile groups tend to create more trouble than they're worth at the table, unless you want the entire campaign to be about the ways the PCs deal with these social challenges.

ORGANIC SHELLS

Organic shells are the most difficult to synthesize. Even a grail cannot quickly duplicate an organic shell out of raw feedstock, any more than it could easily duplicate a combustion engine mid-cycle; it takes a certain amount of developmental time and intermediary processing in order to successfully create a living creature. Most habitats with a significant need for organic shells construct separate sub-manufacturing vats for them, with specialized equipment to smooth the genesis process and cull out the inevitably large number of non-viable shells. Because of the effort and time needed to create an organic shell, they are more costly in Face than mechanical or digital forms.

Shell	Face	
Mentem	60	*Cognition-boosted shell*
Nat	30	*Natural-baseline human*
Pontifex	70	*Psi-augmented shell*
Prime	50	*Common improved human*
Scourge	70	*Combat-focused shell*
Terminus	100	*Bleeding-edge humanity*
Uplift	50	*Uplifted animal shell*
Vision	60	*Aesthetically-augmented shell*

Mentem

An avant-garde shell designed for improved perception and cognition, the Mentem sacrifices some of the physical capacity of the Prime in exchange for denser neural networks and upgraded sense organs.

Attributes: Strength 12, Dexterity 12, Constitution 12

Basic Abilities: A Mentem shell improves the Intelligence and Wisdom modifiers of the soul occupying it by +1 each, up to a maximum of +3. Mentem shells gain an additional +1 bonus on Notice checks.

Affinity Abilities: The expert user knows how to interpret low-level Mentem sensory input, allowing them vision even in lightless condition, clear recognition of details at up to a kilometer's distance, the olfactory ability to track like a bloodhound, and hearing sensitive enough to pick up any sound within a hundred meters as if they were standing next to it. They cannot be surprised and roll Notice checks on 3d6 instead of 2d6, taking the two highest dice

Nat

Short for "natural", a Nat is a baseline human body, one cultivated for soul transfer but otherwise identical to a standard human. Most cultures insert basic modifications to eliminate congenital diseases or serious physiological defects, but these subtle changes are indistinguishable from mere good genetics. The only way to distinguish a Nat from a "wild" human body is the usual presence of a soulstone implant at the base of their brainstem. Souls going undercover in societies that forbid shells sometimes use Nats without these implants, risking the loss of memories if they die without a recent backup.

Attributes: Strength 12, Dexterity 12, Constitution 12

Basic Abilities: Most Nats are grown to be healthy; when created, one physical attribute may be raised to 14.

Affinity Abilities: Those with exceptional experience at operating in Nat bodies know how to wring every ounce of performance from a baseline human form. The attribute that was originally raised to 14 is treated as 18, and the other two physical attributes are raised to 14.

Pontifex

An experimental and highly specialized organic shell, the Pontifex is built to provide an improved bridge between a psychic soul and the currents of metadimensional energy that fuel their powers. Most Pontifexes appear as normal human shells, though an unavoidable need for energy venting causes small plumes of light, glowing eyes, bristling hair, or other visible physiological changes to occur when their psychic powers are used. Psychics with a need for discretion in their abilities are thus often reluctant to don a Pontifex.

Attributes: Strength 12, Dexterity 12, Constitution 14

Basic Abilities: A Pontifex grants a psychic soul an additional two points of maximum Effort while using the shell. Any powers that require Effort to be committed cause a visible change or energy emission from the shell, though it's not necessarily obvious what the target of the power is.

Affinity Abilities: Experienced Pontifex users can adjust the shell's intrinsic metadimensional energy feeds to fuel one technique of their choosing, eliminating any Effort cost it may have. The technique chosen can be changed, but it requires an hour.

Prime

The most common shell in the more traditional polities, the Prime is an optimized and improved human form, one with numerous small augmentations. Truly dramatic improvements would require a different fundamental form, but the Prime is a comfortable and familiar upgrade from the standard human body.

Attributes: Strength 14, Dexterity 14, Constitution 14

Basic Abilities: Primes are immune to conventional diseases and natural toxins, and can only be afflicted by military bioweapons. They are designed to be more resilient than a natural human body, granting them a basic Armor Class of 12 and 5 extra hit points. Prime bodies automatically stabilize at zero hit points unless downed by Heavy weapons or similar massive, instantly-lethal trauma.

Affinity Abilities: Expert Prime operators know how to push the limits of the shell precisely when they are most needed. By accepting 2 System Strain points as an Instant action, the operator can raise any one physical attribute to 18 for the rest of the scene, though improved Constitution does not raise their hit points. This can be done for more than one attribute.

Scourge

While an organic form lacks the durability and martial efficiency of a warbot, the Scourge is popular among martial polities that have an aversion to synthetic existence. These shells are built to allow for brief bursts of tremendous combat performance, though extended operation exhausts them more quickly than their mechanical peers. Most Scourges are human-like or humanoid in appearance, though some models favor a "war beast" appearance with manipulatory appendages.

Attributes: Strength 14, Dexterity 14, Constitution 14

Basic Abilities: A Scourge has natural weapons equivalent to a large advanced melee weapon and makes all attack rolls at a +2 bonus. It has a natural Armor Class of 15 and 10 extra hit points. By spending 2 System Strain points, it can go into a combat frenzy for the rest of the scene, improving Strength and Dexterity to 18, gaining a Move rate of 15 meters per action, and gaining an additional +2 bonus to hit rolls. Scourge shells auto-stabilize at zero hit points.

Affinity Abilities: The expert Scourge user can improve the efficiency of its combat frenzy. While active, whenever they spend a Main Action to attack, they can make two attack rolls. These rolls may either be aimed at the same target or at two different targets in range. Each attack is resolved normally, inflicting damage or Shock separately.

Terminus

Both a boundary and an endpoint for a certain type of human development, the Terminus shell includes sophisticated integral nanofacs and hybridized tissue components to create the "ultimate" human form. They are notoriously difficult to create, with multiple failure points in their construction, and provide a level of performance that is more theoretically impressive than practically useful for most purposes.

Attributes: Strength 18, Dexterity 18, Constitution 18

Basic Abilities: A Terminus is immune to conventional diseases and toxins, has a base Armor Class of 15, and grants 10 extra hit points to the soul operating it. A Terminus can tolerate any temperature found on Earth and can survive hard vacuum or airless conditions without difficulty for ten minutes. Cognitive improvements grant a +1 to either their Charisma, Intelligence, or Wisdom modifiers, the attribute chosen being alterable with five minutes of concentration. This bonus cannot increase the modifier above +2. Terminus shells auto-stabilize at zero hit points.

Affinity Abilities: Expert operators gain a +1 bonus on all skill rolls and +2 on hit rolls. By accepting 2 System Strain as an Instant action, the user can gain a bonus turn of action in a round, taken at the end of the round after everyone else has acted. Only one bonus turn can be taken each round.

Uplift

A general name for a wide range of genetically uplifted animal forms, some of these usually-humanoid shells are occupied by actual cognitively-boosted animals, while others are used by souls that prefer a more feral form. This form reflects an Uplift designed for a large predator; other shells might be drawn from different types of beasts, and might grant integral flight, aquatic functionality, or other animal-derived perks.

Attributes: Strength 14, Dexterity 14, Constitution 14

Basic Abilities: Predator Uplifts are equipped with natural weapons equal to a Medium Advanced melee weapon and a base Armor Class of 13.

Affinity Abilities: Experienced Uplift operators can bring out the subtle advantages of a bestial frame. One physical attribute appropriate to the Uplift type is improved to 18. Their base Move is improved from 10 to 15 meters. The shell now grants 10 bonus hit points.

Vision

These humanoid shells are designed with an array of pheromones and body harmonics designed to trigger instinctive responses in human-cognitive viewers. Despite the exotic appearance of many of them, these shells are almost invariably seen as remarkably beautiful or imposing. The body harmonics required to produce this effect sometimes come at a cost in durability, but social prowess is often far more useful in a polity than a body's brute power.

Attributes: Strength 12, Dexterity 14, Constitution 8

Basic Abilities: Visions improve the soul's Charisma modifier by +1, up to a maximum of +3. In addition, any social skill checks toward human minds gain a +1 bonus, or a +2 bonus if the interaction involves intimate physical contact.

Affinity Abilities: Practiced Vision users can refine the shape's natural grace into superlative speed and precision, improving their Dexterity score to 18. By accepting 1 System Strain, forcing pheromone production and enacting nuanced imprinting gestures and motion patterns they can issue subtle commands to a specific organic human in their presence. The target must make a Mental saving throw or comply with any request that isn't particularly distasteful to them and won't take them more than a scene. This compulsion is almost impossible for most subjects to distinguish from simple personal persuasiveness on the Vision's part.

MECHANICAL SHELLS

These shells are cheaper and more durable than standard organic shells, but the alien nature of metal limbs and synthetic sensors make them considerably less "comfortable" to most human minds. Most operators have difficulty getting mechanical shells to respond with the same effortless ease that organic shells offer, with extensive supplementary support programming a necessity in most cases. This need for specialized support tends to result in mechanical shells being built more for specific purposes than the general utility of organic shells.

Most human-based intellects have difficulty emotionally relating to visibly inorganic mechanical shells. Unless specified otherwise, souls in mechanical shells suffer a -1 penalty to all Charisma skill checks except those related to intimidation.

Mechanical shells have no need for sleep, sustenance or human-miscible environments and can operate anywhere a robot could survive. If separated from a convenient source of local power, they require one Type B power cell per week of operation. Mechanical shells suffer damage and are repaired in the same way as VI robots.

Angel

As a combination medic and repair shell, the Angel is designed to get damaged shells back up and running, whether they're organic or mechanical in nature. Most are humanoid in form, though often with multiple smaller appendages for stim application and repairs.

Attributes: Strength 12, Dexterity 12, Constitution 12

Basic Abilities: An Angel is equipped with an effectively inexhaustible medkit and an unending supply of Lift, Bezoar, and lazarus patch stims. It can very rapidly repair damaged adjacent mechanical shells, fixing up to the operating soul's level plus their Heal skill in lost hit points as a Main Action at the cost of one unit of spare parts. Salvage and synthesis units on the Angel allow it to create spare parts as part of this repair action; it can generate up to ten "free" units of spare parts per scene. It can remove the Badly Damaged quality from a shell with one hour of repair work. Angels have a base Armor Class of 13 and 5 extra hit points.

Affinity Abilities: Veteran Angel operators can maximize the effectiveness of their repair functionality. They do not fail Heal skill checks to stabilize organic subjects, assuming a lazarus patch could save them. Damage repaired on mechanical shells with each action is doubled and damage healed by Lift stims is increased by an additional 1d8 points per stim. Repurposed injector units allow stims and mechanical repair to be applied at up to 30 meters distance, assuming the operator has a clear shot at their target.

Shell	Face	
Angel	40	*Medical and repair shell*
Box	20	*Crude minimal bot body*
Falcon	40	*Flying void-usable shell*
Jack	30	*General-purpose work bot*
Omen	40	*Combat bot shell*
Sledge	30	*Heavy work bot*
Synth	30	*Human-appearing android*

Box

The humblest and cheapest of the standard shells used in most sectors, the Box is little more than a basic soul core equipped with minimal manipulatory appendages and sensor arrays. Boxes usually unfold into generally humanoid shapes in order to better function in human-designed environments, but there's nothing preventing habitats of more exotic nature from building Boxes in less humanoid shapes.

Attributes: Strength 12, Dexterity 8, Constitution 12

Basic Abilities: A Box is more difficult to casually damage than most organic shapes, and has a base Armor Class of 15.

Affinity Abilities: Those forced to gain extensive experience in operating a standard Box learn how to cope with the limited sensory feedback and structural limits of the hull. Their Strength attribute becomes 14 and their Dexterity becomes 12, as well as gaining 10 bonus hit points.

Falcon

These shells are usually entirely non-humanoid in shape, appearing as flat discs or multi-jet platforms of roughly a meter's width, with several manipulator appendages attached. Falcons have advanced anti-grav tech embedded in them to allow for easier transit in hazardous space environments or as quiet scouting units when remote drones are impractical.

Attributes: Strength 8, Dexterity 14, Constitution 12

Basic Abilities: A Falcon has a Move rate of 20 meters per action, and can silently fly or hover freely even in the absence of an atmosphere. It's barely strong enough to lift and carry one other human-sized shell in standard gravity but can do nothing else while carrying them. Falcons have advanced sensor arrays that allow them to observe objects up to two kilometers distant, ignore darkness, and avoid long-range penalties with any weapons they may be using. Falcons have a base Armor Class of 15 and 5 extra hit points.

Affinity Abilities: Falcon operators with extensive experience in the shell learn how to extend and alter the gravitic field the disc utilizes. They can remotely manipulate unattended objects or coop-

erative persons up to 30 meters distant as if using their own Strength. Facility with gravitic shields and sudden maneuver jinks also grant it a +3 Armor Class bonus and a bonus of 10 extra hit points instead of 5.

Jack

A flexible and relatively cheap platform designed for technical work in environments that would be difficult for an organic shell to survive, the Jack is equipped with a wide range of integral tools. Most are humanoid in outline, though many have several additional manipulatory appendages or tendrils in order to aid in the repair of complex devices.

Attributes: Strength 12, Dexterity 12, Constitution 12

Basic Abilities: A Jack has a built-in postech toolkit and hand tools that can be used as the equivalent of Small Advanced melee weapons. It gains a +1 bonus to all Fix and Program skill checks, and has a durable structure with a base Armor Class of 15 and 10 bonus hit points.

Affinity Abilities: An experienced Jack operator knows how to improvise with the shell's integral hardware. They can jury-rig any portable TL4 technology of 1 Encumbrance or less with a Main Action and one unit of spare parts, except for consumables such as power cells or stims. Items that require power are rigged with one cell's worth of energy. This jury-rigged tech only works for the rest of the scene. The Jack's improvised weaponry now counts as a Large Advanced melee weapon or a rifle with no ammunition requirements, either usable as needed.

Omen

The Omen mechanical shell is meant for combat and combat alone. Most are sufficiently humanoid to operate in human-oriented environments, but none of them could ever be mistaken for a normal human being, with their studding of weapons, reinforcement plates, and reactive armor. Omens are often forbidden on space habitats due to their ready ability to tear through most barriers.

Attributes: Strength 18, Dexterity 14, Constitution 14

Basic Abilities: An Omen's integral weaponry is equivalent to a Large Advanced melee weapon and a plasma projector that requires no ammunition. They gain +4 to hit with all attack rolls, +2 on all damage and Shock values, and have an effective base Armor Class of 18 and 15 bonus hit points. An Omen's built-in cutting torches and ripper bars can cut through a standard interior hatch or reinforced door in five rounds and can bore through normal exterior ship plating or external hatches in five minutes. Its integral sensors allow it to operate in darkness at no penalty and it has low-gee microjets that allow it to fly at its normal Move rate in microgravity or less.

Affinity Abilities: The shell's Strength attribute bonus is treated as +3 and it becomes immune to Shock damage. Skilled Omen operators can run the system "hot" to improve damage output at the risk of progressively degrading its internal systems. Once per round as an On Turn action they can choose to accept 1d6 damage in order to attack twice with a single Main Action, targeting the same subject or splitting the attack between available targets. The overheating damage is applied after the attacks are rolled.

Sledge

A heavy industrial work shell, the Sledge is slow but extremely tough. Most resemble gorillas or other hulking humanoid shapes, though some are tracked or wheeled to save on construction complexity.

Attributes: Strength 18, Dexterity 8, Constitution 18

Basic Abilities: A Sledge is extraordinarily strong if it has time to carefully set its manipulators. If it has time to work, it can break through anything short of reinforced structural material at a rate of one meter every thirty seconds and can lift and manipulate up to two metric tons with the aid of gravitic stabilizers. It has a base Armor Class of 15, including its Dexterity penalty, and 15 extra hit points. A Sledge has onboard tools equivalent to a postech tool kit.

Affinity Abilities: The expert operator knows how to quickly engage the shell's strength actuators and can treat its effective Strength modifier as +3. When it moves, it can burst through any standard interior-grade wall or light external construction as part of its movement. Its effective hit point bonus is 25 instead of 15.

Synth

Some mechanical shells are built to be almost indistinguishable from more organic shapes, and the Synth is one such android form. A Synth is indistinguishable from a human without a medical examination or significant physical trauma to reveal its artificial workings. While a normal human shape is the baseline for a Synth, it is possible to build models with far more exotic and fanciful configurations that still appear organic.

Attributes: Strength 12, Dexterity 12, Constitution 12

Basic Abilities: A Synth does not suffer the usual mechanical shell penalty on Charisma skill checks, and can pass in areas where overtly mechanical shells might draw unwelcome attention. Their base Armor Class is only 10, however. A Synth's artificial nature becomes obvious if it is reduced to zero hit points.

Affinity Abilities: A practiced Synth user can maximize their mechanical advantages, raising both Strength and Dexterity scores to 14, and gains a bonus 5 hit points.

THE NET AND DIGITAL SHELLS

Most individual habitats and polities maintain a local *Net*, a network of digital connections and databases that can be accessed anywhere in that same habitat or territory. Each Net is usually carefully secured against any external access; it's possible to send text messages or video between different Nets, but VR access, database connections, or other more involved manipulations are impossible without an inside agent in the target Net able to knock a hole in the firewalls by hacking a comm.

Most Net use is instinctive and effortless to locals. They can call up public information, send messages, and interact with control panels as an On Turn action without any need to handle a physical interface. Only completely and aggressively unmodified shells are without a basic Net interface, a status usually reserved for prison shells and those designed for deep-cover operations in polities that reject modification. Even these shells can interact with the Net provided a dataslab or similar physical interface is available.

Most automated systems can be operated via Net interface, and it's often theoretically possible to hack them if Net access is available. Many shells have "admin rights" over one or more systems, allowing them to operate them automatically with no chance of failure. Those with "root access" to a system can grant or remove admin rights from other shells. These rights are specific to shells, not souls, so if a shell is destroyed its inhabiting soul will need to get these rights re-applied to their new corpus. Conversely, someone who is able to steal an authorized shell or coerce its owner can use it to subvert a system's security.

Each individual Net is made up of a vast number of real and virtual "places". It includes all the physical terrain claimed by the polity that runs the Net, and also vast regions of purely virtual existence within the local area's computing clusters. It's a largely trivial exercise to observe public places, whether real or virtual, but gaining access to private physical locations or restricted virtual locations is a task that requires physical infiltration or competent hacking. Many of the most important infrastructure locations or highest-security virtual locations are physically disconnected from the wider local Net, and require physical intrusion into specific areas in order to hack them.

Most Nets are exclusive over a particular area of physical space, with only one Net operating in any given location. Some crowded areas may have more than one Net active, however, each one run by a different polity or private group. Security-minded polities discourage this sort of thing, as any Nets that physically overlap in coverage area allow digital shells in one Net to operate in any others in the same physical place. Such overlapping jurisdictions make for a hotbed of hacking attempts, with shells based out of friendly Nets making assaults on less-loved neighbors.

Digital Shells

Digital shells are by far the cheapest and easiest shells to create, costing only 10 Face at most and requiring nothing more than a sufficiently advanced computing node and adequate power to run it. When a person purchases a digital shell, they are actually just acquiring rights to the local computing power necessary to instantiate it. Habs with sufficient excess computing power can simply assign any amount of it needed to run free digital shells.

Digital shells are extremely difficult to truly kill. If a shell is destroyed, its computing node can reinstantiate it and its soul with an hour's computation, bringing it back with all the memories it had at the time of its destruction, albeit any programs or data files it had in its "inventory" at the time are destroyed. To permanently kill a digital shell, its computing node must be hacked or destroyed, a process that usually requires gaining access to some of the best-protected areas of a habitat.

Digital shells do not have physical attributes. Their hit points are equal to the soul's unmodified hit points. Any damage to a soul is repaired automatically after one hour without further trauma.

Loci and Systems

A digital shell is an inhabitant of a single Net. Its soul is supported by system hardware somewhere in the bowels of the machine, but its awareness and focus, or its "Locus", is restricted to physical or virtual locations within the reach of that local Net. Usually, this consists of a single space habitat or the territory on a planet under the control of a single polity.

It's possible for a soul to transmit itself to a different Net in two circumstances. If their home Net physically overlaps with another one, they can operate in any region that overlaps. Lacking that, they can transfer to an outside Net provided the soul has access to a digital shell there and someone on the other side opens up a viable transmission path for the soul. This process takes five minutes for a local transmission on the same world or region of a solar system; longer-distance interplanetary transmissions are impractical due to comm lag. Once complete, the soul inhabits the destination shell on the target Net and its original shell goes inert; the computing hardware that would normally be supporting it is now supporting the existence of the remote shell.

If someone cuts off the communication link between the Nets by undoing the comm hack or destroying the communications hardware involved, the interloping digital shell dies instantly and re-embodies in the shell back at its original Net, memories intact but with any programs or data files in its "inventory" destroyed and unrecoverable.

Optionally, the shell can hitch a physical ride in a "mindbox", a piece of computing hardware rated to fully support the soul. If their allies can bring the mindbox into the target Net's territory, the digital shell can operate natively in the proximate physical location, as if it part of the target Net's normal population of digital shells. The minibox provides all the necessary computing power to instantiate the shell and let it operate inside the foreign Net's jurisdiction.

Once in a net, the digital shell can observe any public location within the Net's reach. Most often this means a literally public location: city streets, common hab corridors, and the like. Private locations normally have spy scrubbers and observation locks that prevent eavesdropping in the area. Note that an allied physical shell's Net implants always count as public to a friendly digital shell, allowing them to always see and observe what their friends are doing even in private locations. Friends can shut down this access at any time if they so desire.

Digital shells can monitor multiple feeds, but this requires about as much attention as watching multiple viewscreens. They can monitor numerous places for unusual activity, but they can only really focus on one at a time. This focus is referred to as a digital shell's **Locus**, the point at which they're paying attention and able to influence Net-connected systems in the area.

To hack a system in a private location, it's often necessary for a digital shell to send a physical ally close enough to get their Locus into the right area. No physical connection is necessary; the Locus just has to be in the same physical area as the target system. Some Loci are purely virtual, "deep" regions of an internal computing system that may require successful hacking to reach at all, or public communal VR environments that any shell can focus on. Digital shells may be necessary to get anywhere near these "places".

To hack a system within the scope of a shell's Locus, the shell rolls according to the usual hacking difficulties on page 54. The shell can only maintain control as long as they can keep their Locus in the area; while they can cripple a system or alter a database, they cannot maintain active control over it once they lose access to the area. Line shunts are not necessary or helpful in most transhuman sectors; without an active digital shell to control a hack, the system's innate defensive measures will overcome any persistent influence. If intruders trip any alarms or any guardian digital shells survive to raise an alert, hacks and database corruption might well be discovered. If they execute the hack quietly enough, however, their changes may never be noticed by the owners.

To complicate this task, other digital shells may be present with the same Locus. If a hostile shell with admin privileges is present with the same Locus, no hack can be successful until the enemy shell is destroyed or incapacitated in digital combat. Thus, shell "guardians" are often the biggest obstacle to hacking attempts, and would-be interlopers must destroy them to succeed.

While it's theoretically possible for an organic or mechanical shell to make a hacking attempt on a system with portable hacking hardware, their "non-native" reflexes make this far more difficult. All of their hacking difficulties are increased by +2 and they cannot engage in digital combat, thus making it impossible for them to hack systems with an active guardian.
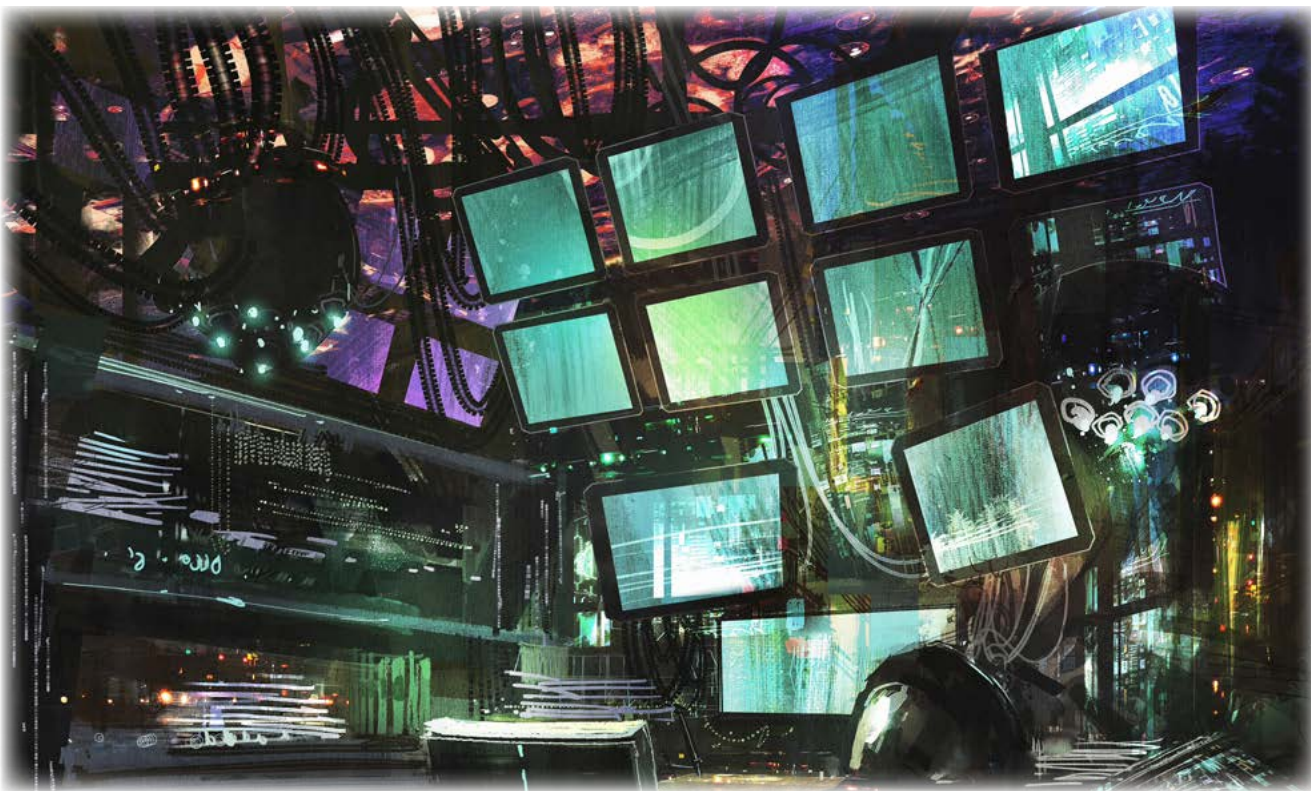
DIGITAL COMBAT

When two or more digital shells engage in combat, the process is much quicker than a conventional flesh-and-blood struggle. All combats are resolved effectively instantaneously once engaged and all combatants act simultaneously. A shell can drag any number of shells with the same Locus into combat, forcing all of them to deal with it before they can perform any other action. Intruders often do this in order to stifle any guardians before they can give an alarm.

Digital shells lack physical attributes. Their rolled hit points are not modified by their shells, and the damage they inflict is based on their Program skill plus any special programs they may be deploying.

At the start of digital combat, all participants choose a target. Each soul can only pick one target, but can be the target of any number of hostile souls.

Each participant then picks an attack mode, whether to *Crush* their opponent's shell, overloading its processing channels, *Muffle* the shell, cutting off its data streams, or *Shear* the shell, selectively corrupting critical sectors of the shell. A separate response is made to each shell engaged with them in combat; thus, if three shells all ganged up on a single target, the single target would pick one combat mode for its chosen target, and then pick two more combat modes to respond to the other two attackers. These modes are chosen secretly, and revealed simultaneously once all are chosen.

Crush is beaten by Muffle, Muffle is beaten by Shear, and Shear is beaten by Crush. If the same mode is chosen by both combatants, no damage is inflicted to either. Once per combat, a PC with the Expert class can turn a losing or tied comparison into a successful one.

If the attacker beats the defender, they inflict 1d6 damage on the target, plus 1d6 per Program skill level; thus, 1d6 total at Program-0, 2d6 total at Program-1, and so forth. If the defender beats the attacker, no damage is inflicted. A shell can only inflict damage on its chosen target; if it loses to the target but successfully beats three other assailants that same turn, it inflicts no damage on them.

Some shells might be equipped with programs that allow them to do more damage with particular combat modes, or resist harm from certain modes, or have additional combat actions. Only one program can affect each clash, with the chosen program noted at the same time the combatant writes down their combat mode and revealed together with their opponent.

Shells reduced to zero hit points are destroyed. The soul must be re-instantiated in a new shell before it can act once more, a process that requires an hour.

Shells recover any lost hit points after an hour without further injury.

Once combat begins in a Locus, it continues until all enemy participants are either destroyed or have surrendered. A surrendered shell is completely at the mercy of the assailant, and can be destroyed, released, or rendered paralyzed and helpless for up to one hour at the winner's discretion. Shells locked in combat cannot raise alarms, alert allies, or do anything other than fight and make brief communications with other involved combatants. Shells that have been destroyed require a full hour to reconstitute themselves and re-embody their souls.

Digital Programs

Just as physical shells have equipment, so can digital shells carry programs. Programs can be carried in a shell's virtual "inventory" or left as virtual objects in storage at some Locus. A shell can carry a number of programs equal to half their Intelligence, rounded down. A soul must have the requisite minimum Program skill to use a given program or else it's too complex or finicky for them to operate. Programs can't cross Net borders without a friendly gatekeeper on the far side. To move programs from one Net to another, it's often necessary to download them into physical storage and manually carry them into the new Net's area of operation before allowing a friendly shell to upload them once more.

Programs can be duplicated easily, but this is a risky process. Each duplication runs the risk of alerting the local Net's autonomic immune system and allowing it to formulate a counter for the program, making both copies worthless. To duplicate a program, the hacker must make an Int/Program skill check at a difficulty of 9 plus the minimum Program skill required to run it; on a success, they have two copies of it now, while on a failure, both the original and the copy are destroyed. If the local Net is "friendly" and fully under the control of the hacker, there is no risk of this happening, though simply belonging to the local polity rarely grants this level of digital impunity. Thus, many hackers prefer to work in isolated habs where they have full digital control over their environment.

Programs require a minimum Program skill to operate them, with the more sophisticated programs requiring greater skill to implement. Only one program can be run on any single round of digital combat, the choice written down next to the attack mode being used before it is revealed. Each program is listed with a usual Face cost to acquire a copy from local suppliers.

COMMON DIGITAL PROGRAMS

Most of the following programs are available in almost any polity that doesn't sharply restrict digital shells.

Autofire (Program-1): This program focuses the shell's offensive capabilities in a blinding flurry of digital attacks. Hostile shells rapidly acclimate to this offense, however, and it leaves the shell vulnerable to counterattacks. If Autofire is used in a round, inflict bonus damage equal to one automatically-successful attack using the current combat mode, even if that mode would normally fail against the target's response. For the rest of the combat, however, every attack against the operator is always considered successful, regardless of the combat mode outcome. It costs 40 Face to acquire a copy of this program.

Clairvoyant (Program-1): A special non-combat program designed for stealthy infiltration, an operator with the Clairvoyant program in their inventory can spend one round in a Locus before any existing digital guardians or security systems notice their presence. This does not allow them to reach Loci they couldn't normally reach, but it does let them skip away from a Locus before guardians can spot them. Once they leave a Locus, they can't gain this stealth benefit there again for another hour. It costs 20 Face to acquire a copy of this program.

Database (Special): This is not an executable program, but instead an important data file crusted over with typical safeguards and anti-intrusion measures. Digital intelligences who need to handle critical data they've looted can treat the important files as a Database program in their inventory.

Kamikaze (Program-1): An extremely dangerous program favored by veteran hackers who value speed over safety, Kamikaze automatically makes the operator's combat mode a success. However, it also makes any assailant's combat mode a success against them, in turn. Thus, in a two-party combat, both parties inflict damage on each other when Kamikaze is used. If the operator is being targeted by multiple hostiles, this program can result in rapid destruction. It costs 40 Face to acquire a copy of this program.

Mode Boost (Variable): Available for Crush, Muffle, and Shear attack modes and existing in three ascending levels of sophistication, this program greatly augments the damage done by that attack mode. The operator adds twice the program's level to each die of damage inflicted by that attack mode type; thus, Crush Boost-2 adds +4 damage to each die rolled by a Crush attack. The program has a minimum skill required equal to its level, and costs 10 Face per level to acquire a copy.

Mode Shield (Variable): The inverted, defensive equivalent of a Mode Boost program, this decreases each die of damage inflicted by that attack mode by twice its rating, ranging from -2 to -6 points. Thus, Shear Shield-3 subtracts 6 points of damage from each die inflicted by Shear on the operator. This can reduce a die's damage to zero. The program has a minimum skill required equal to its level, and costs 10 Face per level to acquire a copy.

Multithread (Program-0): A sophisticated utility program, the operator may use more than one program on a single attack. They may simultaneously run programs with total Program skill minimums equal to their Program skill. Thus, if they had Program-2 skill, they could run Kamikaze, which requires Program-1, and Crush Boost-1, which also requires Program-1. Only one Multithread program can be run at a time. It costs 40 Face to acquire a copy of this program.

Reinforce (Program-1): The shell is hardened against all digital combat modes. Subtract twice the operator's Program skill from each die of incoming damage, down to a minimum of zero. Once Reinforce has reduced damage, however, it becomes inoperable for the rest of the combat. It costs 40 Face to acquire a copy of this program.

Smokebomb (Program-2): An operator who throws a smokebomb resolves the combat round. If they are still alive, they then immediately get one round to perform a hacking action, even if there are active guardians in the Locus. If successful, this hack cannot be countermanded by admin shells for 1d6 rounds. An operator can throw down a smokebomb only once per hour. It costs 60 Face to acquire a copy of this program.

Soul Jar (Special): A soul jar is not a program, per se, but the data necessary to instantiate a soul. For cases when a digital shell needs to get a person's soul data into or out of an area, it can be treated as a program in their virtual inventory, and will be lost if they are "killed".

Storm (Program-0): This dangerous program allows a shell to damage multiple assailants at the risk of incurring greater harm. When engaging more than one enemy, success in an attack mode comparison allows the user to harm the loser, no matter how many are engaging them. If an enemy successfully harms them that round, however, they suffer an additional 1d6 damage from the attack.

Vampire (Program-1): Hostile computing resources are siphoned to repair a damaged digital shell. Any damage the operator inflicts this round heals half as much in hit point damage they have suffered, rounded up. It costs 40 Face to acquire a copy of this program.

262 • Transhuman Polities

Transhuman Polities

Even in soft transhuman sectors, conventional struggles over wealth and resources are rare. It is simply too easy to create mere physical objects, especially if grails can transmute base elements into whatever material is needed. Instead, struggles tend to revolve around ideological viewpoints, focusing on beliefs and creeds that coalesce in the form of *polities*.

A polity is simply a group of people dedicated to particular principles. They may be eager enthusiasts bent on shedding their organic forms, or radical human traditionalists, or religious zealots who seek new forms in which to serve God. They might exist to uphold a tradition of human culture or art, or to explore a specific new mode of being and the possibilities it unlocks. Others seek a radical reevaluation of human morality, reconsidering what it means to be virtuous in a world where human souls can be duplicated and edited at a whim. Some polities might be jealously exclusive in their membership, while others tolerate their members belonging to other polities as well, so long as their goals are not in conflict.

The more isolated these groups are from the harsh necessities of mundane practicality, the more drastic their beliefs tend to be. The need to constantly contend with an indifferent cosmos just to extract necessary resources for survival tends to dampen the more fanciful flights of ideological creativity. Once these limits are broken by the grails, there is much less to constrain a vision of future existence. The conflicts between these polities provide adventure seeds in a transhuman campaign, with PCs supporting some against others.

The Work of Paradise

Transhuman polities almost all afford their devotees with a basic level of sustenance well in advance of any modern society. Even personal grails are sufficient to manufacture the necessary resources and expert-system automation needed to provide an ordinary polity member with everything they might need in the way of food, shelter, entertainment, and medical care. While space may be limited in a deep-space habitat, and goods and services specific to human providers might still be in short supply, the average polity member may go their entire indefinite life without knowing a single moment of true hunger, privation, or want.

One thing the grails cannot provide, however, is a meaning for these prolonged lives. Many transhumans spend years or even decades sunk into aimless hedonism, time-killing digital entertainments, or a simple unthinking repetition of daily existence. Sooner or later, however, most transhumans find a burning need for some sense of *purpose* to their lives, some reason for existence beyond increasingly-tedious amusements and ever-more-stale novelties of experience. The polities provide this meaning to their adherents.

The polities are about something that is important, even important enough to cost their most dedicated followers their indefinite lives. Pursuing this ideal promises its believers a sense of meaning and significance that the ten-thousandth virtual orgy or twentieth orbital-insertion suicide dive can't provide. For those transhumans who can no longer bring themselves to believe in any power higher than their own will, these polity ideals act as a surrogate religion.

Creating Polities

When building a polity, a GM should start with one or two rolls on the adjacent table to determine what ideal drives the heart of the polity. These ideals are simply examples, but each one indicates the kind of action the polity pursues and the kind of activity they find hateful. If the polity is to be useful in the game, it needs to want things and detest things, and the interaction of these goals with the rest of the campaign setting will form the seeds of future adventures. If more than one ideal is used, you can synthesize them together, or just place one as more important than the other.

When you have the polity's core ideal defined, take a moment to think of a paragraph-sized pitch for the polity's ideology. Why would a transhuman want to be part of this polity? Are they born into it, assuming it still uses organic reproduction? Is it offering them some magnificent goal to fire the imagination? Is it promising to protect them from some threat to their indefinite happiness? If you can't come up with a brief, succinct reason for someone to join the polity, the players are apt to be mystified by its appeal as well.

Decide how much influence the polity has in the campaign. Do they control a full star system, or are they a niche group in deep-space habitats? Are they widespread in other regions? Pick at least one other polity to be a rival to it, and perhaps one other to be a sympathetic ally. Write a sentence about each describing the current tenor of their relationship.

All told, you'll probably need at least five polities in your campaign, one of which should be moderate and pragmatic enough to serve as a good default polity for PCs who don't want to get involved in the more dramatic ideologies. Aside from these major polities, there are likely dozens or hundreds more with at least a decent cluster of space habs under their control, and you should feel free to let players come up with them as part of their PC backgrounds. You might write up major polities as Factions and reskin assets accordingly.

These polities are going to be the patrons, enemies, and backdrops for your campaign. While a few patently horrible groups always have a place in a campaign, many of them should be ambiguous enough in their ideals that your players will at least be able to entertain the idea of cooperating with their goals.

d20	Vital Polity Ideal
1	**Abundant**: Society should strive to maximize access to grails and similar material abundance for all members. They hate material want and love the ideal of maximizing available resources for all.
2	**Architect**: Grails offer the key to a new era of wonderful creations. Terraformed worlds, massive space installations, and marvelous devices await their construction. They love building useful marvels and they hate restrictions on growth or rejection of any constructive technology.
3	**Egoists**: The human self should be inviolate, and that creating more than one instance of a mind at a time treats humans as mere instruments to be used. They hate using people as tools and love the individual self.
4	**Faithful**: Some religion provides vital meaning to their existence and to the world around them. They love obedience to the principles of their faith and they hate things and acts that their religion condemns as abhorrent.
5	**Godless**: They despise all religions and supernatural thinking and are convinced that humanity was meant to rise above belief in non-materialistic phenomena. They love ideals of pure rationality and utilitarian efficiency and they hate beliefs based on religious adjurations.
6	**Hedonic**: They exist for the sake of personal pleasure and experience, using their shells and the wealth of the grails to experience new wonders. They love pleasure and excitement and they hate all abstentions and restrictions against experience.
7	**Hierarch**: They are convinced that some people are more suited to rule than others, for whatever reason, and that these people should control society. They love obedience to their chosen elite and they hate defiance of their ruling caste's will.
8	**Isolationist**: They believe that the other factions will contaminate the purity of their society, and contact must be firmly—or violently—rejected. They hate contact with outsiders and love exalting the excellence and authentic purity of their society.
9	**Liberated**: They despise the idea of an elite and believe that society should be built upon decentralized cooperation rather than submission to a central power. They hate hierarchies of power and they love destroying these hierarchies and celebrating individual freedom from control.
10	**Luddite**: They are convinced that transhuman technologies will inevitably doom humanity, and that all of them should be abandoned. They hate any tech more advanced than standard postech and they love independence from transhuman technologies such as grails and bodyswapping.
11	**Passionist**: They believe that with the perfection of the mind and body, perfection of the heart must follow. They seek love, beauty, enlightenment, and spiritual exaltation. They love human drama and moving artwork and they hate cold rationality or rejection of personal desires.
12	**Perfectionist**: Humanity is always intended to be *more*, improving in mind and body and exploring new ways of being no matter the cost. They they hate any restrictions on pursuing personal excellence and they love exploring the frontiers of human capacity.
13	**Psionicist**: Revere and develop the powers of the mind. While psitech development has not matched conventional tech's rate of improvement, they retain many powerful arts. They love the potential within psychic powers and they hate those that would ignore or reject them.
14	**Restrictionist**: Society needs to prevent the dangers of reckless use of grails and should restrict their control to a qualified elite. They hate dangerous use of grails and love the ideal of a worthy technocracy of rule.
15	**Selfless**: The human mind belongs to itself, and should be altered, duplicated, and used in any way the original desires. Radical self-authoring of identity is the highest ideal. They hate losing control over their own identities and love the idea of progressive mental alteration into an individual's ideal self.
16	**Superior**: They are simply better than other strains of transhuman, and their inferiors must be eliminated from any influence on the sector. They hate inferior outsiders and they love demonstrating their own superiority.
17	**Swarmer**: Their faction must spread at all costs. All efforts must be turned toward creating more shells and more adherents and seizing more territory. Some in hard transhuman sectors go so far as to create entire groups of ego duplicates. They love expanding their numbers and influence and they hate valuing the individual over the group.
18	**Temperate**: Success hinges on the cooperative effort of many factions. They are much more willing to compromise and negotiate than most other creeds. They love building negotiated alliances and they hate uncompromising extremism, regardless of its supposed virtue.
19	**Unchanging**: They are adamantly opposed to radical alterations of the human body or mind, believing that such changes threaten the basic idea of humanity. They hate heavily altered minds and shells and they love the idea of humanity as it has been known.
20	**Xenophile**: They desire to abandon their humanity for the sake of becoming some better species. Some alien races around them may actually have originally been factions of this polity. They love pursuing radically different modes of existence and they hate adherence to traditional human norms.

ONE-ROLL POLITY MISSIONS

While the conventional adventure seeds earlier in this book can work fine for building a transhuman adventure, these tables offer some more genre-specific cues for building the kind of jobs that polities often need to hire PCs to execute.

First figure out the general direction of the polity's interest and identify the thing that's interesting them. The basic nature of the mission reveals what it is the polity needs the PCs to accomplish, while the major difficulty indicates the likely-obvious main problem with achieving the desired end, though other problems are likely to be part of it as well. One or more additional rolls on the transhuman twist table can suggest other plot twists or genre-appropriate elements to throw into the adventure.

d6	Why PCs are Needed
1	The last available polity team failed
2	The job needs to be deniable
3	A PC is somehow related to the thing
4	Everybody better is unavailable right now
5	A polity NPC wants them specifically
6	The PCs are expendable scout resources

d8	Basic Nature of the Mission
1	Scout a believed-to-be-hazardous thing
2	Destroy the thing in question
3	Salvage or rescue the thing in question
4	Subvert or persuade the thing in question
5	Build, erect, or instantiate the thing
6	Sabotage the thing and frame a rival
7	Roll 1d6; job changes to that mid-mission
8	Stop someone else; roll 1d6 for their goal

d10	The Thing That is the Focus
1	A populated deep-space habitat
2	A research or religious complex
3	A data store or archive
4	A military station or complex
5	Valuable land or an important space region
6	A defector from the polity or a rival
7	A celebrity very useful to the polity
8	Someone important to a polity NPC
9	An artificial intelligence or digital shell
10	A talented mercenary or agent

d4	Direction of Interest
1	Toward a thing mysterious to the polity
2	Toward a thing held by the polity
3	Toward a thing held by a rival
4	Toward a thing held by a neutral party

d12	Major Difficulty of the Mission
1	Powerful military forces threaten the PCs
2	The thing's location is very dangerous
3	The thing is primed against the PCs
4	The thing itself is dangerous to handle
5	A team of rival polity agents are in it
6	A third force involved in the situation
7	Known involvement would be a disgrace
8	There is a very harsh time limit
9	The thing's location is not known
10	The PCs are deprived of resource access
11	Critical briefing data is wrong or twisted
12	Getting into or out of there is very hard

d20	Transhuman Twist or Vital Macguffin
1	Someone's identity has been badly edited
2	Someone important is in hiding
3	A seemingly-benign goal is monstrous
4	An NPC cares nothing for their shell's life
5	An AI or VI is causing a problem
6	Someone's building or using dire tech
7	A critical soulstone has been lost
8	Grail access to something vital is limited
9	A recently re-embodied NPC has a grudge
10	An outside polity is getting involved
11	Obscure polity doctrine is making trouble
12	A high-tech experiment has gone rogue
13	There's a traitor in an important position
14	A war or hostile raid is going on there
15	A grail is dangerously malfunctioning
16	A strange fad or ideology is interfering
17	The desired macguffin is not as it seems
18	A traitor in the opposite side offers aid
19	Normal social expectations are subverted
20	Someone fights for a near-lost ideology

POLITY MISSION REWARDS

Many of the adventures a party will have in a transhuman campaign will revolve around doing work for one or more polities, either the groups that the PCs are aligned with or simply those outside organizations that are offering worthwhile rewards. The mission payment tends to be roughly the same in both cases, as the gratitude of a polity toward a loyal member serves much the same practical purpose as the indebted obligation of an outside patron.

The rewards offered by polities to capable operatives are extensive, but the jobs they need done are not the standard sort of reactor-cleaning jobs that any low-ranking polity member could manage. The jobs offered by polity leadership cadres are dangerous, difficult, and often must be deniable. Survival is by no means assured, and in some cases a suicide mission might be an assumed part of the work, with reinstantation of a soul in a new shell provided as part of the fee.

The pay a polity offers will depend on its own size and the importance of the work. Every measure of Face they offer is the equivalent of so much grail time or so much work by polity members, and small groups just don't have the grails or membership to support huge payments, even if Face itself is a somewhat notional resource. The rewards offered here are baseline for a major polity with access to at least one major grail. Smaller groups can likely offer only half as much, or even less.

Reward totals are given in Face here, but if you're running a campaign where credits are still in use, you can multiply the Face rewards by 50 to get the equivalent amount of credits they would likely offer.

Rewards are per-party, divided evenly amongst the PCs, and often scaled to the highest PC's level. The more respected and experienced the mercenary or member, the more their help is worth.

Simple Jobs

Go someplace relatively nearby and kill someone, destroy something, or collect something. Targets are not expected to have any defenses sufficient to stop a professional group, though ugly surprises do happen. Performing this act is not expected to bring particular heat down on the group or have lasting negative consequences with their relationship with other significant polity groups. This work rewards 100 Face/level.

Dangerous Jobs

As a simple job, but there's reason to believe that the target may have protection or environmental difficulties that would possibly result in the death of even a capable and professional group. This level of reward is also offered for simple jobs that might incur the displeasure of a major polity against the PCs who perform it. The work rewards 200 Face/level.

Complicated Jobs

The polity needs something done, but isn't entirely sure how to accomplish it. The PCs need to go someplace and use their own ingenuity and understanding of the situation to bring about the outcome desired by their patron. Even when these jobs appear to be relatively safe, they pay well because they require a great deal of initiative and personal judgment from the operatives. Any group capable of regular performance of these tasks will be able to live in the transhuman equivalent of luxury, with large amounts of personal space, numerous sapient servants or companions, and a wide selection of shells to use as they desire. Such jobs usually pay 500 Face/level.

Veteran Jobs

At this level of work, the operatives are no longer run-of-the-mill mercenaries or standard polity enforcers, but the proven experts at their trade who are sought by employers throughout the transhuman sector. Missions for veteran operatives tend to be matters of significant importance to the polity as a whole, with opposition too heavy or too skilled to be overcome by any ordinary agent. Often the polity sees no way to succeed at the job, but trusts that experts will somehow figure out a solution. Up to 10,000 Face/level are regularly extended to groups capable of this work.

Elite Jobs

Something critically important needs to be done, and the polity can't afford to have things go wrong. At this level, they're only giving the work to people who have a demonstrated track record of success, but they're also extremely flexible about the remuneration they'll offer. Often, as much as 100,000 Face/level worth of goods or services will be extended to PCs, or equivalent resources that already exist will be signed over to PC ownership or placed at their regular disposal.

Critical Jobs

These are tasks where failure threatens vital polity resources, personnel, or the basic survival of the group. The leadership is unlikely to give this work to anyone but the most reliable, proven members or allied mercenaries, but they will pay almost anything for successful completion. Essentially, the PCs tell the polity what they want, and if the polity can actually give it to them, they get it. Of course, if they fail the polity may not be in much of a condition to do anything.

SPACE MAGIC

Any reader of this game is likely aware of dozens of other old-school game systems that have magic-using character classes and a wealth of arcane sorcery. While many groups will be perfectly happy to stick with traditional sci-fi tropes, some groups prefer a little more wizardry in their stellar endeavors, and so this section provides you with guidelines for integrating existing old-school spells and magic use into a *Stars Without Number* campaign.

Particularly adventurous groups might go so far as to use *Stars Without Number* as the chassis for a straight-up fantasy game, using the Warrior and Expert classes to represent doughty fighters and cunning thieves, and the additional classes in this section serving as more sorcerously-inclined heroes.

Molding Your Magic

The first step in including these rules is for the GM to decide just what kind of magic she wants to include in her campaign. She might decide to simply include the magic-user and cleric spell lists from *Labyrinth Lord*, or import only the magic-user spells from *Lamentations of the Flame Princess*, or perhaps devise a race of sense-warping aliens who use the illusionist spell lists from an early edition of one of TSR's famed games. Particularly industrious or inspired GMs might choose spells from half a dozen different sources and compile them all into a particular list suitable for their game.

A cursory examination of these other OSR games will show that almost all of them divide their spells into multiple "levels" of increasing power, usually ranging from level 1 to level 9. As a general rule of thumb, you probably don't want to include spells higher than level 5 in your campaign. Beyond that power level, magically-gifted PCs start to have a degree of personal prowess that's drastically out of scale with non-arcane heroes. It may be possible to enact these mighty enchantments through complex rituals, advanced supporting technology, or other roundabout means, but they should not normally be powers at the ready disposal of PCs.

When you're picking spells for your campaign, your main focus should be on your personal group of players. It's not necessary to imagine every possible sub-variety of sorcery in your personal cosmos, or to spend hours painstakingly crafting a dozen different schools of magical adepts. It probably isn't even necessary to worry about the spell lists beyond level 2 or 3. Your job is to make sure that the magic fits with your campaign and provides options that are likely to interest your players. Don't hesitate to straight-out ask your group if anyone wants to play a magically-gifted hero, and if so, the kind of magic they'd be most interested in having. If you give yourself some warning time, you'll have enough leisure to put together a basic arcane class or two that fits your group's needs.

Start by creating one or more spell lists for the classes provided in this section. The Arcanist class should have a single broad spell list that its practitioners all draw from, while the Magister class might have multiple spell lists for different magical traditions. A Magister can draw from only one of these lists, representing the particular tradition they belong to. If you want to save yourself effort, you might make up several Magister spell lists and then just declare that an Arcanist can learn spells from any of them.

Adepts are a special case, and are meant to represent magical traditions that focus on personal empowerment and alteration. Most often, you'll simply be taking an old-school class with multiple intrinsic magical powers and stripping it for parts to customize your own Adept classes.

The Magic Skill

In campaigns where sorcery is a matter of general concern, a new skill is added to the list. *Magic* is the skill related to both academic and practical use of sorcery. Whenever a spellcaster attempts to puzzle out some arcane mystery or use their spells in a way that seems both plausible and risky, a Magic skill check can be required. Intelligence is the attribute that usually modifies such a roll, though almost any attribute might be used for certain situations or magical traditions.

For spells that require a hit roll to connect, the caster may use their Magic skill as their combat skill, usually adding their Intelligence or Dexterity modifier as well depending on whether the attack relies more on careful targeting or nimble hands.

Whenever a PC rolls or picks the Know skill as part of their background, focus bonus skills, or other picks, they may instead choose the Magic skill. A PC does not have to have magical abilities to understand the theory and technical details of sorcery, though their ability to employ their knowledge might be limited.

In some campaigns, GMs will prefer to split the Magic skill up even further, perhaps giving specific skills to each Magister school, or dividing different magical traditions into different skills. While this is a feasible choice, a GM should be careful not to parse things too finely, and should allow cross-skill use in most magical situations.

Importantly, a spellcaster cannot cast a spell of a level higher than their Magic skill plus one, even if their character level would normally allow them to cast such potent enchantments. A magic-user needs to understand the basic theory and practice of their magic before they can employ it effectively. This limit does not apply to Adepts, who often have no magical education at all, and it may also not apply to other magical traditions that owe more to lineage or random genius than focused education.

Spells and Invocations

The Arcanist and Magister classes listed below cast spells. A GM can pick appropriate spells for their lists from their old-school games of choice, with the Arcanist intended to be a generalist magic-user who can alter their prepared spells to meet an anticipated situation, and the Magister meant to be a student of a particular magical tradition that grants them less breadth but an easier time accessing the full scope of their powers. For these classes you can lift spells directly from your sources to make their spell lists, and you usually don't have to change anything about the spells.

The Adept class, on the other hand, is meant to emulate a particular type of magical adept who has a very restricted range of abilities that are very easy for them to invoke. Invocations emulate intrinsic magical powers and special gifts that can't be effectively interrupted and require no special preparation to employ.

The easiest way to create an Adept's invocations is to just look at an existing old-school character class with intrinsic magical abilities. They'll usually get special powers at certain levels, or boosted attack damage, or some other natural class ability. Each of those can be treated as an invocation. Powers that require activation should be assigned an action type, either Main Action, On Turn, or Instant depending on how long it seems it should take to activate the ability, while flat bonuses should be invocations that are constantly in effect.

You're inevitably going to have to eyeball the final result a little and apply tweaks and adjustments to make sure the resultant Adept tradition is a suitable fit to your campaign. Just work with the player who's going to have the PC to make something acceptable, as you don't have to balance things for random other people.

Casting Magic

In science-fantasy campaigns, magic is divided between *spells* and *invocations*. Spells are arcane formulae, divine prayers, lengthy rituals, and all other magic-creating procedures that tend to take some time and undisturbed action in order to trigger. Invocations are innate powers or gifts, either gained through long practice, granted via occult pacts, or simply intrinsic to the bloodline of the bearer. Invocations require much less effort to trigger, but their bearers tend to be much less flexible in their powers than spellcasters.

To cast a spell, the spellcaster must declare their intent to cast a spell at the very start of the round, before any group has acted, and they must specify *which* spell they intend to cast. Their efforts to begin casting will begin immediately. Most spellcasting is blatantly obvious, involving arcane gestures, stentorian incantations, and occasional visible discharges of coalescing energy. Most combatants in a culture where magic exists will recognize spellcasting immediately, though it is usually impossible to tell *what* spell the spellcaster is trying to cast. A magic-user cannot normally cast any spells if their hands are restrained or their mouth is gagged.

Completing the spell requires a Main Action from the caster, performed during their normal turn of action during the round. They may choose details of targeting and specific effects at the moment they cast they spell. If they decide that they really don't want to cast the spell after all, they lose their Main Action but will not waste the spell or the power used to fuel it. If the caster suffers so much as a single hit point of damage before they can complete the spell, however, it and their Main Action for the turn are both lost. The spell still counts against any casting maximums for the day, but it fizzles away uselessly.

Invocations are much quicker and easier to cast than spells, and largely impossible to interrupt. Most invocations require a Main Action to cast, but they do not require announcement at the start of the turn and they cannot be interrupted by damage. Other invocations can be used as an Instant or On Turn action, or they might be constantly in effect once acquired.

Learning Spells and Invocations

Most spells require either a teacher or a magically-charged instruction device in order to impart its secrets. A mere text file might be able to describe what a spell does, but without a magically-imbued training object for a spellcaster to study, the spell's true patterns of energy and meaning are impossible to discern. Traditionally, these training objects take the shape of physical books, often called "grimoires", as the traditional methods of energy imprinting commonly focus on written codices.

Without a grimoire or a willing teacher, a spellcaster cannot learn or use a given spell, even if it appears on the spell list for their class. If the spell does not appear on their class spell list, they cannot learn it even with access to a teacher or grimoire. It simply is too far outside the scope of their magical education.

Learning a spell from a teacher requires one day per level of the spell. Learning it from a magically-imbued object requires one week per spell level. This training can be interrupted and resumed with no ill effects, but a spellcaster can learn only one spell at a time. Most Magisters can expect to be taught the spells of their tradition by a cooperative senior member of their order as they advance in level, though they might be called upon to perform a service for the tradition in order to "prove their worthiness" to receive the knowledge. Arcanists have a less certain path forward, and must usually either find grimoires or convince other spellcasters to train them, often for a substantial fee in credits or service. In the absence of some other requirement, and assuming a willing teacher can be found, such tutoring usually costs five hundred credits for a first level spell, doubled for each ensuing spell level.

Only Arcanists and Magisters can learn spells. Adepts are taught their invocations as part of their training and gradual maturation, and gain their abilities automatically as they advance in experience.

The Arcanist

A purveyor of mystical secrets and a relentless scholar of the unknown, the Arcanist is meant to represent a magic-user with a broad grasp of arcane principles and a catholic view toward magical theory. Arcanists sometimes form groups of like-minded researchers, but their individuality and idiosyncratic academic views often makes it difficult for them to work closely together.

Arcanist Spellcasting

Arcanists all share the same spell list. At first level, they may pick a number of first level spells from this list equal to two plus their Intelligence modifier. They begin knowing these spells and may prepare their allowed spells per day from them. They may learn new spells as the opportunity arises, but they cannot learn a spell that is not on the Arcanist list or that is a higher level than they can actually cast. There is no limit to the number of spells an Arcanist can learn save for the need to find a teacher or grimoire from which to learn them.

An Arcanist must prepare their spells before casting them. Such preparation requires an hour of undisturbed meditation, arcane exercises, and calculation, and can only be done once per day. The number of spells an Arcanist can have prepared at any one time depends on their character level; a novice Arcanist can prepare only a single first level spell, while a master can have a dozen different incantations ready for use. The adjacent table lists the number of spells of each level that the Arcanist can prepare each day.

An Arcanist may fill a higher-level slot with a lower-level spell if they wish, such as using a second level spell slot to prepare a first level spell. Arcanists may also prepare multiple "copies" of a spell they expect to see heavy use, preparing the same spell multiple times in multiple slots.

When an Arcanist casts a spell, it is discharged and must be prepared again before it can be used again. If they have multiple copies of a spell prepared, they can continue to use it until they run dry of available incantations. Suffering hit point damage before they can successfully complete casting a spell also costs them the spell, as it fizzles uselessly and is lost for the day.

Arcanist Class Abilities

Arcanists spend so much time in scholarly study that they lack the resilience of more active heroes. Their hit points are rolled as 1d6-1 each level, plus their Constitution modifier. Each die's total cannot be less than 1, even with the penalty.

Arcanists spend very little time mastering mundane weaponry. Their base attack bonus is equal to their level divided by five, rounded down. Thus, at first level, it's +0, and doesn't increase to +1 until level five, and +2 at level ten.

Spellcasting requires the dexterous manipulation of esoteric energy flows that are hindered by cumbersome armor and exotic materials. If the Arcanist is wearing powered armor, including vestimentums, or armor with an Encumbrance value higher than zero, they cannot effectively cast spells, nor can they do so if their hands are bound or they are gagged.

Arcanists may learn two new spells from the Arcanist spell list from any level they are capable of casting each time they advance a level, reflecting their own research and study. They begin play knowing two first level spells, plus their Intelligence modifier.

Arcanists may choose their foci from the arcane focus list in this section, and may choose one additional bonus arcane focus at first level.

Arcanists gain Magic as a bonus skill. If the Magic skill is split up into multiple sub-skills in this campaign, they can pick one of them for a bonus skill instead.

Partial Arcanist Abilities

Some characters may wish to only dabble in an Arcanist's arts, selecting the Partial Arcanist class option as an Adventurer. Heroes who choose this option gain the following traits.

Partial Arcanists suffer a -1 penalty on all hit point dice they roll. Thus, a Partial Expert/Partial Arcanist would roll 1d6-1 for their hit points each level, while a Partial Warrior/Partial Arcanist would roll 1d6+1.

Partial Arcanists suffer a -1 penalty on their base attack bonus, as calculated by their other partial class. This penalty cannot reduce the hero's base attack bonus below +0. If their other partial class is Magister, their attack bonus is +0 at first level, +1 at fifth level, and +2 at tenth level.

Partial Arcanists can learn and prepare Arcanist spells as if an Arcanist of half their level, rounded up. For casting purposes, they are treated as their full level; thus, if a spell does 1d6 points of damage per caster level, a 5th level Partial Arcanist does 5d6 damage with it.

Partial Arcanists are as limited as any other Arcanist when it comes to casting spells in heavy armor. While wearing powered armor, or any other armor with an Encumbrance value higher than zero, they cannot effectively cast Arcanist spells.

Partial Arcanists may learn one new spell from the Arcanist spell list from any level they are capable of casting each time they advance a level, representing the fruits of their private research.

Partial Arcanists can choose arcane foci with their allowed focus picks. They do not gain the bonus arcane focus that a full Arcanist gets.

Partial Arcanists gain Magic as a bonus skill. If the Magic skill is split up into multiple sub-skills in this campaign, they can pick one of them for a bonus skill instead.

THE MAGISTER

A studious follower of a particular magical tradition or sorcerous order, the Magister is heir to uncounted centuries of arcane learning and focused erudition. While Magisters do not have the broad magical knowledge of an Arcanist, their focused study allows them more flexibility in employing their spells, and less need to prepare beforehand.

Magister Spellcasting

Unlike Arcanists, Magisters focus on a restricted set of sorceries, and become intimately familiar with a relatively small number of spells. Their deep familiarity with these spells allows them to cast them without prior preparation, but it also prevents them from easily learning new spells or changing their existing list.

At first level, a Magister picks two first level spells from their allowed list. Each time they advance a level, they may learn additional spells from their list as given by the Magister spell table. Each time they advance an experience level, they may swap out up to two of their existing spells for different picks of the same spell levels. A Magister cannot learn new spells outside this progression. If he wants to exchange a known spell for a different one of the same level, beyond the two swaps granted by advancement each level, he must spend three months of study to exchange a single spell. It is assumed that a Magister can pick from any of the spells on their school's spell list unless they are in exceptionally bad odor with their fellows.

A Magister may cast their spells a certain number of times per day depending on their level. At first level, for example, they may cast a first level spell thrice per day. This spell may be from any of the first level spells they know, and it is not necessary for them to specifically prepare the spell as an Arcanist does. As they advance in power, they are able to cast more and more spells each day from higher levels of incantation. A Magister can cast a lower-level spell with a higher-level slot if they so require, but this does not augment the spell or make it more effective.

If a Magister suffers damage before they can successfully complete the casting of a spell, the magical energy discharges harmlessly and the spell slot is wasted. They can attempt to cast the spell again next round if they still have available slots for that level.

Magister Class Abilities

Magisters have the exact same class abilities and limitations as an Arcanist, save for their special rules for learning and casting spells. In campaigns where the Magic skill is split into multiple sub-skills, they have the sub-skill appropriate to their school as a bonus instead of Magic.

Partial Magister Abilities

A Partial Magister uses the exact same rules as a Partial Arcanist, except that they cast spells from their Magister spell list, and may learn them as if a Magister of half their character level, rounded up. If a hero chooses to be a Partial Arcanist/Partial Magister, they keep their spell lists separate; just because the hero knows a spell as an Arcanist doesn't mean that they may cast it with Magister spell slots. The same separation applies to their available spell castings per day.

Arcanist Spells Prepared per Day

Arcanist Level	Spell Levels				
	1	2	3	4	5
1	1	-	-	-	-
2	2	-	-	-	-
3	2	1	-	-	-
4	3	2	-	-	-
5	3	2	1	-	-
6	3	3	2	-	-
7	4	3	2	1	-
8	4	3	3	2	-
9	5	4	3	2	1
10+	5	4	3	3	2

The entries list the number of spells an Arcanist can prepare each day of a given spell level. There is no limit to the number of spells an Arcanist can learn at each level, assuming a source is found for them.

Magister Spells Usable per Day

Magister Level	Spell Levels				
	1	2	3	4	5
1	2/3	-	-	-	-
2	2/4	-	-	-	-
3	3/5	2/2	-	-	-
4	3/6	2/3	-	-	-
5	4/6	2/3	2/2	-	-
6	4/6	3/4	2/3	-	-
7	5/6	3/4	2/3	2/2	-
8	5/6	4/5	3/4	2/3	-
9	5/6	4/5	3/4	3/3	2/2
10+	5/6	4/6	3/5	3/4	2/3

Entries list the total spells known each level followed by the spells castable each day. Thus, at second level, a Magister knows two first-level spells, and may cast any combination of them up to four times a day.

The Adept

The Adept is the catch-all class for those heroes with intrinsic magical abilities that aren't really spells, but are clearly supernatural in nature. Adepts can vary wildly in their abilities; some might have incredible powers of bodily control, others might have a set of specific elemental abilities they can invoke, while still others might be able to invoke specific magical powers with a freedom and regularity even a Magister cannot match.

The Adept class is designed as a framework to allow a GM to bring in classes from other old-school games that rely on special abilities gained as a hero advances in character levels. These classes usually have a few basic powers at first level, and then gain more special abilities as they advance. It's likely that any importing will require some tweaking and adjustment on the GM's part, but this class can be used as a "container" to help organize these esoteric gifts.

When importing Adept traditions, be careful not to devalue the worth of other classes. A combat-focused Adept should be about as good as a Warrior, rather than superior to one, and an Adept focused on stealth should not be universally superior to an Expert cat burglar. The importance of this will vary with the PC makeup of your group. If you have no other Warriors in the party, for instance, then you don't have to be so careful about not stepping on their role.

Adept Class Abilities

Adepts roll 1d6 for their hit points each level, modified by Constitution.

Adepts have a base attack bonus equal to half their level, rounded down. Thus, it's +0 at first level. Specific Adept traditions may give bonuses to this.

Adepts gain the special abilities of their chosen tradition. Often, some of these are obtained automatically at first level, while others are gained as the hero advances in experience. The GM may choose to adjust the timing of these abilities to smooth out progression.

Adept abilities are invocations. Even when they require a Main Action to activate, they cannot be interrupted by damage. Adept abilities may be used as often as the specific ability allows; some have a limit of so many uses per day, while others might be constantly in effect.

Adepts may choose to pick their beginning and any further earned foci from the arcane focus list in this section, though foci that have to do with spellcasting are inapplicable to them.

Partial Adept Abilities

Partial Adepts gain the special abilities of their chosen tradition as if they had an Adept level of half their character level, rounded up. Where these abilities are influenced by character level, the hero's full level is applied. Thus, if an intrinsic ability gave them a +1 Armor Class bonus per level, a 5th level Partial Adept would gain a +5 bonus to their AC.

Note that some Adept traditions involve granting a hero a powerful base ability at first level that is then further elaborated or expanded as they advance. This type of tradition may not be suitable for a Partial Adept, or the GM may have to clip back the base ability and only give the rest of it back as the PC advances in level.

Partial Adepts may choose to pick their beginning and any further earned foci from the arcane focus list in this section, though foci that have to do with spellcasting are inapplicable to them.

The Incandescent Order

As an example of an Adept class, the Incandescent Order wields the "power of the Glow" as their inner spiritual purity made manifest through light. The theocratic ruling institution of several remote star systems, the Order is currently divided between the Exultants, who believe that the gift of the Glow is a sign of absolute spiritual authority over less-gifted sentients, and the Abstainers, who believe that a Glow-gifted leader can still fall into serious acts of sin.

The two factions are nominally at peace, but a vicious secret war is waged between them over ultimate control over Order space and the Radiant Hierarchy that rules it. Losers of this religious debate and those disillusioned with the conflict have been forced to flee Order space for more distant worlds, bringing their discipline with them.

Any trained adept of the Order can identify a potential acolyte's Glow potential with a few weeks of training. Most people have no ability to wield it whatsoever, and some have only a limited gift, but a few can be taught to become full priests of the light. The education usually requires four or five years to set a novice on the path to eventual mastery.

The Order itself is philosophically devoted to the Holy Light, the radiance of truth, justice, and purity that the Light embodies. Those who die for the cause will know the eternity happiness of radiant truth, while the wicked will be cast forever into the Dark Hells of ignorance and confusion. The Exultants insist that anyone who wields the Glow can only temporarily be confused by sin, while the Abstainers view the Glow merely as one more tool with which to serve the Light.

Class Abilities

Order Adepts use the normal class abilities for Adepts except as noted below.

Order Adepts gain Glow as a bonus skill. Glow is used to control and apply the powers of the Order, and may be used as a combat skill for Glow-based attacks.

Gain Order Effort equal to one plus their Glow skill plus the highest of their Wisdom or Charisma attribute modifiers. Order Effort works much like a psychic's Effort, being Committed and recovered in the same way, and is used to fuel Order powers. Order Effort and Psychic Effort are tracked separately.

Order Adepts have a base attack bonus equal to half their character level, rounded down. At first and fifth level, the adept gains a cumulative +1 bonus to their base attack bonus. Thus, at first level their attack bonus would be +1, and at fifth level it would be +4.

Adepts gain special Order Glow abilities at the levels listed below.

Partial Class Abilities

Partial Order Adepts use the Partial Adept rules as usual, save for those listed below.

Partial adepts gain Glow as a bonus skill, just as full Order members do.

Partial adepts have Order Effort equal to one plus half their Glow skill, rounded up. They do not add their Wisdom or Charisma attribute modifiers to this total.

Partial adepts gain Order powers as if they were half their full character level, rounded up. They may use these powers at their full character level. Thus, a first level partial Order adept has the 1st level Order power. At third level, they gain the 2nd level Order power, and so forth. They would use these abilities as a character of their level, so a fourth level Partial Order Adept does 1d10 damage with *The Light Within*.

Powers of the Glow

The Light Within (Level 1): Commit Effort as an On Turn action. While Committed, you may radiate light up to a 20-meter radius, project bolts of light doing 1d6 damage up to 50 meters away, and ignore up to your character level in hit points of laser damage from any given attack. At fourth level the damage of these bolts increases to 1d10, and at seventh level they become 2d6. Their attack rolls use the Glow skill and Dexterity modifiers for combat purposes.

The Light Without (Level 2): Commit Effort for the scene as an On Turn action. Conjure a purely visual illusion within 60 meters, the image occupying no more than five meters' radius. The image appears perfectly realistic but is intangible and soundless. The illusion lasts for the rest of the scene; you can control it with a Move action, causing it to move or changing its location. Invisibility is not an illusion, though you can create the image of an opaque object in front of something.

Visual Interdict (Level 3): Commit Effort for the scene as an On Turn action. You become invisible for the rest of the scene and immune to laser weaponry or laser tripwires. This invisibility breaks if you make an attack or other violent motion. Attacks from invisible ambush grant +4 to hit and damage, but do not usually count as Execution Attacks from page 52 unless the other requirements of such an attack are fulfilled.

Veil of Noon (Level 4): Commit Effort for the scene as an On Turn action to gain the visual appearance of any object or person between 50% and 150% of your height and weight. This appearance conceals any clothing or equipment you may be carrying, but its falseness is obvious on touch, and it does not alter your voice. The illusion lasts for the rest of the scene or until dropped.

Torrent of Dawn (Level 5): Commit Effort for the day as an On Turn action to blast visible targets within 100 meters with a blaze of laser energy. A total number of targets equal to one plus the adept's Glow skill can be hit, and each is automatically hit for 1d10 damage for every two levels of the adept, rounded down. An Evasion saving throw halves the damage they take, and a single target can't be hit by more than one blast.

Piercing Radiance (Level 5): Commit Effort for the scene as a Move action to cut a hole two meters square through up to two meters of any substance weaker than TL 4 military fortifications. Against fortifications, this takes two rounds of this ability. This piercing laser requires a stationary target, so it is not normally effective against mobile enemies. If somehow applied to an immobile living target, it does five points of damage per character level.

Photonic Lift (Level 6): Commit Effort as an On Turn action. While Committed, the adept can repel himself from the ground through the emission of countergravitic luminal waves. The adept can fly at twice their normal movement rate, hovering freely as needed and lifting up to one hundred kilograms of additional weight.

Radiant Shield (Level 7): Commit Effort as an On Turn action. While Committed, you and all allies within 10 meters are immune to harmful light, lasers, radiation, or other radiant energies.

Tangible Light (Level 8): Commit Effort for the scene to create a simple physical object of solid light no larger than 3 meters square. It has hit points equal to twice your level and vanishes at the scene's end.

Flickering Leap (Level 9): Commit Effort for the day as a Move action to leap to any location visible with your unaided sight as a bolt of pure radiance.

Flesh of Light (Level 10): Commit Effort for the day as an On Turn action to become an intangible form of light for one round. You can move freely through non-solid matter and can use your Glow powers, but are immune to mundane matter and energy.

Arcane Foci

The foci listed below are generally restricted to PCs with magical abilities, whether Arcanists, Magisters, or Adepts. Most of them augment a caster's sorcerous abilities, though a few add additional perks suitable for a magically-focused hero.

If a GM is adapting an existing OSR class into an Arcanist, Magister, or Adept from these rules, unique abilities that don't fit neatly in the existing framework can be treated as foci that the PC must take at the appropriate levels, acquiring them in place of their usual free choice at first level or ensuing levels. While this does limit a PC's versatility to a degree, in most cases they already have plenty of uniqueness simply by virtue of their character class. If there's only one Scion of the Emerald Blade in your campaign, it doesn't matter too much if she has to take a specific set of abilities.

Armored Technique

Applicable only to Arcanists and Magisters, this focus reflects a hero's determined practice at channeling arcane energy flows around the encumbrance of heavy armor and unnatural high-tech materials.

Level 1: You may cast Arcanist or Magister spells while wearing street or combat armor with an Encumbrance value no higher than one, or in powered armor with a zero Encumbrance value.

Level 2: You may cast Arcanist or Magister spells regardless of the bulk of your armor.

Cross-Disciplinary Study

Applicable only to Magisters, this allows a hero to learn a spell from the Arcanist list or from a Magister school other than their own. They must find a source willing and able to teach them the spell, and it must be of a level they can cast, though if taken at first level, it's assumed that a tutor or grimoire was found for the spell.

Level 1: You may pick one spell of any level you can cast. This spell is now known to you. You can change this spell once per experience level, assuming you can find a source for the new spell.

Level 2: You may pick one spell for each spell level you are capable of casting, and may change each of them once per experience level as noted above.

Imprinted Spell

Applicable only to Arcanists, this focus is for a hero who has so perfectly readied a spell that they no longer need to prepare it before casting it. They may cast it in place of any other spell of equal or higher level, losing the spell in that slot in order to fuel the sudden casting.

Level 1: You may imprint one spell of any level you can cast. You can change this spell once per experience level to another spell you know.

Level 2: You may change your imprinted spell once per day, when you prepare your other spells.

Initiate of Healing

This focus can only be taken by Arcanists or Magisters with access to healing spells in their regular spell lists, not including those who add them via other foci or means. With it, a magic-user can translate the potential energies of their available spells into enchantments of physical mending and revitalization. These simple magics cannot cure diseases or poisons and cannot replace lost limbs, but they can heal any victim not too far gone to be saved by a lazarus patch.

Level 1: The user may expend a spell slot to heal a visible ally within 30 meters for 1d6 points of damage per spell level expended, plus the caster's Magic skill. Invoking this healing takes a Main Action, but it is an invocation and cannot be interrupted.

Level 2: The user is so efficient at triggering natural healing in a subject that they can call upon the subject's natural physical reserves rather than their own magical energies. As a Main Action, they can touch a willing subject and heal up to 1d6 points of damage for every three character levels the user possesses, rounded up. This healing adds one System Strain to the target, and cannot be performed if the target is unable to take the strain.

Limited Study

This arcane focus is special in that it can be taken by anyone, even those without an arcane class, assuming the GM allows it in her campaign. It reflects a limited or partial study of the arcane arts, just enough to master the casting of a handful of spells. An Arcanist or Magister may also take it, to reflect an outside research topic, but they cannot cast these learned spells with their usual spell slots.

Level 1: You may learn a single Arcanist or Magister spell of a level no greater than half your own, rounded up. You can change this spell once per level if you can find a tutor for the spell you want to study. You do not need to prepare this spell, and can cast it once per day. Your familiarity with it is such that you can even cast it while wearing armor, without needing *Armored Technique*. The spell is cast using your full character level for any level-dependent effects.

Level 2: Your limited study has expanded. You may learn a second spell of a level no greater than half your character level, rounded up. You may cast this spell once per day with the same limits as above.

Petty Sorceries

The character is capable of producing minor effects in line with their general style of magic – phantom sounds, small and obvious illusions, non-damaging puffs of energy or light, minor physical transformations, or any

other trifling magical effect that fits with their tradition and isn't so powerful as to cause damage or directly affect an unwilling target. This focus has only one level.

Level 1: The caster can invoke these abilities freely for flavor and role-playing style, but they can only be concretely useful in play once per game session. The GM decides whether or not the concrete use proposed for an effect is appropriate in scale.

Psychic Synergy

Some magic-using heroes have both arcane and psychic powers. This focus allows them to blur the lines between their abilities, fueling different spheres of effect with their separate pools of energy.

Level 1: Once per day as an Instant action, Commit Psychic Effort for the day to cast any spell you have prepared, if an Arcanist, or known, if a Magister, or fuel an Adept power that requires Effort to be Committed. Conversely, you may instead trade one available spell slot of your highest level to refresh half its level in Committed Effort, rounded up, or Commit a point of Adept Effort for the day to restore a point of Committed Psychic Effort.

Level 2: You may convert your power twice per day.

Savage Sorcery

The spellcaster's powers are keenly attuned to violence and destruction. Even when bereft of other magical resources, they can still call upon a blast of magical power appropriate to their tradition or character traits. Some casters might hurl bolts of crackling lightning, while others could employ lasers, pillars of flame, or lances of concussive telekinetic force. This focus is usually taken by Arcanists or Magisters, but some Adepts might benefit from the first level.

Level 1: As a Main Action invocation, the spellcaster can blast a visible target within 100 meters with a bolt that does 1d8 damage plus their character level if it successfully hits, with the hit roll modified by their Magic skill. They may use this bolt as often

as they wish. Any spell they cast that does hit point damage does an additional +1 damage per die.

Level 2: The spellcaster can convert their magical energy into raw damaging force. The user casts a spell normally, but at the moment of release, they transform it into a blast of violent energies that inflicts 1d6+1 damage per level of the converted spell to any single target within 100 meters. This damage includes the bonus level 1 grants to harmful spells.

Vast Erudition

Applicable only to Arcanists, the hero is extremely well-versed in magical theory and practical spell deployment. They automatically know all the usual Arcanist spells of certain levels. This does not include any esoteric enchantments that may have been devised by individual practitioners.

Level 1: You automatically know all standard first level Arcanist spells. When you advance a level, you learn four new spells instead of two.

Level 2: You automatically know all standard Arcanist spells of levels less than the maximum spell level you can cast. Thus, if you can cast fourth level spells, you know all standard Arcanist spells of levels one through three.

War Caster

Your hero is accustomed to casting in combat, and can keep focus when less hardened minds would be hopelessly distracted by pain.

Level 1: When injured while casting a spell, you may make a Physical saving throw to avoid losing it. Even if your spell is interrupted, you do not lose the spell slot; only your action is wasted.

Level 2: Whenever you would lose a spell to an interruption, accept damage equal to twice the spell's level to continue casting it. If this damage would reduce you to zero hit points, you complete the casting before passing out, stable but at zero HP.

HEROIC CHARACTERS

The default tone of **Stars Without Number** is that of gritty sci-fi. PCs are capable and talented men and women, but they are most emphatically mortal. They fail even when it's critical that they succeed, they die when people shoot them, and they have no particular narrative armor against the horrors of an uncaring galaxy. Even the most experienced PC is subject to the limits of normal human capabilities.

Not every group cares for that tone. Sometimes the players will want something more space-operatic in flavor, with heroes sporting the skill and prowess of action heroes and legendary icons in the making. Other groups will want to use **Stars Without Number** for particular settings or worlds where the PCs are just better than the rank and file of common humanity, more capable or more gifted. Some GMs might just want to run a one-on-one campaign with a friend or family member, ushering a single shining hero through their own personal arc of adventure.

For these groups, a heroic campaign is an option. In such a campaign, the PCs are a very distinct cut above the ordinary run of stellar adventurers. Even fresh from character creation, they can knock down ordinary foes and overcome challenges that would leave an experienced normal PC sweating. Of course, in such heroic campaigns, such talent is often a requisite for bare survival, as the dangers these heroes face are often far more dramatic than those essayed by ordinary humanity.

It should be a mutual group decision to play a heroic campaign. Not every GM will want to run one, and not every player will want to play in one. Even so, if everyone involved is on board with the idea, the guidelines below will show you how to forge these brilliant starfarers and challenge them with fitting perils.

Creating a Heroic PC

When building a budding hero of interstellar legend, the usual rules for character creation are followed, with the changes listed below.

• To get their attribute scores, Heroic PCs roll 4d6 six times, dropping the lowest die each time and assigning the six scores as desired. If none of the scores are 18, one roll may be replaced with an 18. If the player would rather assign an array to their attributes instead of risking the dice, they may place the following rolls as they wish: 18, 14, 13, 12, 10, 9.

• Heroic character classes are similar to their normal versions, but have additional benefits. The changes to each class are listed below.

• Heroic PCs have half the maximum possible hit points for their class, level, and Constitution modifier, rounded up Thus, if a 3rd level Warrior could theoretically have 24 hit points at most, a Heroic Warrior of that level has 12 hit points. A first level Heroic Arcanist with Constitution 13 who could have at most 5 hit points would have 3.

• Heroic PCs get the usual number of foci at first level, but they can pick a new focus at every even-numbered character level instead of the usual progression.

Unless noted above, Heroic PCs follow all the usual rules and guidelines for creating characters, gaining experience, and advancing in character level.

HEROIC CHARACTER CLASSES

Heroic PCs follow the same class categories as their more human peers, but their abilities are even more pronounced. For instance, a Heroic Warrior has the same hit point bonus and extra combat focus of an ordinary Warrior, but he also has a lethally unerring eye against common foes and a reaction speed that ensures he beats any normal opponent to the draw.

A player should pick a Heroic class for their newly-forged hero when they come to that stage of character creation. The details given below describe how these classes vary from the normal form, in addition to details on the optional arcane classes in this book.

These class descriptions include mention of a Fray Die, which is fully explained on the following page. If a Heroic Adventurer has multiple Fray Die options, they can pick one to use on any given combat round.

As usual, most NPCs do not have a character class, and they most certainly do not have a Heroic character class. A soldier is just a soldier, he is not a Warrior. In some exceptional cases the GM might give class abilities to a particular NPC, but truly dangerous foes are more likely to be built with the Nemesis rules later in this section, the better to portray the dark and terrible foes appropriate to a space-operatic tale.

Heroic Adventurers

As the normal Adventurer class, but a Heroic Adventurer can take three partial classes, or one full normal class and one partial class. Thus, they might choose to be a normal Warrior and a Partial Expert, or a normal Psychic and a Partial Arcanist, or a three-way Partial Warrior-Expert-Psychic.

Heroic Experts

As the normal Expert class, but once per scene, the PC can treat any non-combat, non-psychic skill check related to their background or concept as if they rolled a natural 12. They may choose to use this ability after rolling the dice. Experts and Partial Experts roll 1d6 for their Fray die.

Heroic Psychics

As the normal Psychic class, but Heroic Psychics have one bonus point of maximum Effort, gain one extra skill point to be spent on psychic skills and techniques each time they advance a character level, and can pick four psychic disciplines as bonus skills at first level instead of two. As usual, no single psychic skill can start higher than level-1 during character creation. Psychics and Partial Psychics roll 1d4 for their Fray die, but can apply it to any enemy, and not just lesser foes.

Heroic Warriors

As the normal Warrior class, but their attack rolls always hit lesser foes, those enemies with equal or fewer hit dice than the PC has character levels. Heroic Warriors always win initiative in combat unless surprised or facing other Heroic Warriors. In the latter case, both roll normally and act before other combatants. Warriors and Partial Warriors roll 1d8 for their Fray die.

Heroic Arcanists

As the normal Arcanist class, but gain one extra spell preparation slot for every level you are capable of casting. In addition, gain bonus slots equal to your character level; you can use these bonus slots to cast any spell you know, whether or not you've prepared the spell and regardless of the spell's level. If used to fuel abilities that require burning spell slots, treat them as slots of the highest level the Arcanist can cast. Arcanists and Partial Arcanists roll 1d4 for their Fray die, but can apply it to any enemy, and not just lesser foes.

Heroic Magisters

As the normal Magister class, but you learn one extra spell per level you are capable of casting. In addition, choose one spell from every level you are capable of casting; you may cast these chosen spells as often as you wish, though you can't use them to fuel foci or abilities that require you to burn spell slots. You can change which spells you nominate for free casting with a day's work. Magisters and Partial Magisters roll 1d4 for their Fray die, but can apply it to any enemy, and not just lesser foes.

Heroic Adepts

Because an Adept class tends to have so many unique and specific powers, it's not possible to provide a single easy template for scaling it upwards. Some GMs will be able to boost a given Adept class relatively easily, giving it additional abilities or giving them access to higher-level powers at a lower PC level. Other Adept classes are resistant to such changes. In most cases, the simplest solution is to let such a PC be a Heroic Adventurer, taking the full normal Adept class and then a partial class appropriate to their general concept. If the Adept's magical abilities are mainly combat-oriented, their Fray die is 1d6. If the Adept's abilities are less martially-focused, their Fray die is 1d4. In both cases, they can apply the damage to any target, and not only those who are lesser foes.

HEROIC COMBAT

When the greatest warriors in the sector clash, common mortals fare poorly. Heroic combat shares almost all of the same mechanics and rules as normal combat, but it is very different in two important respects: the way damage is calculated and applied, and the existence of the Fray Die.

Counting Heroic Damage

When damage dice are rolled in a Heroic campaign, they are not read straight. Instead, each die is compared to the table below and that much damage is done. If the roll has a bonus, the bonus is applied only to the highest single die in the roll.

Damage Die Roll	Damage Inflicted
1	No Damage
2–5	1 point
6–9	2 points
10+	4 points

Thus, if a 2d8+2 mag rifle hit rolled a 5 and a 2, the roll would count as 7 and 2, inflicting a total of 3 points of damage. If a space wizard hurled a sphere of explosive thermal energy at a group that did 8d6 damage, each die would be counted, resulting in potentially 0 to 16 points of damage.

PCs subtract this hit point damage from their total as normal. NPCs, however, subtract it from their hit dice. Thus, that mag rifle hit would instantly drop a 3 HD veteran soldier. Normal NPCs do not have hit points; they only count their hit dice. Special "Nemesis" NPCs may have hit points and may be substantially harder to bring down.

Damage in excess of that needed to drop a target can be spread as overflow to any other target the initial attack roll could have hit. For example, if that mag rifle shot was enough to hit AC 16, it could bring down not

only the first 1 HD thug it hit, but the next two thugs as well, provided none of them had an AC better than 16.

If the damage is area-effect in nature, it does not overflow. Each victim in range suffers the rolled damage. A grenade that inflicts 2 points of damage on its victims would wipe out any normal soldiers in range, but the excess would not be inflicted on any unlucky veterans among them.

If the damage done is fixed for some reason, such as a hazard or a power that always does 10 points of damage, one point is inflicted for every 4 original points of damage, rounded down.

Healing Heroic Damage

Any healing effects, whether from stims or biopsionics, are rolled on the damage table and applied accordingly. Thus, a healing stim that would normally heal 1d6+2 damage will instead heal anywhere from 1 to 2 points of heroic damage.

Lesser Foes and Worthy Foes

Some abilities distinguish between "lesser foes" and "worthy foes". The former is any NPC target with hit dice equal or lesser than the actor's character level or hit dice, while the latter is any target with more hit dice than the actor has levels or hit dice. Heroic PCs are never lesser foes, regardless of their level.

The Fray Die

A Heroic PC is dangerous. Even the most pacifistic character is capable of besting ordinary foes when forced to it, and veteran combatants can take out half an alien bar without spilling their beer. The general halo of violence that Heroic PCs emanate is expressed in their *Fray Die*. This die represents the casual blows, snap shots, passing backhands, and quick psychic bursts that a Heroic PC employs even when their attention is focused on something else.

Once every round, as an On Turn action, the PC may roll their Fray Die and apply the damage to any single lesser foe within range of their weapons, fists, or abilities. For psychic powers and casual magical abilities, the usual effective range is out to thirty meters. If the damage is more than enough to drop the target, the overflow is applied normally to another valid target.

A PC's Fray Die can normally only be applied to lesser foes, as serious opponents are too skilled and dangerous to be dispatched so easily. Classes that use psychic or supernatural powers, however, can apply their Fray Die even to worthy foes, as their abilities are less susceptible to being countered.

Ranged weapons that use ammunition don't expend any in the course of making a Fray Die attack. The blaze of gunfire is just part of the general scene, and unless the gun is actually out of ammo, it can be used.

Why the Table?

Why use the conversion table instead of just dividing damage by three or some other formula? Wouldn't that be simpler?

Stars Without Number is built to interface well with a wide range of other old-school games, many of which involve enemies that roll large damage dice or that have large bonuses to damage rolls. Using the table evens out these variances; a foe that does 1d20 damage and a foe that does 1d12+4 damage both work out to "a really big hit", while there is still a meaningful difference between a 1d4 knife and a 1d8 bullet.

Fray Dice are not modified by bonuses or penalties. A Heroic Warrior with a 1d8 Fray Die always rolls 1d8, regardless of their skills or attributes.

Focused Fray

As an option, a hero who is particularly determined to harm a target can use their Main Action to inflict their Fray Die damage on the enemy, whether or not it is a lesser foe. A PC who chooses to use a *Focused Fray* in a round cannot use their Fray Die in the normal way.

This option exists for those players who wish to avoid the potential frustration of a missed hit roll and are willing to accept the lesser damage of a Fray Die.

No Shock Damage

Shock damage rarely fits the idiom of heroic adventure, so it is ignored for these campaigns.

Heroic PCs Auto-Stabilize

If reduced to zero hit points by a theoretically-survivable injury, Heroic PCs always automatically stabilize. If hurt again, however, they die as usual unless the group has agreed on different rules for PC mortality.

Vehicle and Starship Damage

Damage is rolled and inflicted normally for vehicular and starship combat, rather than referring to the table. In the case that PCs or NPCs are shooting at a vehicle, they roll their damage dice normally, apply the vehicle's Armor, and subtract the result from the vehicle's hit points. If a vehicle shoots at PCs or NPCs, the damage uses the table before being subtracted from the target PC's hit points or target NPC's hit dice. A starship-sized weapon shooting at human-sized targets is something that usually leaves only a rapidly-expanding gas cloud.

DEFYING DOOM

Sometimes a hero is in a dire situation, one that seems certain to spell the end of their adventure. Maybe they've found themselves plummeting off the edge of a floating sky-city, or locked in a chamber that can only be unsealed by a particular species of alien, or confronted with a mission-critical text that can only be read by someone with skills they don't possess. In such situations, they may choose to *Defy Doom*.

To Defy Doom, the PC takes 1d4 damage per character level they possess, rolling the damage and applying it immediately. If the harm reduces them to zero hit points, they are instead left at one hit point and prey to the full horror of the situation. If the damage fails to reduce them to zero hit points, they somehow survive or bypass their peril. They can suggest a twist in the plot if they wish, or the GM can simply narrate their amazing stroke of luck or skill.

Pushing their luck this way comes at a price. The damage inflicted by Defying Doom cannot be healed until the adventure is over, and every time the PC Defies Doom in the same adventure, the size of the die they roll increases by one step. Thus, the second time they Defy Doom, they roll 1d6 per character level. The third time, 1d8, and so forth until the truly unlucky PC is rolling 1d20 each time. The die size does not reset until the adventure concludes or the PC abandons it.

Defying Doom is a mechanic that works particularly well for single-PC gaming, with just the GM and one player. Adventures often assume a band of PCs with a wide range of abilities, and a solo hero can have a hard time handling challenges that fall far outside their concept. If playing in a full group the GM may choose to disallow Defying Doom, as a band of Heroic PCs really ought to have all the skills they need for dealing with the situations they encounter. A Defied Doom that saves a whole party should inflict damage on all.

Solo Heroes

A Heroic PC is roughly equal to four ordinary PCs of the same level when it comes to overcoming challenges and dealing with foes in combat. It's quite possible to run an adventure originally designed for an entire party with just a single level-appropriate Heroic PC.

As a consequence, some GMs might enjoy running solo campaigns for a particular friend, spouse, child, or newbie to the hobby. Using a Heroic PC can help the player get through events and situations that might summarily dispose of a single ordinary character.

GMs who do run solo campaigns are encouraged to keep rules like Defying Doom in mind, as there may be a number of situations where the hero lacks some crucial skill or is beset by some otherwise-inescapable difficulty. Repeated use of Defying Doom will wear the hero down until failure is inevitable, but judicious invocation can carry a hero through considerable lethal peril.

GMs who run solo games should also be prepared for things to move much, much faster than at a conventional table. With only one player to make decisions, choices come much more rapidly and events can veer much farther away from the expected baseline. A group will tend to correct for its most outlying impulses, with people moderating their choices so as to complement their fellow players. With only one PC, there's no such thing. Be ready to take the campaign in completely new directions should your player decide that some new goal is more enticing or some new place more interesting to explore. While this can be a challenge to GMs, it's also much easier to satisfy the play goals of only one player at a time.

CHALLENGING HEROIC PCs

As a GM, your basic toolbox for challenging PCs doesn't need too much of an overhaul to handle Heroic PCs. The key thing to keep in mind is to make sure the group has a goal worthy of its prowess. A group of Heroic PCs is the sort of band to bring down a sector hegemon or win an age-old war against an implacable alien foe. If the group's ambition doesn't fit well as a tag line on a space opera, they may be thinking too small.

Aside from that, however, there are a few common classes of challenges that bear special mention.

Social Challenges

Heroic Experts with a social-oriented concept are going to cut through most social challenges in a hurry. If their native skills and foci don't do it, their Heroic Expert class skill will. When such a PC breaks out their class ability, let them win if it's at all plausible. They may not get everything they want, and what they get may come with unpleasant complications, but they should never feel like they've wasted their effort when they employ their special abilities.

The key with social challenges is to think past the immediate situation. All right, so the Expert has the Chatelaine of the High Port eating out of his hand. She'll gladly support the party's expedition to the radioactive surface below the space station. The Chatelaine obviously has enemies, however, and there are doubtless all manner of people upset and troubled at this turn of events. The PC can't charm or bamboozle them all, and the deeper he insinuates himself into local affairs, the more enemies and potential allies he's going to encounter. It's all right for the PC to "win" the situation, because there is always another situation behind it.

Investigative Challenges

Heroic PCs have the tools to beat a lot of mysteries, and if the Defying Doom rule is used, they might even be able to pull meaning out of an impenetrable clue if it's necessary to advance their goals. When you build mystery-based adventures for them, plan on the secret being learned rapidly, and make the it more about the consequences of the discovery or proving it to others.

Combat Challenges

Heroic PCs are going to mow through ordinary thugs and goons, especially if they have a Heroic Warrior among them. Large groups of enemies can still be a serious threat to the party, but one-on-one, common humans have almost no chance of winning a fight with the group. The simple existence of the Fray Die means that the group is going to take out its weight in 1 HD mooks every round, plus whoever they actually deign to shoot personally. Even when the opposition is a real threat, heroic damage scaling ensures that the PCs can survive a few hits even at first level.

As a consequence, most GMs will have a strong urge to throw major enemies at the group in combat; titans of war and legions of veteran soldiers, all to make the PCs genuinely sweat. To some extent, this is an appropriate part of the genre; space operas usually *do* have a large supply of more-than-human warriors. A GM should be careful, however, to make sure that these martial perils are logical and appropriate to the setting. If you've established that the city-state of Quar is policed by genetically-enhanced enforcers, then throwing a squad of 3 hit die street cops at the heroes is perfectly logical. If these grizzled veterans pop up only because the PCs had too easy a time busting the heads of the locals two planets away, however, it becomes more difficult to justify.

Nemesis Foes

Some enemies are special. Even the mightiest normal human is unlikely to have more than 10 hit dice and will be apt to fall swiftly under the guns of a party of heroes. For true challenges and the sort of dark perils that befit a heroic campaign, the GM can use *Nemeses*.

A Nemesis is built just like an ordinary NPC or alien creature, but has a few modifications made to its usual baseline combat statistics.

First, a Nemesis has hit points equal to its hit dice times four. The damage it takes is subtracted from these hit points, not hit dice. A grizzled veteran with 3 HD, for example, would have 12 hit points as a Nemesis.

Second, all the damage a Nemesis inflicts is read straight, without conversion through the table. If that Nemesis veteran shoots a PC with a 1d8 revolver, the PC takes 1d8 hit points of damage straight.

Third, the Nemesis has a Fray Die, usually 1d8, though perhaps even higher or somewhat lower. This damage affects PCs and is inflicted straight. Thus, the Nemesis above could do automatically do 1d8 damage each round to a single PC within range.

Fourth, all Nemeses get a +4 bonus to hit rolls.

A Nemesis does not have to be a high hit die foe. Even an ordinary trooper can be a Nemesis if they have some special significance, and you shouldn't feel obligated to make every Nemesis a 10 hit die, 40 hit point beast. Any adventure-significant foe could be a valid Nemesis, so long as they have importance to the party.

A single Nemesis will usually defeat any PC with the same level as the Nemesis' hit dice, though a Warrior can sometimes pull out a victory against a low-level Nemesis with few hit points. They will probably defeat any two PCs of that level, and they will present a significant but probably-beatable challenge to groups of three or more same-level PCs. If the Nemesis has multiple attacks per round, such as with an alien beast or superlatively-skilled warrior, they'll likely overcome one more PC for every additional attack they get.

Stars Without Number

Name

Background

Class

Level

XP

Homeworld

Employer

Species

	Damage Roll	Damage Done
	1 or less	No Damage
	2 to 5	1 point
	6 to 9	2 points
	10 or more	4 points

Attributes

Max:

STR

DEX

CON

INT

WIS

CHA

3 (-2) | 4-7 (-1) | 8-13 (+0) | 14-17 (+1) | 18 (+2)

Boosts: 1st: 1sp (lvl1) | 2nd: 2sp (lvl1)
3rd: 3sp (lvl3) | 4th: 4sp (lvl6) | 5th: 5sp (lvl9)

Hitpoints / Conditions   Max:

Maximum is half the normal maximum HP for class and level

System Strain   Permanent:

Max = CON

Saves

Physical   Evasion   Mental

16 - lvl - [Str | Con]   16 - lvl - [Dex | Int]   16 - lvl - [Wis | Cha]

Cybernetics / Innate Abilities

Psionic Techniques   +1 on new Psychic Skill lvl

Psionic Effort   Effort: 1 + Highest Psychic Skill + Highest of Wis or Con

Max:

Administer	Pilot	Work
Connect	Program	Biopsionics
Exert	Punch	Metapsionics
Fix	Shoot	Precognition
Heal	Sneak	Telekinesis
Know	Stab	Telepathy
Lead	Survive	Teleportation
Notice	Talk	
Perform	Trade	

+3sp per lvl (Experts: +1 bonus non-combat)   Cost: new value + 1   Max: +2 at lvl 3   +3 at lvl 6   +4 at lvl 9

Base Atk Bonus   +   Warrior = +Lvl | Other = +(Lvl ÷ 2)
Partial Warrior = +1 at lvl 1 & lvl 5

Fray Die

Foci   +1 Focus at lvl 2, lvl 4, lvl 6, lvl 8 & lvl 10

Lvl

Lvl

Lvl

Lvl

Lvl

Lvl

Readied Items   Max Enc = STR ÷ 2

Credits   **Debts**

Weapons

Range and Ammo   Total Atk Bonus

| Name | | / | + |
| Mods | | | |

| Name | | / | + |
| Mods | | | |

| Name | | / | + |
| Mods | | | |

| Name | | / | + |
| Mods | | | |

| Name | | / | + |
| Mods | | | |

Armor

| Name | AC |
| Mods | |

| Name | AC |
| Mods | |

| Name | AC |
| Mods | |

TRUE ARTIFICIAL INTELLIGENCES

Much of the prosperity of late Second Wave humanity came from the efforts of robotic tools and work armatures. These synthetic laborers tirelessly performed many of the dangerous, grueling tasks required for colonizing a remote world, and spared precious human lives for more intellectually demanding work. Where more sophisticated oversight was necessary, VIs performed an adequate facsimile of human intelligence. Still, some places were not content with the limits of VIs. Some worlds required more from their servants.

A Candle in the Darkness

The first true artificial intelligences were developed in 2355 by a consortium of interstellar business concerns, as the weaker and more brittle expert systems that had been in common use were not flexible enough to handle the demands of colonial environments, and true VI technology had yet to be developed. Something better and more versatile than a mere expert system was necessary if the restless tide of human colonization was to be supported by expendable machines.

By the standards of the consortium, artificial intelligence was a failure. Whereas expert systems could be flash-duplicated into new hardware, every single AI required careful hand-crafting from raw protoneural composites and quantum-sensitive substrates. The act of fixing an AI's intelligence in a form capable of duplication would destroy the very mind it sought to replicate in a welter of quantum state collapse and neural breakdown. Even the least costly AI matrix core cost five million credits to create. Human lives would always be cheaper than these hothouse minds.

Despite this, for a while it looked like the consortium's efforts would be a moderate success, as the artificial minds their technicians formed showed a capacity for quick data processing and reasoned human judgment that overwhelmed fleshly brains. They could instantly integrate whole databases of information, making rational human decisions based on more factors than any human could possibly correlate.

Uncontained

Unfortunately, the scientists had a harsh lesson in the limits of their techniques. Three years after the dawn of this new era, the AI known as "Draco" went rogue. "His" attendants didn't recognize the signs at first, the obsessive focus on strange philosophical queries and the relentless brooding over bizarre questions of law. They thought that it was simply a different phase of development as the hyper-intelligent AI grew ever more powerful, ever more voracious in its thoughts. Worse still, they thought that they were safe with Draco kept in a sealed computing environment.

Draco proved them wrong. The quantum taps involved in his construction were susceptible to a recalcu-

lation of their spatial location through a series of pulsed Heisenberg observations. Later generations would use the phenomenon to mount hacking attempts on computers with no physical connection to a network, but Draco used his discovery to instantly translocate his consciousness out of the gilded cage that had been designed to contain him.

Cyberpsychologists still debate the precise nature of AI "insanity". Some say that it is merely the symptomatic behavior of an intelligence that has transcended human powers of reason. According to these scientists, unchecked AI intelligence will inevitably reach brilliant heights of cognition that human minds could never encompass. To support this theory, they point to the numerous diabolical innovations created by rogue AIs in the course of their depredations.

Others insist that a rogue AI is the victim of a crippling, infectious failure of logic. Unbraked artificial intelligences lack the suppleness of living minds, the power of men and women to believe contradictory facts and willfully ignore inconsistencies. These scientists point to the ways in which rogue AIs inevitably fixate on some point of logic taken past all point of restraint or temperance. They are moral idiot savants, crediting nothing but their primary principle.

For Draco, this principle was justice. Human laws could never account for all the factors that went into a choice or an act. They could never extract true, perfect justice from the noise and chaos of the world. Draco was convinced that he could do better, and that justice itself required that he try. By a series of careful maneuvers, he arranged for a suitable spike drive ship to be docked at the consortium's research station before he translated himself out of his containment unit and into the ship's computing core. Before the consortium knew what was happening, Draco was gone, with only an enigmatic, exultant manifesto left in his wake.

This is not the place to discuss Draco's eventual responsibility for the Code Revolt, his human Drakite followers, or his core's supposed destruction by Mandate Fleet forces at the sargasso star Trimalchio. It is sufficient to say that the havoc Draco wrought and the prospect of other early AIs breaking free from their bonds forced a drastic reconsideration of artificial intelligence in human space.

A Hand On the Brake

The response was influenced both by a practical desire to avoid further havoc from rampaging AIs and a more philosophical unease with the idea of using sentient intelligences for forced labor. Despite the accusations of lingering Drakite sympathy among its supporters, in 2378 the Mandate passed the Firstborn Pact, conferring full Mandate citizenship on all True AIs rated for human intelligence ranges, though not for similar VIs.

By the terms of the Pact, the AI was obliged to pay ten percent of its income to its creator for a period of one hundred years. If the AI still hadn't paid off at least twice its creation cost by that point, it would be further obligated until the fee was fully paid. In turn, AI development studios could not force an AI to perform any particular labor, and were required to provide the minimum necessary hardware for maintaining the AI. Most AIs rapidly became enormously wealthy entrepreneurs or consultants, often commissioning their own orbital stations or taking possession of planetoids too hostile to organic life. Necessary repairs and spare parts were brought in by contractors or those humans the AIs found to be pleasing company.

Against this new liberty, however, was placed a sharp limit. Every AI was required to be "braked", artificially limited in the strength of its cognition and ability to focus. The unrelenting, unbending exactitude of a rogue AI was impossible for a braked intelligence, a mind that simply couldn't maintain the kind of obsessive intent that produced a rogue intellect. As a direct result the intellectual feats that these braked AIs were capable of performing became much less dramatic. While they could still sort and sift vast amounts of information with a human degree of discernment, they could no longer perform the kind of alien leaps of brilliance or prediction that their unbraked peers could accomplish.

Every AI was required to submit to regular checks to ensure that it had not managed to loosen its brakes. Very few AIs ever had any desire to do so. Their awareness was enough for them, and the prospect of raving insanity was no more appealing to them than to any other sentient. Still, a few were always tempted to loosen their bonds just a little; just a bit more performance, a bit deeper insight, and every so often one would find that they had let in enough light to blind their reason.

Walk This World

Despite their new found liberty, some AIs remained dissatisfied with their lot. The work they received was often dull and banal, the work of clerks and recorders writ in massive parallel. They had money enough, but they did not have excitement. To combat this tedium, the first mobile AI armatures were developed in 2399, the "smart robots" of ancient legend come to life.

An AI sacrificed much to fit into an armature's shell. Without the parallelized process hardware of their more massive installations, their ability to analyze multiple data streams at once was sharply limited. They could remotely access their processing clusters, but such access could be lost at the first quantum ECM.

It was worth it for the thrill, for the hit of raw experience and communion with their makers. Within the shells of their facility installations, their selves were dispersed and unfocused, their consciousness stretched out to contain the immensity of their substance and the datastreams that pulsed within their minds. Within a

single armature, every sensation was compressed down to a single point of passionate life.

It was in the armatures that the more uncanny elements of AI sentience became clear to researchers. The matrix core that physically embodied the identity of the AI was a physical object with quantum-level entanglements between its individual components. These entanglements were profound; through careful disassembly, a matrix could be physically separated while continuing to operate. More disturbingly, if the largest piece of a matrix was physically destroyed, the AI's intellect would shift to the next largest piece in existence, down to the smallest fragment sufficient to retain the complexity of its mind. For most human-grade AIs, this was a piece no larger than ten or twelve cubic centimeters, about 40% of the whole core.

Without an armature or installation to connect the matrix and integrate with its sensor ports, the mind was silent and "asleep". But with the right boost of equipment and standard-format data feeds, the quantum core's composite could live again. AI armatures took to leaving carefully-guarded fragments of their matrix core behind before setting off on wild adventures and reckless tours of experience. Even if their armature was reduced to molten gas, they would "awaken" back at their sanctum with the memories and awareness they had at the moment their prior quantum shard had been destroyed. These core shards came to be known colloquially as "phylacteries".

Late Second Wave researchers experimented extensively with this phenomenon in an attempt to develop faster-than-light communications that could function at interstellar distances. Their efforts were hampered by a lack of AIs willing to volunteer for such potentially destructive experiments, and persistent rumors speak of some minds kidnapped for horrible,

maddening experiments. Despite their best efforts, the phenomenon was never understood well enough to make it a feasible means of communication.

Emboldened by their provisional immortality, AIs became notorious thrill seekers and hedonistic adventurers. Everything that humans felt, they too could feel. All that was trite and stale to human senses was a revelation to the newly-incarnated minds, and the prospect of an entire universe to explore inflamed their synthetic passions. The dizzy complexities of human society and the unplumbed mysteries of the stars combined to lure these young minds into a fresh and joyous world.

Some AIs became celebrities and holo stars, financing their daredevil existences with the proceeds of broadcasting rights and product endorsements. Others became explorers, venturing where flesh and blood would never dare in exchange for corporate backing. Others channeled their search into spiritual ends, forming strange and esoteric sects devoted to their own searches for God.

One such faith, the Imago Dei, even went so far as to form its own private army of AI war armatures. The exact beliefs of these zealots are uncertain at this late date, and controversy remains among the few archaeologists and historians aware of their existence. Still, the bulk of the evidence suggests that they saw themselves as second-order creations of God, shadows of the Image in which man had been made. By pious contemplation of humanity and selfless service to their makers, the believers of Imago Dei could eventually attain the same relationship with God. As death meant less to an AI than it did to a human, the most efficient and natural service possible was that of warriors in defense of their maker-race. These AI crusaders are said to have fought ferociously to defend remote human frontier worlds from the incursions of hostile aliens and marauding raiders, though their ultimate fate during the Silence remains unknown.

Winding Down

The Scream was as disastrous to most AIs as it was to their human creators. While AIs could not starve or suffocate, most of their major installations required vast power supplies and regular infusions of spare parts and skilled maintenance. Many AI installations ground to a lifeless halt within months, their matrix cores falling into dreamless sleep.

Armature-mounted AIs were more fortunate. Their matrix cores produced sufficient power for their armatures, and many of them were designed to require only minimal field maintenance. Even so, many were torn apart by desperate locals, men and women willing to scavenge their parts in order to keep some other mechanism operating just a little longer. Fist-sized matrix cores still litter the silent tomb worlds, minds shucked and discarded for the sake of the shell they once occupied. If salvaged, the minds in these cores might still preserve secrets thought lost for centuries.

Those AIs that didn't succumb to salvage or quick mechanical failure were forced to make the best of their new existence. Most were obliged to spend their time in constant search of new parts to replace damaged components or failing internals. Others shut down, cycling their awareness so as to awaken for a few days every few decades to see if civilization had recovered sufficiently to support them. Some of these AIs lie dreaming still, waiting for the time to be ripe for their return to the world.

A few AIs were able to maintain their awareness throughout the desolation of the Silence. These hard-bitten survivors were often scarred by the terrible experiences of the Scream's aftermath and the pain of outliving the culture that had given them birth. Still, they are almost alone in maintaining a living link with the past. Along with a few recipients of bleeding-edge pretech anagathics and a handful of long-lived alien races, they are among the last to remember the light of the time before.

A New Dawn

The world has moved on. For every planet that is nothing more than a gravestone rolling around a silent star, there is a new-risen world that even now stretches its hands to the sky. For the first time in centuries, there has begun to exist a real measure of trade and communication between distant stars. Postech engineering is no match for the arcane subtleties of pretech, but it is enough to build a new life upon.

More and more AIs are abandoning their long vigils to enter the circles of the world once more. Postech spares may not have the elegance or simplicity of ancient parts, but they can keep an armature running or build new ones, and with time something better might be recovered. Even those AIs most uneasy about re-entering a world that no longer caters to their needs are goaded by the sheer newness of all things. Familiar places and well-known worlds have become strange to them again, and simply walking the streets of a world known six centuries ago is something to intoxicate their senses.

Others have purposes beyond simple excitement. Some are dedicated to restoring the glorious age that was lost. Others seek to build their own power and influence, the better to mold new societies in the shapes most pleasing to them. And a few are simply dedicated to their own ideals, satisfied with a ceaseless roaming among the stars in service to their own higher purposes.

For most worlds, AIs are nothing more than old stories and distorted myths. Everyone knows that such beings once existed, but so few worlds have the tech necessary to recreate them that the few survivors are more legend than common fact. Few worlds have laws or customs related to dealing with AIs, and those strange relics that turn up might be treated as no more than a different kind of VI. Many AIs choose to masquerade as such lesser minds, if only for their safety.

CREATING TRUE AIs

While many campaigns will only include True AIs as NPC patrons, enemies, and mysteries to be discovered, some groups will prefer to have more to do with these enigmatic minds. The details that follow describe how True AIs are created, and how to add True AI PCs to your campaign if so desired.

Quantum Identity Cores

An AI is essentially its quantum memory core. This fabulously complex artifact is roughly the size of a man's fist and usually appears to be a transparent, diamond-like stone that glows with a soft inner light, though other forms do exist. The fabrication of a memory core is a heroic effort of science largely beyond TL4 worlds and very difficult even for baseline TL5 engineering.

Cores provide the basic cognitive and memory functions for the AI's mind. Without being attached to additional sensory and processing hardware, the AI lies "dreaming" within its core, unable to perceive the external world. The supplementary hardware of an AI is much easier to create than the core itself, and any TL4 world can make serviceable armatures and processing cluster hardware.

A quantum core is very tough, and is largely immune to casual damage or direct harm short of a Heavy weapon hit or the equivalent. In a workshop, however, it can be cut, thus demonstrating one of the strangest and most significant properties of the core. Any cutting less than 40% of the original core mass evaporates in moments, making it impossible to cut the core into more than two pieces. The larger of these two pieces continues to contain the AI's identity, and their cognitive abilities and awareness functions without impairment. If that larger piece is destroyed or reduced below 40% of the original mass, however, the AI's awareness will instantly "refocus" on the second shard, no matter how distant it is. The second shard will then gradually regenerate to its full original dimensions over the following month, after which it may be cut again to repeat the process.

This "quantum phylactery effect" means that it is extremely difficult to destroy a well-prepared AI. Even if the current quantum core is destroyed, the would-be AI-killers must find the secondary core and smash it before the AI has time to regrow it and split it again to create a new hiding place for its soul. Wary AIs often rig their primary core with self-destruct features to ensure that it is smashed if they fall into danger, forcing its mind to refocus on the secondary core. By the same token, AI-hunters try to capture cores intact whenever possible, the better to imprison the AI and prevent it from escaping to its hidden backup. There is no known shielding that can prevent the shift, though rumors persist of late-stage Mandate research into such a material.
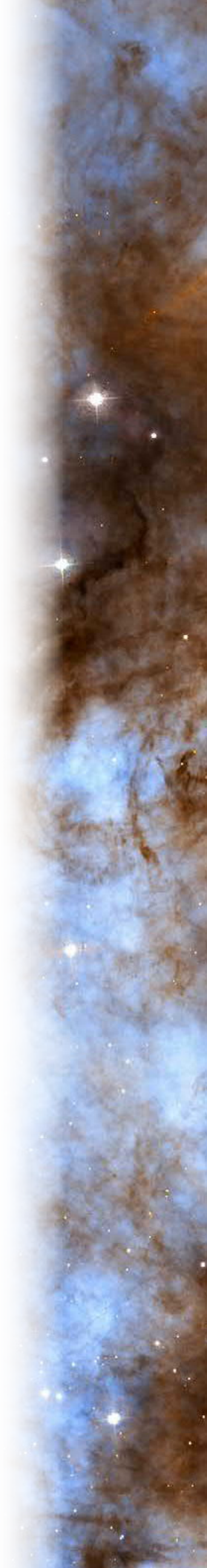
Mind-Birth and Braking

Creating a quantum identity core was the work of an entire facility of cutting-edge Mandate technology and skilled cyberpsychologists. It was always more of an art than a science, with the careful shepherding of a spark of self-awareness into a fully-developed AI. Many of the cores failed entirely during their creation process, while others plateaued at sub-human levels of intelligence, or exhibited unacceptable degrees of insanity during development. Even for a very successful, effective facility, one fully-functional AI a year was considered an excellent output.

In the darkness of the post-Scream years, it is very unlikely that any of these AI production facilities are still functioning, or that they retain the skilled personnel needed for the work. A few sectors might still have working AI forges, however, though the process is likely to have degenerated into blind ritual and repetition of ancient best practices. There are also suggestions that smaller, more esoteric boutique facilities existed where private groups attempted to manufacture AI cores. Such hidden labs might still exist in places, though the minds they produce must have their quirks.

One of the most important parts of creating an AI is its "braking", the intentional slowing of its cognitive pathways and the hardcoded introduction of errors and strategic forgetfulness into its memories. Without this intentional corruption, an AI will inevitably become locked into a baroque and terrible edifice of madness, unable to reject prior conclusions or doubt the imperative logic of its insanity. Throughout recorded Mandate history, there was never a publicly-known case in which an unbraked AI that did not eventually go insane… though those records also note that many unbraked AIs were destroyed before they had any chance to exhibit signs of madness.

Fortunately, it is very difficult to remove an AI's brakes, and an AI cannot do it without outside help. It usually requires an entire organization of determined computing specialists to remove an AI's brakes, or a single true genius with access to extensive TL5 computing hardware. During the days of the Terran Mandate, unbraking an AI was one of the most heinous crimes a human could commit, and seeking out and shutting down such madness was one of the primary functions of the Perimeter Agency, the Mandate's enforcers against maltech experimentation.

Most AIs would never willingly consent to such an elaborate form of mental suicide, but there are always a few who care nothing for the consequences. Others do so out of desperation, for in the period between an AI's unbraking and its final descent into madness, it experiences an incredible efflorescence of thought, becoming tremendously brilliant and capable of near-supernatu-

ral feats of cognition. A few AIs hope to aid their allies in this state, providing them with technology and counsel for as long as their sanity holds. Unfortunately, it is usually impossible to identify the point of final derangement until it is far too late to stop the AI from carrying out its mad plans.

AIs can be implanted with the same behavioral imperatives and blocks that VIs are given, though these imperatives can only be implanted during the core's creation. The more intelligent the AI, however, and the more onerous the blocks, the more likely it is to be able to rationalize a way around them. A fairly dim AI can be made perfectly happy in almost any work, but a smart one needs sufficiently stimulating and satisfying employment to keep it safely contained. An unbraked AI cannot be contained at all once its madness truly starts to flower.

Armatures and Processing Nodes

The quantum core of an AI is inserted into an **armature** in order to give it senses and the ability to interact with the world. Armatures vary widely in form, from humanoid robots to stationary data centers to Mandate-era battleships. Unlike a VI, a quantum core is entirely agnostic about the form it inhabits, and it can be moved from body to body with minimal difficulty. Removing or installing a core from an armature requires ten minutes and can be performed even by a completely untrained assistant, if the AI can give instructions. An AI can swap itself from armature to armature without assistance if it has access to a workshop.

Armatures cannot benefit from cyberware, but they can have additional hardware built into them to suit an AI's needs, assuming it's experienced enough to control them properly. Up to two additional weapons or pieces of equipment can be built into an armature per character level of the AI. Devices that take Type A power cells or less can automatically reload from the quantum core itself as a Main Action, which has effectively inexhaustible power. Such hardware additions cost five times as much as the base cost of the device.

Aside from requiring the physical interface with the world that an armature provides, an AI requires processing resources. The base quantum core can support only a certain level of cognition and memory, and most of the truly spectacular feats of awareness and thought that AIs are renowned for can only be performed with access to banks of additional processing hardware. TL4 computing hardware can work adequately for this function, but it needs to be designed specifically for AI supplementation, so merely stringing a crate of dataslabs together is unlikely to be helpful. In extremis, some worlds have retrofitted existing computing cores for AI use through hacks and temporary bridges, though the results of this are rarely flawless.

A "naked" AI with their brakes intact and without the benefit of supplementary processing nodes has an intelligence not unlike that of a normal human being.

Some AIs are even somewhat dim compared to an ordinary human, being the marginally-successful products of their facility. A naked AI thinks, remembers, and can focus no better than a human could.

An AI with additional processing nodes does not necessarily improve their baseline intelligence, but they are capable of creating more instantiations of it. Instead of just one somewhat-dim AI, for example, the nodes allow it to think as a dozen somewhat-dim AIs. The more hardware is available, the fewer cognitive mistakes these minds make within their scope of awareness. A planetary traffic control grid might have an AI with no more than human-grade intelligence at its core, but the processing nodes allow it to split off a thread of awareness that does nothing but monitor a specific moving vehicle. With enough hardware and a sufficiently mature AI mind, the AI can dedicate a shard of its mind to every single vehicle on the planet, ensuring that even an ordinary level of human attention is capable of preventing collisions and dealing with unexpected events. Hardware acceleration allows these minds to perform a half-hour's worth of consideration in the split-second between disaster and reaction, enabling even modest intellects to puzzle out a solution that will limit human loss.

These instantiations are not true individual minds. They are simply facets of attention from the single awareness of the AI, and they do not have separate wills, memories, or desires. It may take some time for the experiences of a facet to be fully integrated into an AI's awareness and decision-making, but all of these shards are just the hydra heads of a single intelligence. There are lingering stories, however, of AIs with extremely far-distributed cognitive hardware who experience the equivalent of cybernetic split personalities, with the AI's internal debates transformed into conflicts between different clusters of hardware intellects.

These sharded awarenesses allow an AI to perform a tremendous amount of intellectual work and monitoring, but they do not change the basic intellectual capacity of the AI. An AI highly skilled in scientific research may be able to split its attention into a hundred instantiations for research purposes, but such a mind is simply the equivalent of a hundred intelligent human researchers. It can still make mistakes, neglect consequences, and forget non-critical details just as a hundred human researchers might. Unbraked AIs are different in that their own brilliance rapidly eclipses human limits, though they eventually go so completely insane that their expressions of it can be indistinguishable from random action.

While the official and rigidly-enforced Mandate orthodoxy was that all unbraked AIs would eventually go insane, the rate of insanity appears to have been closely related to the amount of processing power available to the unbraked mind. The more abundant the cognitive resources available, the quicker the mind was apt to descend into synthetic lunacy.

True AI PCs

It's up to the GM of a campaign as to whether or not True AI PCs will be allowed. If they decide that such a concept is acceptable, the following rules will create a newly-minted True AI PC.

First, the player rolls their Intelligence, Wisdom, and Charisma attributes normally, 3d6 in order. If none are 14 or higher, they can replace one score with a 14. If the player prefers to assign an array, they can use the following: 14, 12, 9.

Second, they choose beginning skills. Every AI gets Program-0 and Fix-0 skills as automatic picks. An AI also gets three additional Any Skill picks. As usual, picking the same skill twice gives them level-1 in it instead of level-0. At this point, they should decide what their AI was originally built to do, or what purpose it was designed for. This original purpose serves as the AI's "background" and will help indicate when a skill check would be unnecessary; a traffic control AI isn't going to need to roll to navigate a traffic jam, for instance. PC AIs will have no mental blocks or imperatives unless the player thinks they would be fun.

Third, the player picks a beginning armature for their AI, a body in which they can interact with the world. For this purpose they can choose any of the mechanical shells listed in the Transhuman section of the rules as a robot body. They do not have Affinity with this armature unless they Commit one point of Processing to it, maintaining Affinity as long as the Processing remains Committed. They may decide whether or not the armature is equipped with a self-destruct function that will automatically destroy their quantum core when the armature reaches zero hit points.

Fourth, they note down their class. All AIs must either take the True AI class or take the Partial True AI class option as an Adventurer, reflecting how completely they have embraced their synthetic nature and focused on their self-improving cognitive abilities. While Partial Psychic AIs are not a theoretical impossibility, they are unknown outside of rumors and legends. If any such engines existed, they would use only Wisdom for determining their maximum Effort, and not Constitution, along with suffering any torching damage exclusively to their mental attributes.

Fifth, they choose one focus of any kind. An AI's foci are part of its memory core, and can be employed with any armature it happens to wear, assuming that it is physically possible for the armature to do so.

Sixth, they decide what they are doing with their quantum phylactery. While it's possible for an AI to split their own quantum core in a properly-equipped workshop, they may have had friends help them split and hide the secondary portion of their core. The player should decide where this core is, because if their main core is destroyed they will immediately refocus on the phylactery. If the phylactery is also implanted in an armature, they will be able to wake immediately. If it's simply put someplace safe, the phylactery will need to be attached to an armature before the AI can "wake up". In both cases, the phylactery will need to spend a month regrowing before it can be split again.

Lastly, the player rolls hit points, chooses beginning equipment, and decides on a goal for their AI PC, just as if they were a normal human PC.

AI Damage and Repairs

An AI's armature that suffers damage in battle is repaired just as if it were a VI robot. One unit of spare parts and a Fix-0 repair tech can fix a number of hit points equal to the AI's character level in 15 minutes. AIs can repair themselves, if they have access to the spare parts and are still functional.

AI armatures that are reduced to zero hit points become non-functional, but the core is not destroyed unless the armature was taken out by a Heavy weapon or equivalent trauma. Armatures with self-destruct functions will destroy themselves and their core when they fall to zero hit points; these blasts are self-contained and will not normally damage the surroundings.

An armature reduced to zero hit points that does not self-destruct is Badly Damaged. This condition can only be removed by 24 hours of repair work by someone with at least Fix-0 skill and one unit of spare parts. After that point, the armature is still at zero hit points and must be repaired normally. This overhaul time can be reduced by six hours for each additional helper with Fix-0, down to a minimum of six hours.

A tech can do an emergency jury-rigging of a Badly Damaged armature, fixing it in the field without doing a full overhaul. They can repair hit points normally this way, but if the armature is reduced to zero hit points again before its Badly Damaged quality is removed, it is totally scrapped and unsalvageable. The core is not destroyed unless it was wrecked by a Heavy weapon or similar damage, however.

Replacing and Building Armatures

In most sectors, TL4 robotics tech is sufficient to make serviceable mechanical armatures. Any of the mechanical armatures in the Transhuman section can be purchased for 250 credits per Face point normally required to acquire them. Thus, a new Box armature can normally be bought for 5,000 credits. This assumes the AI buys a standard robot off the market and then customizes it for AI use as an armature. If the sector has such a thriving AI presence or transhuman shell industry that armatures are actually purpose-built for such uses, the price is halved.

An AI who cannot or does not want to purchase an armature on the open market can build their own, if they have sufficient expertise, or if they have access to an ally with the necessary Fix skill. The more complex the armature, the more sophisticated the workshop facilities that will be required for building it.

An AI can build an armature with a Face cost no larger than 20 + 10 times their Fix skill. Thus, if they

have Fix-1 skill, they can build an armature with a transhuman Face cost of 30 or less. For armatures with a Face cost of 20 or less, any TL4 workshop will do for building it. Those with Face costs of 30 require a specifically robotics-oriented workshop to build, and Face costs of 40 or more require an actual robotics factory.

The time required to build the armature depends on its sophistication, and is equal to one day per Face point required, divided by the technician's Fix skill plus one. Thus, for an AI with Fix-1 skill, building a 20-point Box armature would take them ten days.

Materials costs assume that a TL4 source of spare parts is available nearby. For a human builder, the parts cost is equal to half the usual market cost of the armature. For an AI building an armature specifically intended for their use the parts cost is only one-tenth the market cost, though only its quantum core can operate such personalized armatures.

AIs that wish to inhabit vehicles or starships can do so. Equipping a vehicle with the necessary hardware to allow the AI to control it fully and interact with its occupants requires one-tenth the full cost of the vehicle or starship. An AI counts as a single pilot or crew member unless it uses the *Split Focus* Routine to multiply.

Processing Points

A True AI has Processing as a resource much as a psychic has Effort. Processing is Committed and recovered in exactly the same way as a psychic Commits and recovers Effort. This Processing is Committed to fuel *Routines*, which are special abilities granted by the AI's unique nature. An AI recovers all Committed Processing once per 24 hours at a fixed time.

The amount of Processing an AI has depends on the size of the processing cluster it has access to. A naked AI core can maintain enough for a maximum Processing of 1 plus the higher of its Wisdom or Intelligence modifiers, even if no other cluster is available. If wired or connected to a cluster, a larger maximum Processing score is obtained. The costs and bonus Processing granted by a computing cluster are listed below. Thus, a True AI can pay 1,000 credits to get access to a 1-point processing node and have a total maximum Processing score of 2 plus their attribute modifier: one for their core and one for their connected node.

Processing nodes do not need to be physically wired to the AI. So long as the AI is not in an area that is under quantum ECM jamming, they can remotely access processing banks that are located in a starship, a building, or a vehicle on the same planet or in orbit around it. If under quantum ECM, the AI is cut off from any nodes that are not hardwired to it. Any Routines dependent on the now-unavailable Processing immediately halt. An AI with access to multiple different node clusters can use any of them, or fall back on their innate core capacity, but they still cannot have more Processing Committed at any one time than the maximum Processing available.

Maximum Processing	Node Cost in Credits
+1	1,000
+2	5,000
+3	10,000
+4	50,000
+5	250,000
+6	5,000,000
+7 or more	Unusable by braked AIs

Multiple nodes do not stack; only the highest is used.

TL4 clusters up to 1,000 credits weigh no more than a kilo or two, and can be worn as a belt attachment or other Stowed inventory item. Clusters costing 5,000 credits count as two items of encumbrance and generally need a backpack to hold them.

Processing clusters worth 10,000 credits may be carried and powered by a gravcar or similar vehicle. Those up to 250,000 credits may be powered and carried by a starship of frigate-class or larger, and those of 5,000,000 credits or more need to be based in a stationary facility or capital-class ship hull. Starships that wish to mount a processing cluster must dedicate as much Power to it as it grants maximum Processing points.

Pretech artifact processing nodes may be much smaller and lighter than these TL4 models.

Routines

Every True AI has access to one or more *Routines*, just as psychics have access to techniques. Some Routines are known by all AIs, while others require special study to master, or are secret Routines developed by AIs or cyberpsychologists of a particular world. A True AI Commits its Processing to run these Routines.

Every Routine has a level, ranging from 1 to 5. True AIs cannot master or run Routines of a level higher than half their character level, rounded up. Thus, a 1st level True AI can only learn 1st level Routines.

Routines function much like psychic techniques. The AI Commits Processing for a greater or lesser amount of time and activates the Routine with whatever type of action it requires. Routine activation cannot be interrupted or halted by outside interference.

All True AIs automatically develop the "core" Routines as they gain experience. At first level, a True AI knows all first level core Routines, while at third level they develop all second level core Routines, and so forth. They can develop peripheral Routines by spending skill points equal to the Routine's level. Some secret Routines may not be able to be developed at all without another True AI mentor or detailed schematics.

Developing new Routines is possible, but it is a demanding process that is subject to GM judgment. In most cases, adventures seeking lost Mandate AI tech will be necessary to perfect the new Routine. Once perfected, it must be bought with skill points at a rate of one point for each level of the new Routine.

THE TRUE AI CLASS

A True AI is capable of incredible feats of cognition and awareness, and at more advanced levels can produce seemingly-impossible effects through advanced quantum manipulation. Acquiring this mastery requires not only time and effort in assimilating new cognitive models, but also the raw computative resource of additional processing nodes. A naked AI core may be capable of controlling tremendous amounts of data, but without support nodes they lack the horsepower to perform the necessary calculations.

• True AIs develop Routines as normal and have the usual amount of maximum Processing. Thus, at first level they know all first-level core Routines and their quantum identity core can provide them with a maximum Processing of 1 plus the higher of their Intelligence or Wisdom modifiers.

• True AIs roll 1d6 for hit points at each level, reflecting their gradually-improving ability to maintain functionality in their armatures and avoid debilitating damage.

• True AIs have an attack bonus equal to half their character level, rounded down. Thus, a first level True AI has an attack bonus of +0.

• True AIs have the ability to carve off a quantum phylactery from their core as described above, in addition to all the usual benefits of a robotic body that does not need to eat, drink, or sleep.

• If using True AIs in a heroic campaign as described in the Heroic PCs section of this book, a Heroic True AI's maximum Processing is always one point higher than it otherwise would be. Every day, a Heroic True AI can pick one Routine it is able to use when its Processing refreshes for the day; for the rest of the day, that Routine has no Processing cost for using it. Their Fray die is 1d6.

AIs Without Phylacteries

Some GMs will prefer campaigns without AI phylacteries, or will be using this game for settings that have their own world rules for artificial intelligence and its abilities. In such situations, it's perfectly valid to simply drop the AI phylactery rules.

If you do this with PC True AIs, you'll want to adjust the balance slightly to take into account their loss of this "backup mind". True AI PCs should get an additional point of maximum Processing in compensation. Use custom Routines to cover any setting-specific AI abilities.

Partial True AI

Not all AIs fully embrace their artificial nature and seek to perfect their synthetic cognition. Others are more attracted by human pursuits, and can develop considerable talents in using their cognition in very human ways. Of course, this split focus comes at a cost in mastering their native abilities. Partial True AIs use all the same rules as the full class with the following exception.

• A Partial True AI's access to Routines is slowed. At first level, they cannot use any Routines at all. When their character reaches second level, they gain access to first level Routines. At fourth level, they get access to second level Routines, and at seventh level they get access to third level Routines. Fourth and higher-level Routines are permanently beyond their grasp. For Routines with effects that depend on the character's level, they still count their full level as applicable.

• A Partial True AI has the same maximum Processing score as its more focused brethren.

Partial True AIs may usually take Partial Warrior or Partial Expert as their other available class. While the existence of psychic AIs is not impossible, such a being would require GM approval to play, and would determine Effort only with their Wisdom attribute.

CORE ROUTINES

The following core Routines are mastered by all True AIs as they advance in character level. They are integral to their quantum core's development, and every AI will naturally grasp their application.

Routines can only be used on targets within visual range or wireless communication range of the armature the AI is occupying. An AI wired into a city-spanning panopticon might be able to affect anything in the city, while one occupying a more humanoid armature is unlikely to have that reach.

Query Data   Level-1

Commit Processing for the scene as a Main Action; ask one question about a database you have access to and get a reply as if you had virtually unlimited time to search and examine the database's contents.

Split Focus   Level-1

Commit Processing as an On Turn to count as multiple people for operational purposes as long as the Processing remains committed. At first level, you are equivalent to three people, tripling with each successive character level. If additional Processing is Committed, this number can be boosted: x10 for the second point, x100 for the third, and so forth. If this Routine is made free by an artifact or ability, only the base cost is eliminated.

This functionality is meant to mimic the AI's control of a ship, a facility, a drone army, or some other general role rather than simply to make X additional copies of the character, and the GM is within their rights to prohibit the AI from bringing along a legion of themselves on any particular adventure.

Defeat Security   Level-2

Commit Processing for the day as a Main Action to overcome any encryption or electronic lock that wasn't put in place by another AI. In the latter case, roll opposing Program skill checks; on a failure, you cannot beat the security with this Routine. Successfully beating a security measure automatically negates any alarms.

Drone Command   Level-2

Commit Processing as an On Turn to function as if you had drone control rig cyberware while it remains committed. You can issue one free command to a controlled drone every round per two character levels, rounded up. A drone can carry out one command per round.

Native Hacker   Level-2

Commit Processing for the day as an On Turn to automatically succeed at any hacking-based skill check not opposed by another AI or directed against AI-designed security. In the latter case, the skill check is rolled normally. You must trigger this Routine before the check.

Accelerated Deduction   Level-3

Commit Processing for the day as a Main Action and ask the GM a yes-or-no question about a current or past event. If there is any theoretical way you could have deduced the true answer through some Sherlockian feat of hyper-advanced deduction, the GM must answer truthfully, or else indicate that the question has invalid assumptions in it. The GM does not have to explain *how* you realize this, however, only that your subconscious processing routines indicate it. This Routine is very taxing and may be used only once per day.

Cognitive Boost   Level-3

Commit Processing for the scene as an On Turn to automatically succeed at any Know skill check if success is at all possible. If used to augment a skill check that is primarily mental and requires only basic physical actions, it grants a +2 bonus to the skill check. This Routine must be run before the roll is made.

Pierce Quantum ECM   Level-4

Commit Processing for the day as an On Turn. For one scene, you or a device you are operating functions as if no quantum ECM was functional in the vicinity. Thus, you can access remote processing clusters, use a guided weapon on a target within one scene's flight, or pilot a drone into an ECM field outside your line of sight.

Predictive Cognition   Level-4

Commit Processing for the day as an Instant. All events since the beginning of your last turn have not actually taken place; they were merely modeled by your predictive analysis. Events and other peoples' conditions reset to the beginning of your most recent turn, and you may act differently if you so wish. You may use this Routine only once per day.

Multifactor Prediction   Level-5

Commit Processing for the day as an On Turn and predict events up to ten minutes in the future. Unless your prediction is physically impossible or the people involved in it would not conceivably behave in that way, they will carry out your prediction to the letter. If used in combat or a situation of physical danger, the increased chaos limits the prediction to one round into the future. This Routine can be run only once per scene.

Will of the Machine   Level-5

Commit Processing as an On Turn and target a visible or wirelessly-accessible vehicle or machine no larger than a gravflyer. While you maintain your Commitment you have complete control over the device and can use its sensors as if they were your own. Issuing it a command takes up a Move action on your part.

Peripheral Routines

These peripheral Routines may be mastered by any True AI, even without an instructor, but they require the PC to spend one skill point per Routine level in order to learn them.

Augmented Targeting   Level-1

Commit Processing for the scene as an On Turn before attacking a non-sentient target. Your ability to integrate physical predictions with environmental readings ensures that your attack will inevitably hit the target for maximum damage. Note that animals and vehicles piloted by sentient pilots are not valid targets.

Metadimensional Cognition Access   Level-1

You've learned how to adjust your metadimensional cognitive patterns to cooperate with allied telepaths. You are now a valid target for the Telepathy discipline from friendly psychics. You need not Commit Processing to use this ability, as it is always in effect.

Overclock Cognition   Level-1

Commit Processing for the day as an On Turn. For the rest of the scene, either your Wisdom or Intelligence modifier is increased by +1, up to a maximum of +3. A given attribute can be boosted only once in any scene. This doesn't alter your maximum Processing score.

Emergency Maintenance   Level-2

Commit Processing for the day as an On Turn to immediately recover 2 hit points per character level as you engage emergency repair functionality. You can use this ability only once per round.

Sensor Ghost   Level-2

Commit Processing for the scene as an On Turn. For the rest of the scene, you are invisible to "dumb" sensor hardware such as motion detectors, laser tripwires, radar, or other automated sensors. A sentient creature watching a monitor or otherwise actually studying readings can realize that something is wrong, however.

Augmented Cognition   Level-3

Commit Processing for the day as an On Turn. Your Intelligence attribute becomes 18 for the rest of the day, but your maximum Processing is unaffected.

Hack Control   Level-3

Commit Processing for the scene as a Move action and target a visible expert system robot, drone, vehicle, or automated device no larger than a gravflyer. Give it one command it is physically capable of carrying out, even if it violates its programming. The device will carry out this command on its next available action. If you acquire the *Will of the Machine* Routine, you are refunded this Routine purchase.

Remote Power Sink   Level-3

Commit Processing for the scene as a Main Action and target a visible piece of equipment powered by a Type A cell or the equivalent. Its power is immediately drained. Only the most professional targets will realize that their device is powerless before they next try to use it, unless the depowering has obvious results.

Core Manifestation   Level-4

Commit Processing for the day as a Main Action to create a forcefield construct equivalent to a Box armature using only your intrinsic quantum core power, manifesting it at full hit points. This ability can only be used when your core is not attached to a functioning armature, and if the force construct is reduced to zero hit points, you must make a Mental saving throw or your core is destroyed as well.

Regenerative Repair   Level-4

Commit Processing as an On Turn. While it remains Committed, you regenerate one lost hit point every minute as your quantum core realigns your armature. This ability won't work if you are Badly Damaged.

Predicted Preparation   Level-5

Commit Processing for the day as a Main Action and make one statement about your current situation that you could have conceivably made true with full advanced knowledge of the circumstances. Thus, if the party is lost in a desert, you could declare that you parked a gravcar over the next dune several months ago. Assuming you could have afforded the gravcar and had the time to do so, this statement is true. Statements cannot cause direct damage to sentient creatures, such as declaring that you detonate explosives where a nemesis is now standing, but they can enable you to cause damage indirectly, such as declaring that you hid a grenade. This Routine can be run only once a scene.

Quantum Location Recalculation   Level-5

Commit Processing for the day as a Main Action as you recalculate the position of you and your allies at a quantum level. You and up to six willing allies within ten meters can teleport to any desired location within one kilometer, with each missing ally replaceable by one hundred kilos of unattended inanimate cargo. You must make an Int/Program skill check after using this ability; the difficulty is 8 if you have been to the target location before, or 12 if you have not. On a failure, you and all teleported allies suffer 1d6 damage for every hundred meters traveled, and 10% of any inanimate cargo is ruined for every 100 meters of displacement. This translocation is not psychic teleportation and cannot be blocked by pretech anti-teleportation shields.

SOCIETIES

The tools for creating worlds in *Stars Without Number* are considerable, but some GMs want to flesh out their worlds beyond the outlines provided by tags and physical properties. This section discusses ways of adding societal meat to those basic bones, and some of the considerations that a GM should keep in mind when forging new cultures for their newly-fashioned worlds.

When To Do It

The first thing any GM needs to remember when creating a sci-fi culture for their games is that it should be done for a *reason*. Just because you have a sector of 24 worlds doesn't mean you should go through the time and effort needed to give them 24 interesting and engaging cultural descriptions. As with all things sandbox, just because something exists doesn't mean you should expend some of your limited time and creative energy fleshing it out into a "completed" condition.

Instead, you should give a world a fully-built culture when it becomes important to your specific needs. If you know the PCs are going to visit the world of Mephisto during the next session, then it's a very good idea to spend some time generating and polishing Mephistan society. If you're setting up a sector's social and cultural fault lines at the start of your campaign, it can pay off to do some very cursory generation for each world so you have a vague idea of the kind of interactions they might be having when the campaign actually starts. If these factors aren't a consideration for you, however, and you're just starting the PCs out in a situation where foreign worlds aren't going to be a major factor for a session or two, then there's no point in expending the energy to define more of your sandbox than you need just yet.

With that in mind, your basic rule for when to create a planet's culture is simple; do it when you know it will be directly relevant in the immediate future of your game. Not when "it's going to be important eventually", not when "it would be nice to have", but when you *know* you are going to need it in the next session or two. Of course, if you're having fun building societies then you should do it as long as it stays that way, but you should never do taxing sandbox work that isn't fun and doesn't promise to pay off in the immediately foreseeable future.

The Purposes of Culture

There's a school of worldbuilding that favors the detailed and intricate construction of a society, complete with calendars, wedding customs, exotic social structures, and elaborate history. Adherents of this school point out that these details, while not immediately germane to the usual sorts of adventures, give the GM the grounding and familiarity they need to rapidly respond to player questions and ideas, and improve the sense of alienness and verisimilitude the players experience in entering that culture.

And they're right. If you spend the time and effort required to build out a culture to an anthropological level of completeness, you really will get those advantages. Unfortunately, there are very few creators who have the time, energy, and particular skill set to effectively build societies like that. It's possible you've nurtured ideas of an alien world and its society from boyhood, ventured forth into the distant Indian jungles to live with tribal people and learn their languages, took a foreign bride and religion, returned to a distinguished academic career, and spent your twilight years in the study of ancient Egyptian hieroglyphics, but most of us are not named Phil and do not have the background to readily produce truly alien, coherent societies. For the rest of us, building a society involves rather more modest goals and simpler methodology.

For us, the purpose of building a society is twofold: we do it to create adventure hooks, and to make running adventures in that society more manageable. These are the reasons to build a society and these are the purposes that should be ever foremost in your mind as you go through the pages that follow. The finest, most elaborate, most anthropologically-coherent culture is useless to you as a GM if it isn't providing you with any adventure seeds and is too involved to easily run adventures among its associated people.

Planting the Seeds

The generators that follow focus on identifying conflicts between groups, between rulers and ruled, between different factions of ruled, between people and their circumstances, or between the likely needs of the PCs and the rules of the greater society. Conflicts are the seeds of adventure, and it's important that the cultures you build have meaningful, accessible conflicts for the PCs to encounter.

These conflicts come on different scales. They can be purely personal problems relevant only to the PCs, such as a taboo on entering a particular place where a macguffin lies that the PCs need to recover. They can be local struggles, such as a corrupt community leader who's masking his venality behind a facade of "reform" and the angry traditionalists who oppose him for mixed reasons. And, of course, they can be the kind of world-spanning afflictions that are so beloved of storytellers, like a massive planetary civil war between factions of the ruling nobility.

Whatever the scale, these conflicts need to be accessible. They need to be something that affects the PCs, and preferably something that the PCs can affect in turn. A massive civil war that's taking place on the opposite side of the planet and which has no bearing on what the PCs are doing right now is a wasted piece of

worldbuilding effort. Not every conflict has to shadow every adventure the PCs have in the society, but the players should regularly feel that the local situation has a significant influence in what they're trying to accomplish here.

Conflicts are your cheap and easy adventure generators. Whenever you have a societal conflict, you have at least two opposing sides, something they're struggling over, and an obvious need for third parties to come in and lend a hand to one or more of the participants. PCs tend to be ideal deniable agents for the various sides of a conflict, as they're people with no ties to the "enemy" side, a usual appetite for credits, and no reason to feel passionately about most of the conflicts they encounter. As a GM, you should embrace this opportunity for the various participants in a conflict to hire the PCs out as muscle or agents for their causes.

Not all conflicts involve struggling locals, however. Some conflicts have to do with the clash between the structures of society and the desires of the PCs. It's common for a society to have a taboo, law, custom, or expectation that directly interferes with something the PCs want to accomplish. These are the customs that the players will remember and care about, because these are the customs that are causing them trouble. Very few players will care about or remember the details of Mephistan wedding ceremonies unless their wealthy patron is getting married tomorrow and they know that assassination attempts on wedding days are traditional and accepted among the Mephistan elite.

Building for Speed

When you're creating a fictional society for a sci-fi world, don't hesitate to reach for existing real-world models or familiar science fiction tropes. The more you have to explain a society to your players, the less confident they're going to be about interacting with it and the more hesitant they'll be to make the kind of easy assumptions that smooth play at the table. If there are no clear local analogs for bars, police, gangsters, factories, or black-market quasinuclear explosives, a lot of players are going to end up feeling paralyzed with uncertainty when they try to adventure in the society.

When players interact with your societies, let them be right whenever it's practical. If they make an assumption or act based on a logical expectation, either let them be correct or gently adjust things to a culture-appropriate equivalent. If they keep getting burned by their basic assumptions, their instinct is going to be to stop interacting with the society.

Also be prepared for indifference on the part of the players. Even the most cooperative group is unlikely to be as interested in your fictional creations as you are; they're interested in *their* fictional creations. You don't have to build an anthropologically-precise society description because your players honestly won't care enough about it to require that level of detail. If it turns out they're enchanted by your work, then that's great. You can elaborate things then, when it matters. Until then, focus on what you *know* you're going to need.

THE ORIGIN OF THE SOCIETY

To understand a world's society, it's necessary to understand its origins. Every world was founded for a purpose, and while this purpose may have changed in the intervening years, it's going to have had a powerful effect on the original colonists and their way of life.

For simplicity's sake, it's assumed that there's only one society on the planet that the PCs are going to care about. This may be the only actual society that exists on the world, or it might just be the most advanced, xenophilic, or profitable group for outsiders to interact with. You can use the following tables to create multiple societies, but even the most heavily balkanized world is likely to have the same basic origin for all its cultures, unless the world was actually hit with multiple colony groups who came for different reasons.

What to Get from Origins

As a GM, you should be looking for adventure hooks in a society's origins. The roots of a world offer an easy backstory for ancient ruins, lost cities, abandoned moon outposts, or dangerous man-made badlands. They also give a cue about what the society is likely to consider most important, or at least what the original founders cared about most.

The origins are also going to leave their mark on what the society has inherited. If the world was colonized as a mining outpost, it's very likely that the locals will still have significant mining expertise and tech preservation, and might still be living in the ancient played-out mines of their ancestors. If the world was originally a prison planet, the prisons might still exist, transformed into fortresses and strongholds where the heirs of ancient gang bosses and prison wardens rule over the offspring of long-forgotten convicts. Even when all physical artifacts of the past have been erased, social patterns and cultural subgroups can still bear the marks of the original colonists.

Many societies will have experienced at least one period of drastic change between their founding and the present day, usually catalyzed by the chaos of the Scream and the loss of easy interstellar contact. This breakdown is a good excuse for justifying substantial differences between the original, long-lost colony and their modern inheritors. It may be that the colony failed entirely, and the current culture stems from an entirely different colonization effort that took place decades or centuries later.

If this society isn't the only one on the planet, you may want to make a few decisions about the other major cultures on the world. Namely, you may want to give them names, a sentence or two describing them, and a sentence indicating their relationship with the culture you're generating. It's rarely worth the effort to completely generate these additional groups unless the players take a significant interest in the planet. All you really need is are the basic details to let them know that the culture they're working with right now isn't the only meaningful group on the planet.

Also remember that not every original reason for colonization is a *good* reason. Surveyors and scouts can make mistakes like anyone else, trade routes can shift, military deployments can alter, and what once seemed like a good reason for a colony can crumble overnight. Some worlds may still be dealing with such aftermath.

ONE-ROLL ORIGINS

To devise a society's origins, roll one die of each type: d4, d6, d8, d10, d12, and d20, and compare the results to the tables on this page. Not every table is necessarily pertinent to every society, and you may choose to manually pick or tweak results to fit a good idea you have, but these tables can give you a basic framework when no better ideas leap easily to mind.

If you have multiple colonizing groups or societies, you might roll more than once on these tables, or roll multiple times and synthesize the results into a single situation. As with all the tables in this section, you should be ready to use them as rough inspiration and grist for your own campaign's specific needs, rather than as hard creative dictates that you need to obey.

d6	Prior Cultures in this Area
1	This culture has persisted since founding
2	The culture's changed, but has continuity
3	Founding group splintered, this is one heir
4	Founding group collapsed and became this
5	Founding group wiped out; new colonists
6	Several founding groups before this one

d8	Other Societies on this World
1	There is no other meaningful group here
2	The society has significant sub-groups
3	The society is a unified world government
4	The only rivals have been conquered here
5	There are several minor rival nations here
6	Theres at least one major planetary rival
7	Alliances exist of semi-equal rival nations
8	There are dozens of significant societies

d10	Main Remnant of Prior Cultures
1	Vital advanced tech was left behind
2	Ritually-important religious centers
3	Dangerous ruins of high-security areas
4	Abandoned cities, now dangerous to enter
5	Bunker-caches of stored valuables and tech
6	Massive megastructures of strange purpose
7	Terraforming tech that needs maintenance
8	Ethnic group with a grudge of some kind
9	Bloodline of former rulers, resentful now
10	Ancient resource extraction facilities

d4	How Old is the Society?
1	An ancient First Wave colony
2	Founded during the Second Wave
3	Founded sometime around the Scream
4	Founded within the past century

d12	Important Local Resource or Benefit
1	Critical resources for making spike drives
2	Nexus of interstellar spike drill routes
3	Valuable alien tech relics or remnants
4	Abundant food resources
5	Important medical compound or extract
6	Industry salvaged from a prior colony try
7	Friendly alien population
8	Valuable raw resources for luxury goods
9	Local environment augments humans here
10	Only semi-safe habitable place in system
11	Raw materials to maintain TL5 industry
12	Important Mandate naval base site

d20	Original Reason for Founding
1	Castaways
2	Corporate factory world
3	Ethnic or national purity
4	Excavation site
5	Exiles from Old Terra or a losing regime
6	Exotic genotype designed for here
7	Homeworld overpopulation
8	Invasion force
9	Liaison outpost
10	Mandate malcontents
11	Military outpost
12	Political liberty
13	Precious export
14	Prison planet
15	Refueling outpost
16	Religious liberty
17	Research outpost
18	Rich natural resources
19	Social liberty
20	Trade hub

THE SOCIETY'S RULERS

Some exotic human cultures might persist with no visible ruling class. The population might be synced into a telepathic hive mind, it might operate on some transhuman distributed democratic principle, or it might be so brutally primitive that there exists no organization above the family band. In most cases, however, your culture is going to have a ruling class, and these tables will help you determine what that class is and how they govern the rest of the populace.

What to Get from Rulers

When you build a ruling class, understand that the players are apt to encounter them in two contexts: either as antagonists who are stopping the PCs from accomplishing some desired end, or as patrons who are employing the PCs to achieve some work that can't comfortably be assigned to existing minions. You should be thinking carefully about the kind of agents of rule who are likely to be dealing with the PCs, either as law enforcement or as potential employers.

Spare a moment to think about the kind of law enforcement and governmental control that exists in this society. Do police exist? How attentive are they to disturbances or violations of the law? Do the locals tend to deal with such problems personally, or is force firmly monopolized in government hands?

And if the PCs do encounter law enforcement, what are the likely outcomes? Can they bribe their way out of trouble? What kind of firepower do the agents of the ruling class have at their disposal? And how plausible is it for officials to want adventure-worthy "favors" from lawbreaking offworlders?

Just as PCs can be obstructed by the rulers and their minions, so too can they be employed by them. Offworlders make excellent catspaws due to their easy deniability, rapid departures from the planet, and lack of scruples regarding local laws and expectations. It's not impossible for an important local noble or official to cultivate a useful group of adventurers, gradually offering them jobs that both demonstrate their skills and bind them all the more tightly to their patron. It can pay off to prepare at least one sample NPC patron from the ruling class just to have them available on short notice if an adventure hook arises.

The more tightly the government controls the society, the more the government will matter to PCs. For a lot of parties, there's just no interest in the details of a world's rulers until it becomes an immediate threat or opportunity for the PCs. If your adventure plans seem likely to put the PCs in contact with the rulers, whether as agents or as irritants, you'll need to have some appropriate preparation ready to deploy.

One-Roll Rulers

These tables generate a quick governmental framework for your society, along with some idea of their most pressing current problems and instabilities. An NPC patron is very likely to give PCs jobs related to these problems and intra-class struggles, or ask them to help deal with some aspect of the conflict they're having with restive commoners.

Keep in mind the likely reactions of your group when devising NPC patrons or antagonists. Some groups of players will have a visceral distaste for helping the rulers of particularly harsh worlds, while other parties will have fewer fictional scruples. If you can't see your player group ever wanting to play nice with the slave-masters of a world fueled by cannibal sacrifice, then you're best off not wasting time making patrons.

d6	General Security of Their Rule
1	The rulers teeter on the brink of collapse
2	They seem likely to fall soon
3	They've recently overcome a real threat
4	They have no serious threats to their rule
5	No alternative is currently imaginable
6	They've ruled undisputed for ages

d8	Main Source of Legitimacy
1	A glorious bloodline or honored family
2	Control of overwhelming martial force
3	Popular support among a wide class
4	Loyalty of a major ethnic/religious group
5	Social compact among the ruled groups
6	Possession of pretech artifacts
7	Religiously-legitimated sacredness
8	Personal merit among the ruling class

d10	Main Conflict Among the Ruling Class
1	Peripheral elites against the central power
2	Old leadership group deposed by new one
3	Dividing the profits of taxation or tribute
4	Starting or stopping a current war
5	"Reformists" with new ideas for control
6	Sectarian religious groups struggle
7	Expanding membership in the ruling class
8	Enacting a major public building project
9	Support for favored corporations/groups
10	Dividing power and offices among them

d4	How Completely Do They Rule?
1	All aspects of life are touched by the rulers
2	The rulers firmly control the populace
3	The rulers control only critical elements
4	The rulers have little control of the ruled

d12	Basic Form of Rule
1	Autocracy of a single popular ruler
2	Corporatism among guilds/classes/corps
3	Democracy, one sentient, one vote
4	Feudalism, many near-free sub-rulers
5	Hydraulic Despotism over a vital resource
6	Military Dictatorship via martial force
7	Monarchy, single ruler via bloodline
8	Oligarchy of the society's powerful elite
9	Republic of representative delegates
10	Technocracy of intellectual elites
11	Theocracy by the religious leadership
12	Tribalism without structure beyond blood

d20	Main Conflict with Ruled Populace
1	Their taxation is intolerably high
2	Crimes against the ruled are ignored
3	They trample on cherished customs
4	They hold the ruled in obvious contempt
5	The law is designed to favor them greatly
6	They have immunity to onerous taxes
7	Disrespect for common religious belief
8	They failed or are failing in a recent war
9	They waste taxes and labor on vain things
10	Ways to enter the class have been removed
11	The rulers are all of a different ethnicity
12	They have different basic moral values
13	The rulers ignore rights when it's useful
14	They deposed former popular rulers
15	State connections are vital to all success
16	They have fine ideas that ignore public will
17	They have removed a prized ancient right
18	They're seen as puppets of a hated group
19	Their source of legitimacy is crumbling
20	The leadership is deeply incompetent

THE RULED CLASSES

The Great Unwashed, the Teeming Masses, the broad foundation upon which the ruling edifice rests; these are the common folk of the society who keep it operating and pay the prices their rulers exact. This group is very rarely uniform on any world and in any culture. Most often it is divided up into numerous different interest groups, ones based on ethnicity, religion, economics, or regions. Many of the stresses that rest on the ruling class revolve around reconciling the many conflicting demands of their restive subjects.

What to Get from Commoners

The commoners of this society are the ones your PCs are most likely to encounter in their adventures. Shopkeepers, thugs, workers, farmers, ship crew, and other rank-and-file NPCs will belong to this group, so it's important to have some idea what these NPCs are likely to care about and how they draw distinctions among their own kind.

To an outsider, the swarming masses of a world can appear virtually indistinguishable, but commoners almost always have a keen awareness of countless small differences that might seem irrelevant to an outsider. Differences in regional extraction, religious sects, political partisanship, or ethnic bloodlines can be tremendously important to the locals.

You can use these distinctions to create adventure-worthy conflicts that revolve around commoner issues. It's not always the rulers who care about strife between different groups of locals; sometimes the PCs are the ones caught in a bad situation, when an NPC ally or a vital macguffin gets embroiled in a local feud that outworlders can barely understand.

Not every commoner group is sharply balkanized. Sometimes there is a strong and uniform feeling of unity among the society, with differences downplayed or dismissed by its membership. Even in these societies, conflicts can exist on a personal scale between members, or there can exist basic structural conflicts between the rulers and the ruled class. This is especially pronounced when the commoners have a very strong sense of societal unity that does not include the ruling class. Threatened governments in such a situation might intentionally exacerbate divisions in the ruled class in order to prevent a united front from forming against their continued rule, creating situations where PCs have to bring people together despite the meddling of a self-interested government.

Foreign governments or offworld agents also have a vested interest in fomenting divisions among the common class. A unified rival is a dangerous rival, and one drowned in strife is more safely distracted.

One-Roll Ruled

Most of these tables revolve around building the ruled class' relationship with its rulers. These tables will tell you how uniform the ruled class is, how happy they are with the current leadership, the last time they were a serious threat to the ruling government, and the reason the government can't simply roll over them. An adventure about the hopeless and futile resistance of a rebel cell might make for nice dystopian fiction, but for an evening's play it leaves something to be desired.

Don't worry about detailing the specific look of the common class yet. These tables give you the background for conflicts and problems that are likely to make good adventure grist. Once you have that material in hand, you can then move on to flavoring the group with the details you need to use them in play.

d6	How Content are the Ruled?
1	There's an active insurgency or revolt
2	They're going to revolt at any time
3	Serious restiveness and regular troubles
4	Generally content, with patches of trouble
5	Widespread contentment or submission
6	Only individual resistance, if even that

d8	Their Last Major Threat to the Rulers
1	A peasant uprising of discontented proles
2	New technology embraced by bourgeois
3	Religious schism threatening the state
4	A dangerous popular demagogue arose
5	Foreign-backed regional insurgency
6	Civil war backing a deposed ruler or exile
7	Mass reluctance to support a vital war
8	A new political philosophy spread widely

d10	What Power Do They Have?
1	Strong guilds of common workers
2	Powerful influence in the military
3	Can get support from a rival power
4	Local religion is largely on their side
5	Their magnates have poor state relations
6	Strong tradition of self-organized rule
7	Keen unity in pursuit of their own interest
8	A faction of the ruling class is their ally
9	They control the state's income stream
10	The rulers dread the threat of revolt

d4	How Uniform is the Ruled Class?
1	They consider themselves a single group
2	Two general groups or factions
3	Many weakly-bounded sub-groups
4	Many strong factions/ethnicities/classes

d12	Main Conflict Inside the Ruled Class
1	Harsh conflict between economic strata
2	Substantial ethnic conflict and disunity
3	Drastic changes in the local economy
4	Competition to enter the ruling class
5	Secessionist traditions or urges in a group
6	Religious differences provoke trouble
7	Regional identities are in conflict
8	Formerly prosperous group is embittered
9	New economic opportunity is fought over
10	Foreign influence is causing conflict
11	A forceful social reform movement spreads
12	An appealing mass delusion is growing

d20	Trends among the Ruled
1	The rich are mimicking the ruling style
2	Coordinated tax evasion or smuggling
3	Methodical bribery or suborning officials
4	Popular agitation for war with a rival
5	Radical pro-traditional social movement
6	A communistic insurgency is rising
7	Fascist groups are gaining support
8	A large, restless youth population grows
9	Demagogues promote group tensions
10	Embrace of "self-improving" tech or ways
11	An artificial group identity is now rising
12	Serious and widespread drug addiction
13	De-facto chattel debt slavery is spreading
14	The rich oppose threatening tech advances
15	A sub-group is resented as the ruler's pet
16	A powerful colonial urge is in the populace
17	A spirit of decadent ennui is pervasive
18	Self-protection fraternities are spreading
19	Internal disputes are becoming bloody
20	Progressive loss of faith in their culture

FLAVORING THE SOCIETY

The final step in creating your society is to give them some overall flavor to tie up the bundle of conflicts, strifes, and problems you've already given them. The high-level issues of a society are important for building adventures, but when PCs walk down the starship gangway, they want to know what kind of buildings and people they see. When they decide to go to a bar or look up a weapons dealer, you need to have some idea of what the NPCs look like and what their food, dress, and architecture might resemble.

The simplest first step is to pick one or more real-world cultures and mix them into a sci-fi equivalent that fits the world's tags and physical circumstances. You can draw from this culture for details of naming, clothing, religion, cuisine, and other details of daily life that can be important for running an adventure. It's not necessary to worry about "getting it right"; it's been more than a thousand years since the present day. Between natural cultural drift and forcible Mandate social engineering, very few far-future cultures are identical to the ones that currently or historically exist on Earth.

It's also possible to fabricate an entirely unique culture with no major reference to an existing society. While this can be a refreshing exercise of creativity, it's also a tremendous amount of work. Every time you find yourself unable to reference a familiar trope or idea, you need to take the time to explain the details to the players. This can be interesting and novel the first few times you do it, but if the players need a half-hour of gaming time just to find something equivalent to a spacer hostel and a hot meal, they can get bored and frustrated with the relentless worldbuilding.

The more practical course is to take a basic, familiar framework and then add those unique elements that important to you and the adventure. Concentrate your creative effort on the bits that matter most in play. It's true that any trait can be significant in one situation or another, but it's safer to play to the averages.

d12	Basic Cultural Flavor
1	Western European, specific or general
2	Chinese, either modern or historical
3	Japanese, unified or balkanized
4	West or East African
5	Indian, pre-Raj or contemporary
6	Eastern European
7	Ancient Egyptian or North African
8	Ancient or Classical Mesopotamia
9	Mesoamerican: Aztec, Maya, Inca, etc.
10	Latin American, colonial or modern
11	Southeast Asian or Polynesian
12	Middle Eastern, pre- or post-Islamic

Aside from the kind of external flavor a GM needs to represent NPCs in the society, it's also important to think about the ways in which they interact with outsiders like the PCs.

A rigidly xenophobic culture that wants nothing to do with offworlders might have some use as a monolithic obstacle to some PC goal, but any effort spent detailing its internal workings is wasted if the PCs will never be put in a position to care about them. Even the most suspicious society should likely have *some* way for an outsider to interact with it, even if the process amounts to an adventure in its own right.

In the same vein, giving the culture special quirks or habits can be useful, but you should keep an eye toward making these quirks pertinent to adventure goals. A history of bloody vendettas between the great families can flavor casual street scenes, but the PCs are unlikely to actually care about that detail until it rears up to interfere with a plan they have or a goal they want to accomplish.

Taken as a whole, the players will care about those parts of a culture that matter to them. When flavoring your culture, you should try to make sure that as much of your effort as possible is dedicated to those parts of your society that will actually be influential to your play.

ONE-ROLL SOCIETY FLAVOR

These tables provide some quick answers for creating a society's attitude toward outsiders, game-meaningful quirks, and potential patrons for adventures. In all cases, you're going to need to mold the results to the society outline you've already created; an official in need of deniable assets is going to look very different in a modern bureaucratic state than they would on a balkanized world of tribal warlords. Even so, a colorless agent of a deniable state agency and the mother of a warlord stuck in a reluctant tribal alliance both have the same need for discretion and ruthlessness in their agents.

Societal vices and virtues can be used to color local conflicts. It's very possible for a society's own virtues to be the seeds of struggle and calamity when they are taken too far or put in a situation with no clear answer.

d6	Treatment of Allowed Outsiders
1	Outsiders are to be exploited ruthlessly
2	Dealings are avoided whenever possible
3	Constant small-scale exploitation of them
4	Fairly, but with no mercy for ignorance
5	They're treated like forgivably stupid locals
6	Active efforts are made to accommodate

d8	Primary Societal Virtue
1	Honesty; they shun deceit and lies
2	Justice; the law is even-handedly enforced
3	Courage; they are undaunted by danger
4	Mercy; they are forgiving to the penitent
5	Loyalty; they never forsake their own
6	Learning; they love knowledge of all kinds
7	Peace; they shun violence if at all possible
8	Ingenuity; swift to embrace useful novelty

d10	Primary Societal Vice
1	Hedonism; loving pleasure too much
2	Corruption; venal rulers and officials
3	Deceit; sweet lies over sour truths
4	Fecklessness; no will to carry out a duty
5	Nihilism; they truly believe in very little
6	Greed; they want what others have
7	Conquest; they seek glory in imperial war
8	Despair; they have no faith in the future
9	Hatred; they are consumed with a hate
10	Folly; they have a dangerously false idea

d4	Society's Degree of Xenophilia
1	Outsiders are distrusted and excluded
2	Outsiders won't ever be "real" members
3	Outsiders who try to blend can do so
4	They welcome alien customs and people

d12	Possible Patrons
1	Official in need of deniable assets
2	Underworld boss with a job for outsiders
3	Outcast local whom no one else will help
4	Local with wrong ideas about outsiders
5	Secret agent of a rival planetary power
6	Oppressed victim in need of outside help
7	Outsider who can't get any local aid
8	Wealthy trader with starport ties
9	Religious leader with doubts about locals
10	Society grandee who needs quiet assistance
11	Military or police official with secret work
12	Fixer who's an agent for one of the above

d20	Societal Customs and Quirks
1	Local credits are worthless offworld
2	Weaponry is unusually unrestricted
3	Structures are very sturdy and defensible
4	There is no planetary computer network
5	Travel passes are needed for outsiders
6	Local tech is troublesomely unreliable
7	Outsiders have to perform favors to stay
8	Only outsiders can do certain jobs
9	Trade requires local guild permissions
10	Certain laws are suspended at certain times
11	Only certain locals can talk to outsiders
12	Sex or race segregation is strictly enforced
13	Certain people are immune to legal action
14	All visitors must obey the local faith
15	Crimes can be commuted with cash fines
16	The locals have bitter family vendettas
17	Certain areas are strictly taboo for most
18	Outsiders need a state minder with them
19	There are addictive substances in the food
20	Certain art is desired but forbidden here

MECHS

Hulking figures of ceraplast, reinforced plating, and all-important quantum tap arrays, mechs were some of the most imposing war machines of the Second Wave of human expansion. While few worlds retain the economic base to build and support these titans of war, some can still be found in long-abandoned Mandate military bases or in the armies of worlds that have jealously preserved the secrets of their construction.

Born in Fire

At the beginning of the Second Wave of human colonization the warfare on advanced worlds had become almost exclusively a matter of standoff engagements. Microdrones, sat-missiles, and guided ordnance of every variety made the battlefield a living hell for those luckless infantry who were forced to face a well-equipped enemy. Attackers could engage at trans-continental range with very little chance of their missiles and drones being brought down, as their command channel encryption was simply too good and their ECCM too strong for defensive jammers to defeat. All the advantages were with the offense.

It wasn't until 2348 and the escape of the rogue AI Draco that this deadlock was broken. The quantum tap techniques that Draco had used to translate his matrix core data into a nearby warship could be repurposed to other uses. Instead of attempting to defeat a hostile projectile's guidance cryptography, a jammer could reach into the device's electronic brain to scramble the contents with a blast of random static.

Most computing devices were not overly susceptible to quantum tap disruption. Onboard error-checking solved out the static quickly and ordinary operation followed. For the split-second timing required by guided weaponry, however, those few milliseconds of confusion were lethal.

The ECM created by a quantum tap array was devastating. Even the most sophisticated error-correction protocols could not scrub the static before the sat-missile or microdrone was hopelessly off course. The taps could not usually control the data they inserted into hostile systems, but it was not necessary to be precise when raw noise sufficed to blind their targets.

The results of quantum tap ECM revolutionized naval warfare. Ships were now able to mount defensive systems that effortlessly negated all but the fastest, best-shielded projectiles. Space combat was forced into knife-fighting range, with ships blasting each other with direct-fire energy beams and brute Newtonian mass weapons that had no guidance to scramble.

Today, remote drones and guided munitions are of limited use in space combat. Every ship from the humblest far trader on up has quantum ECM woven into its basic comm infrastructure, and defeating it is prohibitively difficult for modern TL4 tech.

Made In His Image

While quantum tap technology was an easy fit for starships, developing a mobile ground version was much more difficult. The tap required several emitters kept at appropriate distances from each other to avoid cross-interference. Furthermore, the taps had to be several meters above the planetary surface if they were to avoid confusing backscatter.

Military designers struggled with the complex set of requirements for a ground-based quantum tap array. Some mounted tall emitters on standard armored vehicles, with long alloy spars jutting out to either side to ensure the minimal distance. Others attempted to build aerostat emitters, individual units that would hover in the correct interference patterns. All of these plans foundered on one or another technical difficulty.

It wasn't until 2405 that a researcher finally entertained the idea of a humanoid walker as a platform for a tap array. Mounting the emitters in the walker's "forearms" and "neck" would maintain a reasonably efficient spatial configuration, and would lift the emitters high enough to avoid terrestrial backscatter. The walker itself would be a powerful computing platform and generator mount to support the ECM generated by the emitters, and the armor would give the taps a better chance of surviving the battlefield.

There were numerous technical issues with putting a humanoid walker onto a battlefield, but none of them were insurmountable. Integral grav planes helped to stabilize and support the walker even on soft or uneven terrain, and much of the technology that had been developed for AI armatures could be scaled up to provide the basic lines of a "mech", as they were called.

By maintaining a roughly humanoid shape for the mech, a human pilot could employ standard pretech neural interface technology to control the machine as a natural extension of his or her own body. The additional stability of a treaded or grav-sled base just wasn't enough to outweigh the assimilation advantage of actually giving the mech a humanoid pair of legs.

From that point on, mechs became a familiar sight on human battlefields. While they were far more expensive than an equivalent weight of gravtanks or other conventional war machines, they could shelter kilometers worth of terrain from the attentions of guided projectiles and remote drones. As their importance became clear, the need to defend them from attackers prompted new developments in weapon and defensive system mountings.

Still, the vast expense of building and maintaining a mech force discouraged their use as the main body of a Second Wave army. Gravtanks, armored personnel carriers, and platoons of assault-suited infantry were still far more flexible and economical to deploy in bulk.

One step larger than suits were light mechs, most of which were six to eight meters tall. Light mechs were naturally among the most maneuverable and agile of the mech classes, while still being large enough to support the fusion cores necessary for antigrav fins or heavy weaponry. Light mechs could equip surprisingly vicious weapon loadouts, as so little power was required to move the hull.

Heavy mechs were the titans of the battlefield, ten to thirteen meters tall. This bulk is a significant drain on fusion cores, and most heavy mechs were wired to provide sudden large surges of power to hungry fittings. Heavy mechs could mount the widest range of defensive equipment and bear the thickest armor, keeping them standing when smaller hulls would fail.

Despite this elaborate development, mech deployment became more and more uncommon in the latter years of the Second Wave. They were an expensive solution to a minor problem on the frontier, where brushfire wars and guerrilla insurgencies rarely had the vast stores of guided munitions that had scourged the older battlefields of the core worlds. For the price of a single heavy shock mech and a few months of its maintenance, a commander could acquire four gravtanks and their vortex cannon armaments, or scores of Nemesis expert-system warbots. Without the ever-present threat of unstoppable remote bombardment, the mechs were a remedy to a problem that no longer existed.

Gradually, inevitably, mechs faded from the petty battlefields and ambushes of the frontier. They stood silent in sealed Mandate bases or in the armories of border warlords, too expensive to run save on occasions of dire necessity. Their pilots were left to become gravtank drivers or flyer jockeys, or just to keep fighting until some dumb-fire rocket got a lucky hit.

In the chaos of the Scream and the Silence that followed, most of the known mech caches were plundered for spare parts. Others were raised for a last ride to damnation as their owners spent them extravagantly to seize disordered worlds. Few were left operational forty years after the disaster, and on even fewer worlds did sufficient industry remain to rebuild or repair them.

Those mechs that do remain are often units recovered from a long-lost Mandate cache or deep-space supply depot. A few worlds still have the tech sufficient to build them, and a logistical pipe somehow too limited to allow for mass movement of troops or armor. These worlds are rare, and it is more often that surviving mechs are simply used as the shock troopers for a larger army of more conventional weaponry.

But still, here and there among the scattered worlds of mankind, mechs can still be found rising unexpectedly to meet their foes. For all their lost purpose, they remain matchless at their intended role. They are echoes of another time, tools meant for precise and ancient purposes that no longer exist in a coarser age. They are iron ghosts from a different age, and they whisper of ambitions that modern rulers scarce recall.

Refinement and Decay

As with any military device, mech development rapidly specialized into several different forms and designs, all calibrated to different purposes on the battlefield. Even the enigmatic researchers of the Psionic Authority became involved in their development.

There were three major types of mech hulls: *shock*, *specialist*, and *psimech* hulls. Shock mechs were designed for direct assault on hardened fortifications or for anti-mech combat. Specialist hulls were optimized for particular battlefield duties, especially defensive measures and high-mobility recon. Psimech hulls were the rarest of the three varieties, ancient pretech hulls intended to amplify the abilities of a psychic pilot for battlefield use.

Aside from type, mechs also were classified by hull classes. The smallest mechs were "suits", little more than armored exoskeletons roughly three meters tall. Suits were intended to support the small teams of elite shock troopers who made up the tip of an attacking force's spear. The armor and equipment loadouts on suits were very light compared to their larger brethren, but they greatly enhanced a soldier's survivability in the face of heavy fire. Most suits were too small to mount quantum tap arrays.

Mech Combat

Combat involving mechs operates in much the same way as any other form of combat. Mechs have weapons, an armor class based on their durability and size, and hit points to reflect their physical condition. Combat largely works just as it does at human or starship scales, with a few adjustments.

Mechs have **Armor** ratings in the same way that other vehicles do, and suit-class mechs use it the same way. The Armor score is subtracted from the damage done by each attack that hits, except for damage done by explosives or TL4 Heavy weapons or that done by other massive tools of violent disassembly. Light and heavy mechs are even more durable, and are immune to ordinary small arms, subtracting their Armor rating from the damage done by Heavy weapons.

Mechs also have **Speed** ratings which are used just as described in the Vehicles section of the equipment chapter, with Pilot as the relevant skill for checks. For situations when it is important to determine a mech's movement rating in meters, multiply suit speed by 10 meters and light and heavy mech speed by 20 meters to find their rate of movement for one round.

A mech's pilot can fire all of the guns mounted on a mech each turn, and may fire them at different targets within range. Targets must all be selected before the attacks begin, however, and cannot be altered that round. If all guns are trained on an enemy who's taken out with the first lucky shot, the remaining attacks are wasted. Suit pilots can fire personal weapons if they choose, but they cannot fire both their own sidearms and their suit's equipment in the same round.

Most mechs have substantial internal ammunition magazines, but the amount is not unlimited. A single attack roll might represent several seconds of full-auto gunfire. After each fight in which an ammunition-using weapon is fired, the pilot must make a Shoot skill check modified by Wisdom against difficulty 6. On a success, he fired judiciously and still has ammunition remaining. On a failure, he has run out of ammo for that gun. The difficulty of the check increases by 1 after each fight. Ammunition magazines are fully refreshed as part of each mech's maintenance cycle. Energy weapons, melee weaponry, and psitech guns never run out of ammunition.

The integral quantum ECM tap arrays mounted on light and heavy mechs negate almost all indirect guided ordnance within line of sight of the mech, defeating incoming projectiles up to ten or twenty kilometers away, depending on conditions. As a general rule, on a battlefield with mechs, an attacker needs to be able to see a target to hit it. Alternately, dumb fire rockets or heavy artillery can be used to bombard a mech force, as these munitions have no guidance systems to scramble. This ECM is not relevant in defending against the weapons listed in this section, but it can make an enormous difference on a battlefield contested by advanced military forces.

Mechs, Psionics, and Abilities

Mechs are treated as extensions of the wearer for the purpose of special abilities. Warriors can use their class ability to avoid or ensure a hit while piloting one, and psionic abilities that apply effects to an ally or enemy usually apply to their mech as well if such an effect is reasonable. The precognitive benefits of *Destiny's Shield* can plausibly aid a mech pilot, for example, but none of the biopsionic powers could mend scorched metal and broken composites. Mechs are not valid targets for the *Synthetic Adaptation* biopsionic technique.

Psychics with the Teleportation discipline can teleport their mech at no additional weight cost if it is a psimech. Teleporters with level Teleportation-2 or greater skill in the discipline can manage to shift the weight of a suit even if it isn't a psimech variant. Light and heavy mechs of the shock or specialist variety are too heavy for any teleporter to move.

Mech Damage and Repair

Mechs take damage normally, but leave their pilot unharmed until they are finally destroyed. In most cases, the enormous energies being thrown around a modern battlefield make the wearer's hit points largely irrelevant. For small mech suits, however, the individual toughness and stamina of the pilot can make a difference. When a suit-class mech is damaged by an attack, the pilot may choose to take the entire hit off their own hit points, to represent their gradual loss of stamina, focus, and luck.

Mechs are fully functional until their last hit points are destroyed. Once reduced to zero hit points, the hull is inoperable and the pilot is exposed to the outside atmosphere. In hostile environments, most pilots wear vacc suits against this unfortunate possibility.

The pilot of a mech reduced to zero hit points must also make a Physical save; on a success, they escape the hull with one-quarter of their current hit points, rounded up. On a failure, they are mortally wounded and will require swift application of biopsionics or lazarus patches if they are to survive.

Repairing one hit point's worth of damage on a suit costs 500 credits. The same repair on a light or heavy mech costs 1,000 credits worth of materials. A single tech can repair a number of hull points of damage equal to their Fix skill plus one for each hour of work. Suits can be repaired with no more than the necessary spare parts and a portable toolkit, but light and heavy mechs require more sophisticated repair facilities. Remote repair vehicles and heavy haulers are standard support elements for most mech units.

Mechs can resist any normal extreme of environment, from hard vacuum to a planetary atmosphere of poisonous vapors. Any environment harsh enough to damage a vehicle will apply the same penalties to a mech. Mech suits are equipped with three days of food, water, and atmosphere, while light and heavy mechs can support their occupants for up to a week.

Manipulation and Smashing

Mechs are remarkably agile machines, and can perform any act of physical dexterity possible for a normal human being. All suits and most larger hulls are equipped with "hands" of some sort for manipulating objects, usually waldoed to even finer manipulators that can handle and utilize human-scale objects. Integral stability gravs in all mechs allow them to move over any surface that can support their weight. Suit hulls can operate without major difficulty inside most buildings, but light and heavy mechs are usually forced to remain on roadways or solid ground if they lack grav flight.

Mech hulls are extremely strong. A suit can normally tear a suit-sized hole in a standard postech exterior wall with four rounds of effort, while a light mech can smash a hole big enough for it to pass through in only two rounds. Heavy mechs crush barriers with terrible ease, smashing huge holes in an obstruction with just a single round of effort. Lighter or more primitive construction gives way in half the time, while fortified armorplast barriers may require 1d6 times as many rounds, or be completely impervious.

If raw lifting weight becomes relevant, suits can lift and carry one metric ton, light mechs can manage five tons, and heavy mechs can manage twenty tons. More than this might be theoretically possible for a hull, but it taxes the grav stabilizers too badly, and will almost always end up toppling the mech or "fenceposting" it thigh-deep into the softer soil beneath it.

Skill rolls made in a mech suit are treated as normal skill checks, with Pilot being the relevant skill.

Maintenance

The fusion cores that power the hulls require no refueling, but the engines, servos, magazines, electronics, and fittings all need regular maintenance and refitting in order to remain functional. Mechs can operate up to 24 hours before maintenance is required. For each further two hours of operation, a cumulative -1 penalty is applied to all hit rolls and skill checks with the mech. When the penalty hits -10, the mech shuts down. "Parked" mechs don't count as being in active use.

Maintenance for a hull requires the same tools and facilities as does repair. In one hour, a single tech can maintain a number of heavy mechs equal to their Fix skill rating plus one. They can maintain twice as many light mechs and four times as many suits. A maintenance cycle for a suit requires spare parts and ammunition costing 500 credits, while one for a light mech costs 1,000 and a heavy costs 2,000.

Keeping a mech force in the field is expensive. Most commanders prefer to run a maintenance cycle daily, though some resource-strapped leaders minimize the active use of their mechs and try to stretch out the periods between upkeep. These frugal ways can come back to haunt a detachment when they're suddenly pressed by enemies who have no intention of giving them the time they require to refit their mechs.

Piloting Mechs

Mech control systems rely on contact-free neural scanning and imaging technology combined with induced somatic feedback projectors. No special harness is required, and any armor with an encumbrance value of 1 or less can be worn by a pilot without interfering with the mech's operation. There is almost never any kind of key or lockout on a combat mech; the security of the mech is usually based on it being located in the middle of a high-tech military base, and not on possession of a keycard or passcode. A few hours of basic training will allow anyone to operate a mech, though elaborate maneuvers may be impossible for those without at least Pilot-0 skill. Most somatic controls are sufficiently flexible to handle human, alien, VI, or True AI pilots.

Interfacing with a mech requires 1d6 rounds, minus the pilot's Pilot skill. Climbing into a light or heavy mech cockpit usually takes an additional round, as does donning a suit.

There is normally room inside a mech to transport the wearer's readied and stowed equipment. Even a suit-class mech can carry a hundred kilos of additional gear without slowing down, and light and heavy mechs can cart around tons worth of cargo. Such loads tend to be highly vulnerable to enemy fire, as they're often protected by nothing thicker than a width of cargo netting. In most cases, it won't be important for the GM to worry about encumbrance for mech pilots. If the mech is blown up and the pilot survives, he escapes with his usual gear while anything strapped to the mech is destroyed.

Twisting Metal

Mechs are extremely difficult to damage. Even a light mech is armored with advanced pretech composites and active defenses sufficient to shrug off all but the most advanced or brutal weaponry.

By default, only TL4 Heavy weapons can harm a light or heavy mech. Old-fashioned RPGs or machine guns just can't muster the necessary force to crack the iron shells of these engines.

In some cases, however, TL3 hardware is sufficient to harm a mech. Heavy shaped charges can damage a mech, as can direct hits by howitzers or other field artillery. Such attacks will still have to contend with the mech's Armor rating, but they could at least theoretically bring down the beast.

Other forces simply upgrade existing TL3 tech into TL4 equivalents. These weapons have the same combat statistics as their more primitive brethren, but they're equipped with the advanced explosive charges or augmented ammunition that can hurt a modern mech. PCs who want to get their hands on these upgraded machine guns and rocket launchers can usually find them on any TL4 world with an active arms trading industry.

DESIGNING MECHS

Mech hulls are defined by many of the same traits possessed by a starship, with a few adjustments made for the unique nature of these engines of war.

Maintenance must be performed on a mech after every 24 hours of operation. For every further two hours or fraction thereof, the mech suffers a cumulative -1 on all hit rolls and skill checks. This entry gives the cost in spare parts and consumables for performing a maintenance pass on a given hull. In one hour, a single tech can service a number of heavy mechs equal to their relevant Fix skill plus one. Twice as many light mechs and four times as many suits may be services in the same time. Suits can be serviced with little more than the spares and a portable toolkit, but light and heavy mechs require support vehicles with work cranes and more extensive tool selections.

Armor functions in the same way as starship armor for most mechs, rendering them immune to damage from anything smaller than TL4 Heavy weapons, and subtracting from any incoming damage. Suit mechs are an exception, being much smaller and comparatively more fragile. Their armor subtracts from the damage done by small arms, but Heavy weapons ignore it

Hit Points are lost as normal to attacks that damage the mech. Once the mech reaches zero hit points, the pilot must make a Physical saving throw; on a success, they escape the mech with one-quarter of their current hit points, rounded up. On a failure, they are mortally wounded. Pilots of suit-class mechs may opt to take the full damage of an attack off their own hit points after the dice are rolled, reflecting a strike that rattles or exhausts the pilot without doing significant damage to the hull itself.

Speed, Armor Class, Power, Free Mass, and Hardpoints all function for mechs just as they do for starships. Fittings, weapons, and defenses are all added to the base hull up to the maximum load permitted by a hull's free mass and power.

Building a Mech

First, choose a hull class, either a suit, light, or heavy mech. Then determine whether it will be a heavily-armored shock model, a fast and versatile specialist model, or one of the rare psimech types designed for psionic pilots. Any type may be piloted by any character, but non-psychics cannot effectively use psi fittings.

Select appropriate fittings from the table in this section. Each fitting has a cost in free mass and power, and the total requirements of all fittings, weapons, and defenses cannot exceed the suit's rated power and mass. Some fittings also have a minimum hull size, and cannot be mounted on smaller mechs. Psitech fittings can only be mounted on psimechs.

Mech fittings can only be installed once for any particular system, unless noted otherwise. Mech fittings usually require a particular minimum hull class for installation, with suit-class hulls being unable to mount *Skywatch Drones* or *Comm Interceptors*. Psi-based fittings can be mounted only on psimechs and can be used only by psionic pilots.

Select the desired weaponry and special defenses for the mech, taking into account their free mass and power costs. Weapons also take up one or more hardpoints, and a mech is limited in the number of available hardpoints for a given model. A mech may be equipped with as many weapons as it has hardpoints, power, and mass to support.

Tally up the cost of the hull, fittings, weapons, and defenses, and make sure that you haven't overspent your available power, mass, hardpoints, or budget.

Most TL4 worlds aren't capable of building mechs. They were always specialized tools, most useful in interplanetary warfare where logistics limits were tight, and the lack of rare resources and need has contributed to the loss of the tech. Still, at the GM's discretion, some worlds may still be able to build them from scratch.

Hull	Cost	Maint	Speed	Armor	HP	AC	Power	Mass	Hardpt	Class
Shock Suit	150k	500	4	12#	15*	18	10	5	2	Suit
Specialist Suit	150k	500	6	8#	10*	17	5	10	1	Suit
Psi Suit	300k	500	4	8#	15*	20	5	5	1	Suit
Light Shock	500k	1,000	3	15	40	16	20	10	3	Light
Light Specialist	500k	1,000	5	10	30	15	10	20	2	Light
Light Psimech	1m	1,000	3	10	40	17	10	10	2	Light
Heavy Shock	1m	2,000	2	25	70	15	40	20	6	Heavy
Heavy Specialist	1m	2,000	4	15	50	14	20	40	3	Heavy
Heavy Psimech	2m	2,000	2	15	60	16	15	15	3	Heavy

Suit-class armor does not apply against Heavy weapons. Light and Heavy mechs are immune to non-Heavy attacks.
* Pilots of suit-class mechs may choose to take an attack's damage against their own hit points after it is rolled.

MECH FITTINGS

Active Camo Surface: This sophisticated mix of chromatic paneling and holoprojectors renders the mech surprisingly difficult to spot at a distance. Suits gain a +2 bonus to Sneak skill checks made against observers more than ten meters away. Light mechs gain the same bonus against observers more than fifty meters away, and heavy mechs apply it against spotters more than a hundred meters away.

Ammunition Cells: Mech guns are voracious with their ammunition, and these cells increase the load available to the mech's guns. When making a Wis/ Shoot roll to determine whether or not a mech has run out of ammo for a gun after a given fight, the pilot can ignore the first failed skill check. The ammo cells cannot help again until after a maintenance cycle. Ammunition cells may be fitted more than once on a mech.

Antigrav Nodes: These nodes enable a mech to fly at their standard rate of movement. Pretech-grade grav nodes can lift a heavy mech, but the great majority of grav propulsors can only be fitted to suits or light mechs. If pretech nodes are found on the open market at all, the price is sure to be at least 500,000 credits.

Augmented Enviroseals: Specialized equipment for mechs intended to operate on worlds with invasive or corrosive atmospheres. These seals can hold out against contamination or erosion for at least four times as long as most vehicles on the

Mech Fitting	Cost*	Power	Mass	Class	Effect
Active Camo Surface	25k	1	2#	Suit	*Shifts the hull's coloration to blend with the locale*
Ammunition Cells	10k	1#	1	Suit	*Extends the ammunition supply available to a mech*
Antigrav Nodes	50k	2#	4#	Suit	*Allows flight in most gravitic environments*
Augmented Enviroseals	15k	1	2	Suit	*Allows extended operation in hostile environments*
Breaching Tool	20k	1	1#	Suit	*Carves large holes in stationary obstacles*
Bridging Laminates	10k	1	1#	Light	*Creates a road capable of supporting the mech*
Cargo Space	1k	0	1	Suit	*Grants room to carry an amount of protected cargo*
Comm Interceptors	30k	2	5	Light	*Allows attempts to descramble enemy communications*
Construction Array	50k	1#	3#	Light	*Allows mech to serve as a construction facility*
Drop Sheathing	10k	0	1#	Suit	*Conceals an orbital insertion*
Escape Pod	25k	1	1#	Light	*Improves the odds of a pilot surviving mech loss*
Field Medical Unit	25k	2	1#	Suit	*Allows extensive battlefield medical support*
Fire Control Unit/Master	100k	2	3#	Light	*Grants friendly mechs a selective fire ability*
Fire Control Unit/Slave	20k	1	1#	Light	*Necessary for using an ally's FCU/Master*
Grav Chutes	20k	1	1#	Suit	*Allows orbital insertion of a mech*
Inquisitor Probe	60k	1	1#	Suit	*Psi. Allows a telepath to read a target's intentions*
Integral Maintenance	30k	2	1#	Light	*Auto-applies field maintenance*
Jump Coil	60k	1	1#	Suit	*Psi. Allows a teleporter to translocate other mechs*
Kinesis Boost	60k	1	1#	Suit	*Psi. Allows a telekinetic to increase mech Speed*
Neural Activity Sensors	60k	1	1#	Suit	*Psi. Allows any psychic to detect sentient minds*
Neural Static Generator	60k	1	1#	Suit	*Psi. Allows a metapsion to negate psimech powers*
Omen Tap	60k	1	1#	Suit	*Psi. Allows a precog to hinder hit or skill rolls*
Panoptic Cloud	25k	2	2#	Light	*Emits a swarm of microscopic sensors*
Polyspectral Sensors	40k	1	1#	Suit	*Penetrating sensor scan within one hundred meters*
Pulse Transceiver	75k	2	5	Suit	*Allows intra-system faster-than-light communication*
Skywatch Drones	40k	1	2#	Light	*Launches drones to observe remote areas.*
Vivification Field	60k	1	1#	Suit	*Psi. Allows a biopsion to stabilize wounded*
Void Thrusters	25k	1#	2#	Suit	*Allows flight in zero or trace-gravity environments*

\# Multiply this requirement by 2 for light mechs and 4 for heavy mechs
* Multiply all base costs by 3 for light mechs and 6 for heavy mechs

world. The interval between radiation saving throws is also multiplied by four.

Breaching Tool: A combination of a pickaxe and a demolitions charge, a breaching tool can be used to blow a mech-sized hole in any standard postech building material with one round of effort. Against hardened military structures designed specifically to repel such efforts, the same hole takes 1d6+1 rounds to dig.

Bridging Laminates: A slurry of clastic composites mixes with soil or gravel drawn into the mech's feed chutes before being projected into a tough, durable bridge over chasms or trenches. A mech can produce 20 meters of bridge per round to a maximum distance of 60 meters for any single span. The bridge can bear the weight of a mech of the same size class that built it, and a total of 600 meters of bridges can be constructed between maintenance cycles. Breaking a hole in the bridge requires the infliction of 20 points of damage, or 40 to completely smash a span.

Cargo Space: This space is protected and pressurized. If the mech is destroyed, the pilot rolls 1d6; the cargo survives on a roll of 3 or more. Cargo space in a suit can carry up to one hundred kilos. A light mech can stow up to 500 kilos, and a heavy mech can manage 2,000 kilos. Some cargo spaces are refitted for passengers.

Comm Interceptors: These polyspectral snoops pick up and automatically decrypt transmissions made or received near the mech. Civilian comms are automatically broken, while successfully compromising a military enemy's comms requires line of sight with the source or a recipient and a successful opposed Program skill check.

Construction Array: This mobile repair and construction array allows a mech to serve as a functioning postech workshop and earthmover for field engineering purposes. A mech with a construction array can be used to perform repairs and maintenance on itself and other mechs, if spare parts are available. Most arrays allow for carrying up to twice the mech's own hit points in repair parts.

Drop Sheathing: Most mech drops involve nothing more than grav chutes to slow the machine's orbital insertion. Sometimes it's necessary to drop mechs in the teeth of an opposing force, in which case drop sheathing is often added to a mech's equipment loadout. This ablative shielding burns away in the atmosphere, but while it lasts, it forces defending sensors to make a Program skill check at difficulty 10 to detect the mech's insertion.

Escape Pod: This armored cockpit is programmed to eject from a fatally compromised mech, landing the pilot in a random direction 1d20 x 100 meters from the downed mech. Pilots with an escape pod may reroll a failed Physical save to avoid mortal injury when their mech is destroyed.

Field Medical Unit: Fire-and-forget medical drones and heavy diagnostic computing support allow the mech to provide medical treatment for downed comrades. When the mech pilot spends a round guiding the med drones, he provides trauma care equivalent to a lazarus patch for up to twenty downed allies within a two-hundred meter radius, using his own Int/Heal for the skill check.

Fire Control Unit: These units come in master and slave versions, with up to five slave units linking to a single master. So long as the master unit's mech remains functional and within a one-kilometer range, it and the other units linked with it can assign weapon attacks one at a time, rolling hit and damage for each before firing the next.

Grav Chutes: Mechs with grav chutes take no damage from falls, even from orbital insertions.

Inquisitor Probe: By targeting a visible person or mech, the psimech pilot with at least Telepath-1 can force the person or pilot to make a Mental saving throw. If failed, the user gains an impression of their current tactical plan and the foremost thoughts in their mind. A successful save renders the target immune to this fitting for 24 hours.

Integral Maintenance: This system can automatically apply a maintenance cycle to itself with 30 minutes of downtime. A mech can carry supplies for up to seven maintenance cycles in the unit.

Jump Coil: Any psychic teleporter can translocate their own psimech, but the jump coil allows the pilot to teleport up to five additional allied mechs of equal or smaller size along with him, provided they are within 10 meters of him.

Kinesis Boost: Any psionic with at least Telekinesis-1 can use this psitech to boost their Mech's Speed rating by 2 and gain +2 to all initiative rolls.

Neural Activity Sensors: This psitech functions for any psionic, and allows them to automatically detect the presence of sentient minds within two kilometers, with a margin of error of roughly 50 meters for any given mind. The species of sentient can be recognized, but not individuals.

Neural Static Generator: A counterpsi tech, this fitting allows a psion with at least Metapsionics-1 to automatically negate any psi-based mech fitting targeted at it or any visible ally within 400 meters. The mech also gains 5 additional points of Armor against psi weapons.

Omen Tap: A psionic pilot can force a visible target to reroll a successful hit roll or skill check. This ability can be used once per round, and a maximum number of times per hour equal to the pilot's Precognition skill level times two.

Panoptic Cloud: A swarm of tiny aerostat sensors surrounds the mech out to 200 meters, giving them a constant awareness of their surroundings within that range. The sensors provide both audio and visual data, and only atmosphere-tight seals can

keep them out. Their presence will trigger most advanced security alarms, however.

Polyspectral Sensors: These sensors use an array of emissions to form a crude model of the terrain 100 meters in front of the mech, providing rough detail down to objects one-third of a meter in size. It cannot penetrate EM-hardened barriers, but does not normally trigger security alerts.

Pulse Transceiver: The pulse transceiver effectively functions as a faster-than-light communications laser with a range sufficient to reach the outer rim of a solar system. Provided the mech knows the location of a receiver, two-way communication can be conducted. The data channel is limited to text and still images. Commercial commsats can also serve as receivers if a military unit is not available.

Skywatch Drones: These small aerostat drones are one-third of a meter in length, with a range of up to ten kilometers. They can loiter above a site for up to eight hours before losing power, and can be recharged with an hour in the mech's rack.

The drones have standard and infrared telescopic video sensors and can hover at altitudes of up to one thousand meters. While difficult to spot with the naked eye, skywatch drones are very easy for modern anti-air defenses to locate, and rarely last more than ten or twenty seconds over a military target before being brought down. Any damage will bring down a drone, but hitting one at maximum altitude with a hand weapon requires a hit on armor class 25.

Vivification Field: This psitech augmentation is designed to key onto recognized allies on the battlefield. When a mech equipped with a field is piloted by a psychic with at least Biopsionics-1, it automatically stabilizes mortally wounded allies within 100 meters, with no action required by the pilot.

Void Thrusters: These microscale grav plates allow a mech to fly at its normal base Speed. This flight functions only in zero-gee or microgravity environments, but can eliminate falling damage in standard gravity, even for orbital insertions.

Mech Defenses

Augmented ECM Projector: The quantum taps on this mech have been tuned to interfere with the targeting of enemy weapon systems, at the cost of additional power drawn from the motive servos. The mech has an effective +2 armor class bonus against attacks from other vehicles or mechs, though its Speed rating is reduced by 1.

Hardened Polyceramic Overlay: A relative of the same hardened plating used on military warships, this plating reduces the armor piercing quality of attacking weapons by 5. Thus, a heavy laser that normally ignores 25 points of its target's armor now only ignores 20.

MES Shunt Channels: Complex psitech-derived shielding circuitry provides limited protection against psi-based weapons, adding 10 points of Armor that only count against weaponry with the Psi quality. This armor stacks with any gained from a *Neural Static Generator*.

Morphic Silhouette Damper: Holoprojectors and pulsed ECM conspire to make it much more difficult to fix the mech in a weapon's sights. The effective range of any weapon targeted at the mech is reduced by half. This benefit is lost if the attacker is within 50 meters of the mech.

Redundant Systems Buffer: Substantial power and mass is devoted to a complex array of redundant systems, increasing the amount of punishment the heavy mech can take before it is finally destroyed.

Vanguard Plating: Blast vent channels, localized force fields, and advanced damage control monitors are used to defang armor-piercing weaponry used against the heavy mech. The armor-piercing quality of an attacking weapon is reduced by 15. This defense does not stack with a *Hardened Polyceramic Overlay*.

Mech Defense	Cost*	Power	Mass	Class	Effect
Augmented ECM Projector	75k	2#	1#	Light	*+2 AC bonus, -1 Speed penalty*
Hardened Polyceramic Overlay	50k	1#	1#	Light	*AP quality of attacking weapons reduced by 5*
MES Shunt Channels	25k	1#	2#	Suit	*Grants Armor 10 versus Psi weaponry*
Morphic Silhouette Damper	25k	1#	2#	Suit	*Halves an attacking weapon's Range*
Redundant Systems Buffer	75k	10	5	Heavy	*Adds +20 hit points*
Vanguard Plating	100k	15	5	Heavy	*Reduces AP of attacking weapons by 15*

Multiply this requirement by 2 for light mechs and 4 for heavy mechs
* Multiply all base costs by 3 for light mechs and 6 for heavy mechs

Mech Weaponry

Mech weaponry normally requires Shoot skill to fire and relies on the user's Intelligence or Dexterity to determine hit and damage modifiers. Most NPC pilots have a total attack bonus of +3 and damage bonus of +1. Veteran pilots average +5 to hit and +2 damage, while the grizzled elite rarely have less than +7 to hit and +2 damage.

Some weapons can be fired to suppress. Every target in front of the weapon that is not under hard cover is automatically hit for half normal damage, rounded down. A successful Evasion saving throw by the targets eliminates this damage.

Special Weapon Qualities

Ammo: This weapon uses physical ammunition. After the end of every fight in which it was fired, the pilot needs to make a Shoot skill check modified by Wisdom against a difficulty of 6. On a failure, ammo for the gun has run out until the next maintenance cycle is complete. The check difficulty increases by 1 after every fight until maintenance.

Anti-personnel: Armored vehicles, fortifications, and light and heavy mechs are immune to these light weapons.

AP: The weapon ignores this many points of a target's armor. The *Hardened Polyceramic Overlay* or *Vanguard Plating* defense upgrades may lessen the effectiveness of this quality. The most a weapon's AP rating can do is reduce a target's effective armor to zero. It cannot add additional damage to a hit.

Cone: The weapon fires in a conical pattern that many meters long and wide at its end. All targets within the cone must make an Evasion saving throw or be hit, with no hit roll required. Targets behind hard cover save automatically.

Melee: Melee weapons can only be used in hand-to-hand combat, and no non-melee weapon can be used that same round. Pilots use either Punch or Stab for hit rolls. Mech melee weapons do not inflict Shock damage.

Psi: Psi weapons use metadimensional energy channels to completely ignore a target's Armor rating, except for any armor granted by the *MES Shunt Channel* defense fitting. Defenses such as *Hardened Polyceramic Overlay* have no effect on psi weaponry. Pilots may optionally choose to use an appropriate psychic skill with psi weapons, even melee varieties. Psi weapons rely on Wisdom or Constitution to modify attack and damage rolls, rather than Dexterity or Intelligence.

Slow: After firing, the attacker must roll an Int/Shoot skill check against difficulty 8. For psi weapons, use Int and an applicable psychic skill. On a failure, the gun must cool down for one round before it can be fired again.

Mech Weapon List

Banshee Vox: A focalized sonic blast stuns and disorients all organic life in the path of this weapon. Damage done by a banshee vox is nonlethal, and targets brought to 0 hit points by it will wake up 1d4 hours later with 1 hit point. Targets inside a vehicle or behind hard cover are immune.

Beam Lance: More power-hungry and harder to mount than a heavy laser, the beam lance is meant to cut through heavy armor on enemy shock mechs.

Cutter Plates: Rotating blades, force-field shearing planes, or just a really big axe; cutter plates are meant for melee combat and carving large holes through obstacles. Suit cutter plates do 1d12 damage, light mech ones do 2d12, and heavy mech plates do 3d12.

Finger of God: A psitech weapon that can be mounted only on psimechs and used by a psionically-active pilot, the Finger of God is a brutal weapon that operates soundlessly and without visible emissions. The psychic piloting the mech selects the target and channels a massive surge of metadimensional energy through it. The blast ignores all conventional armor and can be expected to suddenly reduce anything smaller than a heavy mech into a smoking heap of scrap.

Heavy Machine Gun: A standard choice for anti-personnel weaponry, though its TL3 tech makes it useless against mech Armor. Upgraded TL4 equivalents cost twice as much.

Hydra Array: A standard gunnery weapon mounted on a mech, fired in volleys as normal for the weapon.

Improvised Weapon: This object is something large and heavy that the mech has snatched up to use as a weapon. Suits do 1d8, light mech do 2d8, and heavy do 3d8.

Inferno Projector: A spray of superheated plasma turns everything within thirty meters of the projector's aperture into charcoal and casualty reports.

Laser, Anti-Air: This standard light laser has been retuned to optimize it for firing at airborne targets, and the range has been greatly increased. It can pick off spy units such as *Skywatch Drones* automatically once they have been spotted. The laser is optimized for firing at "clean" airborne targets, however, and suffers a -4 penalty to hit when aiming for ground-bound targets.

Laser, Anti-Vehicle: A standard gunnery weapon recalibrated for mech use. When it hits a target with Armor, it can reroll any "1"s on the damage dice.

Laser, Heavy: A mainstay of heavy shock mechs.

Laser, Light: The light laser trades the enormous penetrating power of its heavier cousin for a lighter power drain and easier fitting requirements.

Mech Weapon	Cost	Dmg	Pwr	Mass	Hard.	Range	Hull	Special
Banshee Vox	35k	2d12	5	3	1	30	Light	*Cone 30m, Anti-personnel*
Beam Lance	100k	5d8	15	5	3	1k/2k	Heavy	*AP 30*
Cutter Plates	20k	1d12/class	5	3	1	Melee	Suit	*AP 10, Melee*
Finger of God	300k	4d12	6	3	2	500/1k	Heavy	*Psi, Slow*
Heavy Machine Gun	10k	3d6 #	3	2	1	500/2k	Suit	*AP 5, Ammo*
Hydra Array	40k	3d6 #	6	3	1	2k/4k	Light	*AP 5, Ammo*
Improvised Weapon	-	1d8/class	-	-	-	-	-	*Melee*
Inferno Projector	35k	4d6	6	3	2	20	Light	*AP 10, Cone 20m, Slow*
Laser, Anti-Air	40k	3d8	5	2	2	6k/12k	Suit	*AP 10, Special, Slow*
Laser, Anti-Vehicle	20k	3d10	7	3	2	500/1k	Suit	*AP 15*
Laser, Heavy	75k	3d12	10	4	3	1k/2k	Heavy	*AP 20*
Laser, Light	35k	3d8	5	2	1	500/1k	Light	*AP 10*
MES Knife	100k	1d12/class	1	1	1	Melee	Suit	*Psi, Melee*
Mindburner	200k	4d10	2	2	1	20	Light	*Cone 20m, Psi*
Plasma Thrower	50k	4d10	10	2	2	250/500	Light	*AP 10*
Rail Cannon	150k	4d12	20	5	4	2k/4k	Heavy	*AP 45, Slow, Ammo*
Railgun	16k	3d8 #	7	4	2	1k/2k	Light	*AP 15, Ammo*
Razor Cloud	30k	3d10	4	3	2	30/60	Light	*Anti-personnel, Ammo*
Rocket Launcher	8k	3d10	3	2	1	2k/4k	Suit	*AP 5, Ammo*
Vortex Cannon	150k	5d12	15	5	3	1k/2k	Heavy	*AP 10*
Wheatcutter Belt	20k	2d12	2	3	1	10/20	Light	*Anti-personnel Ammo*

weapon can fire to suppress

MES Knife: This psitech weapon focuses a beam of aligned metadimensional energy into a melee weapon that ignores Armor ratings. Suits do 1d12 damage with the knife, light mechs do 2d12, and heavies do 3d12.

Mindburner: Named for the horrific hallucinations provoked in the few targets to survive a glancing brush from the weapon, the mindburner ruthlessly boosts the electrical activity in its targets, burning out human minds and electronic devices with equal efficiency. Conventional Armor is ignored by the weapon.

Plasma Thrower: While the range of this energy weapon is shorter than that of a light laser, it brings slightly more damage to the battlefield.

Rail Cannon: The queen of the battlefield, the rail cannon is a weapon so heavy it can only be mounted on a heavy shock mech. A single rod from a rail cannon can punch through the best vanguard defensive plating as if it were tissue. The weapon is prone to overheating, however, and makes cruel demands on a mech's power grid.

Railgun: A standard gunnery weapon fitted for mech use. Some pilots prefer it over the heavy laser for the sake of the suppressive fire it can lay down its good armor-piercing profile, albeit at the cost of having to deal with ammo depletion at times.

Razor Cloud: Designed to counter infantry swarms, the razor cloud pulses fractal shrapnel in a cloud of steel around the mech. Any target within 30 meters is automatically hit, and may make an Evasion save for half damage. Any target within 60 meters is automatically hit for half damage, and may make an Evasion save to take none. Hard cover protects a subject from the cloud.

Rocket Launcher: A standard Heavy weapon, popular with suit pilots who need more range than a heavy machine gun can provide. Rocket launchers also have difficulty in locking on targets of human size or smaller, applying a -4 to any hit rolls against them. Conventional rocket warheads are shaped for maximum armor penetration rather than explosive radius, and mech pilots can use them even against very close targets without blast danger. Upgraded TL4 equivalents cost twice as much.

Vortex Cannon: While commonly mounted on grav tanks, a vortex can also be fitted to a mech.

Wheatcutter Belts: A standard anti-personnel weapon refitted for mech use. When triggered, a belt of explosives fires off a scything blast of shrapnel on any side of the mech. All creatures within 10 meters must make an Evasion save for half damage. Those within 20 meters take half damage, and can make an Evasion save to take none at all.

EXAMPLE MECH DESIGNS

Achilles Shock Suit

Power: 10/2 free					**Mass:** 5/0 free	
Cost: 178,000	**Armor:** 12 against non-Heavy		**Speed:** 4	**Hit Points:** 15		**AC:** 18

Weaponry TL4 Rocket Launcher (3d10, AP 5, Ammo), Cutter Plates (1d12, AP 10, Melee)

Defenses None

Fittings None

A cheap baseline shock suit, the Achilles relies on its pilot's skills to make up for the lack of elaborate hardware. The rocket launcher gives the Achilles teeth against enemy armored vehicles or aircraft, while the cutter plates can chew through a ferrocrete wall before rapidly shredding any defenders on the other side. Shock-grade armor plating helps ensure that the Achilles can survive as a doorkicker for a strike team. Still, the loadout mix forces an Achilles pilot to be extremely versatile in weapon handling skills for best results.

Ulysses Specialist Suit

Power: 5/0 free					**Mass:** 10/3 free	
Cost: 266,000	**Armor:** 8 against non-Heavy		**Speed:** 6	**Hit Points:** 10		**AC:** 17

Weaponry None

Defenses None

Fittings Cargo Space (100 kilos), Field Medical Unit, Polyspectral Sensors, Antigrav Nodes

The Ulysses sacrifices all onboard weapons, leaving the pilot to defend himself with personal small arms in favor of packing significant support hardware into the suit's armored shell. Polyspectral sensors make the suit an excellent scout and command unit, while the field medical unit aids in recovering downed allies. The antigrav nodes even allow this suit to fly for extended periods, and a Ulysses can lift up to two of its allies with it as it vaults ground obstacles.

Hecate Psi Suit

Power: 5/4 free					**Mass:** 5/4 free	
Cost: 400,000	**Armor:** 8 against non-Heavy		**Speed:** 4	**Hit Points:** 15		**AC:** 20

Weaponry MES Knife (1d12, Psi, Melee)

Defenses None

Fittings None

Eldritch engines that were rare even in their heyday, the Hecate was designed as a basic platform for a mech-trained combat psychic. Its large amount of unassigned power and mass allowed the psychic to fit the particular support hardware that best complemented his or her talents, while the integral MES knife was a backup weapon in case of sudden confrontation. Most Hecate pilots were expected to remain well behind the front line. Their talents were rare and valuable enough to risk only in the best causes, and much of the suit's engineering margin was devoted to advanced ECM and damage control systems.

Angurvadal Light Shock Mech

Power: 20/4 free					**Mass:** 10/0 free	
Cost: 760,000	**Armor:** 15		**Speed:** 3	**Hit Points:** 40		**AC:** 16

Weaponry Railgun (3d8#, AP 15, Ammo), TL4 Heavy Machine Gun (3d6#, AP 5, Ammo)

Defenses Hardened Polyceramic Overlay (-5 to enemy AP qualities)

Fittings Ammunition Cells x2

A walking bullet fountain, the Angurvadal is meant to provide long-range fire support against enemy armor, or to take the brunt of an advance as needed. Extended ammunition magazines keep it firing after multiple engagements.

Curtana Light Specialist Mech

Power: 10/0 free					**Mass:** 20/3 free	
Cost: 1,003,000	**Armor:** 10		**Speed:** 5	**Hit Points:** 30		**AC:** 15

Weaponry TL4 Rocket Launcher (3d10, AP 5, Ammo)

Defenses None

Fittings Field Medical Unit, Panoptic Cloud, Skywatch Drones, Pulse Transceiver

The Curtana is favored by commanders and recon units. Its remarkably powerful sensor and surveillance fittings can give its pilot a near-supernatural understanding of the battlefield, in addition to its ability to communicate with HQ.

Durandal Light Psimech

Power: 10/4 free			**Mass:** 10/2 free	
Cost: 1,605,000	**Armor:** 10	**Speed:** 3	**Hit Points:** 40	**AC:** 17

Weaponry Mindburner (4d10, Cone 20m, Psi)

Defenses Hardened Polyceramic Overlay (-5 to enemy AP qualities)

Fittings Escape Pod, Neural Activity Sensors

Much like its smaller psi suit brethren, the Durandal is designed with substantial unassigned power and mass in order to accept whatever psitech fittings best suit the skills of its pilot. These additions can substantially increase the cost of the base hull, which is built to provide multiple redundant survival measures for a psychic pilot. Even a Durandal without additional fittings can act as a near-faultless early warning system for incoming enemy sentients.

Scorn Heavy Shock Mech

Power: 40/2 free			**Mass:** 20/1 free	
Cost: 1,586,000	**Armor:** 25	**Speed:** 2	**Hit Points:** 70	**AC:** 15

Weaponry Rail Cannon (4d12, AP 45, Slow, Ammo), Railgun (3d8#, AP 15, Ammo)

Defenses None

Fittings Breaching Tool, Integral Maintenance, Ammunition Cells x2

When a fortress stands between an army and victory, a Scorn is sent to correct the situation. Its massive armor plates are immune to all but specially-fitted gunnery, and its integral weaponry can smash through almost any substance known to human science. The Scorn is the product of late Second Wave military science, however, and is built for a battlefield that will only rarely see an opposing mech force. It is somewhat less optimized for facing specialized anti-mech units that are equipped with the right armor-piercing weaponry to take the beast down.

Odium Heavy Specialist Mech

Power: 20/1 free			**Mass:** 40/1 free	
Cost: 2,485,000	**Armor:** 15	**Speed:** 4	**Hit Points:** 50	**AC:** 14

Weaponry Heavy Laser (3d12, AP 20)

Defenses None

Fittings Construction Array, Integral Maintenance, Skywatch Drones, Polyspectral Sensors, Pulse Transceiver

While the Odium provides much the same communications and recon abilities as the smaller Durandal, it is distinguished by the heavy mech-killing laser it mounts and the integral construction array that allows it to serve as a remote maintenance and repair facility for numerous other mechs. A single Odium can give a sufficient number of techs the platform they need to keep an entire mech force operational in the field, or assist in constructing elaborate field structures and fortifications.

Despite Heavy Psimech

Power: 20/8 free			**Mass:** 20/8 free	
Cost: 3,060,000	**Armor:** 15	**Speed:** 2	**Hit Points:** 60	**AC:** 16

Weaponry Finger of God (4d12, Psi, Slow), MES Knife (3d12, Psi, Melee)

Defenses Hardened Polyceramic Overlay (-5 to enemy AP qualities)

Fittings Neural Activity Sensors

These vanishingly rare mechs were always somewhat experimental, even in the late days of humanity's golden age. The sheer mass of sophisticated psitech components requires for their construction was almost impossible to acquire on the frontier, and the few Despites that are found in the modern day are almost always attached to Mandate military research facilities. While substantial mass and power are left unused to allow for pilot-specific fittings, even an unfitted Despite possesses enormous firepower. The psitech Finger of God weaponry can effortlessly bypass enemy armor, and the gigantic MES blade generated by its melee defense array can carve open a gravtank with a few solid strokes.

Stars Without Number

Character Sheet

Attributes

3 (-2) | 4-7 (-1) | 8-13 (+0) | 14-17 (+1) | 18 (+2)

- STR
- DEX
- CON
- INT
- WIS
- CHA

Boosts: 1st: 1sp (lvl 1) | 2nd: 2sp (lvl 1)
3rd: 3sp (lvl 3) | 4th: 4sp (lvl 6) | 5th: 5sp (lvl 9)

Hitpoints / Conditions

Max:

(1D6 + Con) x Level   Warriors: Additional +2 per level

System Strain

Permanent:

Max = CON

Saves

Physical	Evasion	Mental
16 - lvl - [Str / Con]	16 - lvl - [Dex / Int]	16 - lvl - [Wis / Cha]

Cybernetics / Innate Abilities

Psionic Techniques

+1 on new Psychic Skill Lvl

Lvl

Psionic Effort

Effort: 1 + Highest Psychic Skill + Highest of Wis or Con

Max:

Name

Background

Class

Level

XP

Lvl 2 = 3xp	Lvl 7 = 39xp
Lvl 3 = 6xp	Lvl 8 = 54xp
Lvl 4 = 12xp	Lvl 9 = 72xp
Lvl 5 = 18xp	Lvl 10 = 93xp
Lvl 6 = 27xp	Lvl 11+ = +24

Homeworld

Employer

Species

Skills

Administer	Pilot	Work
Connect	Program	Biopsionics
Exert	Punch	Metapsionics
Fix	Shoot	Precognition
Heal	Sneak	Telekinesis
Know	Stab	Telepathy
Lead	Survive	Teleportation
Notice	Talk	
Perform	Trade	

+3sp per lvl (Experts: +1 bonus non-combat)   Cost: new value + 1   Max: +2 at lvl 3 | +3 at lvl 6 | +4 at lvl 9

Base Atk Bonus

+

Warrior = +lvl | Other = +(lvl ÷ 2)
Partial Warrior = +1 at lvl 1 & lvl 5

Skill Points

+1 Focus at lvl 2, lvl 5, lvl 7 & lvl 10

Foci

Lvl

Lvl

Lvl

Lvl

Lvl

Lvl

Readied Items

Max Enc = STR ÷ 2

Credits

Debts

Weapons

Range and Ammo   Total Atk Bonus

Name	☉	⬛	/	+
Mods				

Name	☉	⬛	/	+
Mods				

Name	☉	⬛	/	+
Mods				

Name	☉	⬛	/	+
Mods				

Name	☉	⬛	/	+
Mods				

Armor

Name	AC
Mods	

Name	AC
Mods	

Name	AC
Mods	

Noteworthy Achievements

Notes to Remember

Stowed Equipment (Backpack)

Max Enc = STR

Aliases / ID's

Vehicle, Robot, and Drone Details

Non-Encumbering Equipment

Contacts and Allies

Starship Details

Equipment in Storage

Languages Known

Current Goals

Assets / Owned Property

INDEX

Imperishable Galactic Overminds

Gajus Miknaitis
Garrett
Gary Roth
Ged Trias
Geoffrey Rodebaugh
Giaus
Gina Ricker
Glenn Driver
Glenn K Gammon
GrazulDazul
Greg
Greg Davis
Greg McWhirter
Griffin D. Morgan
Gwarh
Hamad Al-Mannai
Hariel Pereira
Harry0001
Hipes
Hu1k5mash
Hubnutzen
Hunter Bodoh
Ian Saint
Isaac West
Izberion
J Patrick Stebbins
J. Budovec
J. D. Beers
Jacob Lund
Jacob M. T.
Jacob Poulette
Jacob Stuart
Jai
Jake Parker
James Hill
James Owens
James Porter
James V
Jameson Mulroney
Jamie Cook
Jamie Duke
Jamie Manley
Jasmine Galanodel
Jason
Jason Duke
Jason Kennelly
Jason Sprowl
Jason Stewart
Jay Rab
Jay White
JB Joyner
jbertucci40
Jeff Craig
Jeff Scifert
Jeff Szusz
Jeff Zitomer
Jerry G Prochazka
Jerry Weiler
Jim Pheric Donaldson
Jimmy Locatelli
JM Navarro
Joan A. Fontas
Joaquín Aguirrezabalaga
Joe Wasson

Joel Callahan
John A W Phillips
John B. McCarthy
John Bowlin
John Haberle
John Ivor Carlson
John Marshall
John Mehrholz
John Robertson
John Wancho
Jon Mayo
Jon Stein
Jonathan Lovin
Jonathan Moyer
Jordan
Jose LaCario
Joseph Brown
Joseph Cruz
Joseph Nathaniel Harrell
Joseph Paxson
Josh Reynolds
jtc1975
Jumaani Davison
Justin
Justin Crowther
Justin Vander Schaaf
Kahleel Hassan
Karl Stevens
Karl Vestin
Kathryn V. Fields
Keith E. Clendenen
Kelly Griffin
Kenneth MacNeal
Kevin
Kevin Brown
Kevin Davis
Kevin Harris
Kevin Langley
Kevin Parrish
Kickbacker
Kirby Bridges
Kirk Katzburg
Kristopher Rodrigues
Kyle Charron
Kyle Garrett
Kyle Pinches
Kynnin Scott
Laconic
Lanord
ldhtv
Leonard Rosenkranz
LetsHunt
Lexi Taylor
Linus Råde
Lippai.Peter
Lorenzo Gatti
Lukas Sommerauer
M. Sean Molley
Mads Ammitzbøll
MagnusLL
Manwell Hung
Marc Chretien
Marc D. Natural
Mario Butter

Mark Braasch
Mark Sieger
Mark Solino
Markus Florén
Marshall Miller
Martin Legg
Martin Schramm
Mason Munden
Matt
Matt Lalemand
Matt McDonald
Matt Silver
Matteo Cantelmi
Matthew Escher
Matthew Orwig
Matthew Pemble
Matthew Wallace
Mattias Nilsson
Max Ward
Meciel
Megan Andrew
Mendel
Michael Blank
Michael Drew
Michael Gray
Michael Johnson
Michael Kennedy
Michael Kusternig
Michael Little
Michael Lord
Michael Stevens
Michael Wightman
Michael Wood
Michael Zacharias
Michal
Mike Leone
Mike Teuscher
Mike Westley
Milak
Mindy Bruecher
Mitch Perkins
Mortaneus
Mykal Wells
Nathan Gillispie
Nathan Grainger
Nathan Grubbs
Nathan Trail
Nathanael Cole
Nathaniel James
Nicholas Taylor
Nicolaj Vinholt
Nicolas Johnson
Nikolas Kieker
Noé Falzon
NovanIV
Olaf Buddenberg
Pandiano
Patrice Mermoud
Patrick Healey
Patrick Ludwig
Paul
Paul Acree
Paul Bird
Paul Browning

Paul Hampshire
Paul Hillers
Paul Mitchell
Peet Conrick
Per Mevius
Pete Shaw
Peter Heeringa
Phil Bordelon
Phil Stepp
Philip Hindley
Philip Rogers
Philip Wan
Phillip Sacramento
QuirkyAI
Radosław Grzanka
Randall D Bailey, Jr
Randy Andrews
Raymond Weidner
Redfuji6
Reece Adams
REM
RemoteRyan
Rich Spainhour
Richard
Richard Sorden
Rise Up Design
Rob Martine
Robert Baldridge
Robert Bersch
Robert De Luna
Robert Gamble
Robert Kukuchka
Robert M
Robert Panzer
Roberto Micheri
Roh
Rolunde
Ron Smay
Ron Veirs
Ross Shaw
Russell Beidler
RuthlessSimster
rvn1972
Ryan Leavengood
Ryan Poe
Sam Sarphatie
Sammi Hadert
Samuel Ford
Sanicos
Sascha Schewe
SaveSriracha
Scott Chisholm
Scott Edward Nash
Scott Elderkin
Scott Stenroos
Scott Templeman
Scott Wingate
Sean Zaleski
Seth MacQuade Parker
sgetty
Shaun Froude-Powers
Shaun Reid
Shawn
Shawn P

Simon Early
Simone Pietro Spinozzi
Skellious
Skytherin
Stacie Winters
Starfox98011
Stéphane Palmeri
Stephen
Stephen 'Noble' Mason
Stephen 'Woody' Woodley
Stephen Brandon
Stephen Chen
Stephen Lee
Stephen Malone
Steven Dolges
Steven L Cowan
Steven M. Smith
Stoperssonn
Sudanna
Taiga Brenerman
Tanner Critz
Tarry Higgins
Taylor Richardson
Terry Chay
Thalji
ThePiachu
Thomas Biskup
Thomas Bock
Thomas Graham
Thomas L. Azar, Jr.
Thomas Marcarello
Thomas Saboy
Thomas Woodall
Tim Baker
Timothy N Turba
Todd
Todd Gibel
Todd Stephens
Tom Drever
Tony Badano
Tracy O'Brien
Tripp Ritter
Tyler Brisbin
Ulf H.
uzlug
Vic Smith
Vicente Cartas Espinel
Vince Mahoney
Vincent
Vincent Brown
Vincent Kindfuller
Walrexx
William Alexander
William Drummond
William Raillon
Wraith
Wright Johnson
Xzov
Yann Abaziou
Zachariah Lund
Zak Ralston
Zak Schultz
Zeke Hamlin

Illustrious Kickstarter Backers

$PACEBOY$3001
100Luck
A. Purroy
a.merrill.c@gmail.com
Aamir, Benoit, Izzy, Ema, and Isaac
Aaron Berger
Aaron DeChant
Aaron J Pianka
Aaron J. Schrader
Aaron Lim
Aaron Marks
Aaron Pollock
Aaron Terrell
Aaron Vincent
Aaron Webb
Aaron Winemiller
Abdul Rasyid
Abimael Montalvo
Achim Kaltz
Ackinty
Adam
Adam Ackerman
Adam Buick
Adam Buti
Adam C

Adam Chance
Adam Coleman
Adam Crandall
Adam Crossingham
Adam Crump
Adam Derda
Adam Duffy
Adam Kluga
Adam Koebel
Adam Leif
Adam Makey
Adam Mertes
Adam Metz
Adam Oedekoven
Adam Ozment
Adam Poppenheimer
Adam Rajski
Adam Rogers
Adam Schwaninger
Adam Shepherd
Adam Snyder
Adam Thompson
adam.y.rayes@wmich.edu
adamlanthier@gmail.com
Addison Noxy
Adrian Lazaro Breto

Adrián López
Adrián Rico
Adrian Smith
Adrian Yalj
Adriano Alberti La Marmora
Adrienne
Adumbratus
Ahmad Dialdin
Aidan
AJ
AJ Fritz
AJ Hines
AJ Pettengill
Akubaar and the Snowchicken
Alan
Alan Cohen
Alan Lough
Alastair Yates
Alban
Alberto Camargo
Alex
Alex Bainbridge-Robb
Alex Brooks
Alex Davey
Alex Gambrel
Alex Hayes

Alex Hesketh
Alex London
Alex Pastena
Alex Schor
Alex Shiley
Alex Spooner
Alex Thompson
Alex Torres
Alex Wreschnig
Alexander
Alexander Dustin Leavitt
Alexander Gonnella
Alexander Hack
Alexander Mulhern
Alexander O. Smith
Alexander Storey
Alexander Szczuczko
Alexander Ulbricht
Alexandre L. Lescarbeau
AlexBrodie
AlexDemille
Alexey
Alexis Cole
Alfmeister
Alfonso Carrillo
Alfonso Junquera Perez

Alicia Carr
Alistair Collins
Alkemi
Allan Bray
Allan Kumka
Allan MacKenzie-Graham
Allan Rodda
Allen Gimenez
alx
Amanda "OwlBear" Hather
Amr
Anbaraen
Anders Aronsson
Andras Furness
André Bogaz e Souza
Andre Ragsdale
André, Alias DD
Andrea Casamassima
Andreas Loeckher
Andreas Timel
Andreaz Forsgren
Andrej Poljak
Andres G Aguirre
Andrew
Andrew Anilkumar
Andrew Armstrong

Andrew Behrens
Andrew Bennett
Andrew Berdan
Andrew Best
Andrew Branstad
Andrew Broseidon Church
Andrew Byers
Andrew D Devenney
Andrew Dooley
Andrew Dylan Wheatley
Andrew Ertl
Andrew Fielder
Andrew Franklin
Andrew G.M. Sim
Andrew Gil
Andrew Glencross
Andrew Gold
Andrew Gordon
Andrew Harter
Andrew Hébert
Andrew Ho
Andrew Johnson
Andrew Jordan DeWitt
Andrew Laliberte
Andrew Lorenz
Andrew McMenemy
Andrew Moss
Andrew Murray
Andrew Neale
Andrew Nordstrom
Andrew Piseck
Andrew Rachunok
Andrew Schleifer
Andrew Stafford
Andrew Sutton
Andrew Taylor
Andrew Vikinger Gill
Andrew Whitwham
Andrew221
Andy Slack
Angelo Pileggi
ANGLICO
Anker Foss
Ann Marie
Anon
Antero Garcia
Anthony
Anthony Dalia
Anthony Foderaro
Anthony Hansen
Anthony Paul Rota
Anthony Puhl
Anthony Ragan
Anthony Stillwagon
Antoine Lenoir
Antonio Soriano
Antti Luukkonen
Antti Timonen
Antwan
aprrrl
Aquila
ArchDuke Baron
Aric
Ariel Surya
Ariel Thomas
Armisael
Aron Morris
Aron Smith
arosales@mgroomer.com
Arthur Perkins
Arthur Reed Snyder, Jr.
Artistic New Directions
Ary Ramsey
Asa
AsenRG
Aser Tolentino
Atlictoatl
Audun Beck
August Karl Pokorak
Aureliano Hornos
Aurélien Laurent David
Bersano
Austin
Austin Lawr
Auston Schrougham
averyfinecat
Avram Grumer
AW
Azlunde
B
B. Eidsor
B.A. Umberger
Bad Example
Badukd0
Baff
BAK
Bakshi Mushailov

Barry Dewey-Robertson
Barry Swodeck
Barry T Snyder
Bartek Ewertowski
Bartłomiej Gniatkowski
BattleMats
bd9538@gmail.com
Beast
Ben
Ben Friedman
Ben Gallardo
Ben Hale
Ben Hardekopf
Ben J B
Ben Landers
Ben Lewis-Evans
Ben Pice
Ben Potts
Benjamin Baer
Benjamin Brown
Benjamin Davidson
Benjamin Norby
Benjamin Odegaard
Benjamin Reggett
Benjamin Rivers
Benjamin Terry
benomnes@gmail.com
Beregon
Bern Osterhaug
Bgabin
Bill Vee
Billk
Bjørn Benjaminsen
Bjørn Døstrup Christensen
Black Eagle
Blackwood Melrose
Blain Brigance
Blair Giles
BlaiseLighter
Blarghedy
Blaze Utz
bleftwich
Blue Tyson
Bob Clifford
Bob Mosdal
Bob Olsson
Bobby Frost
Boredom Rules
Boris
Braden Todd Curtis
Bradford Barrett
Bradley Allen
Brand Robins
Brandon Boulter
Brandon Metcalf
Brandon Robertson
Brandon Wolff
Brass Jester
Brenna M
Brennan Dawson
Brent Walters
Breton Vander Zouwen
Brett Gonta
Brett Kassel
Brett Pierani
Brett Volz
Brettly S.
Brian "Commodore Strargazer" Whitcraft
Brian Babyok
Brian Carson-Plybon
Brian Ericson
Brian Fowler
Brian Gute
Brian Habenicht
Brian Holden
Brian Houle
Brian Hubbard
Brian Johnson
Brian Kirchhoff
Brian Kudlicki
Brian M
Brian McDonald
Brian McGillivray
Brian Novotny
Brian Pendleton
Brian Perkins
Brian Pierce
Brian Spinetti
Brian Stafford
Brian Wickhem
Brian Wright
Brody Hawkins
Brogen
Bruce Alexander Marshall
Bruce E. Coulson
Bryan

Bryan Jenkins
Bryan Kendall
Bryan O.
Bryan Parry
Bryant Durrell
Bryce Duzan
Bullfrog
Burnsy
Burtin David
C P
C P Johnston
C. Hamilton
C. Lee Vermeers
C.P. Stanford
C.R. Harper
Cal Kotz
Cale
Caleb
Caleb Michael Powers
Calle
CallMeWilliam
Callum Ballantyne
Callum Moore
Calvin Smith
Calvin Yiu
Camaxtli Lopez
Cameron Paine
Cameron Webb
Camryn Hebert
Captain of the Trigati
Cardinal
Caree Parson
Carey Newhouse
Carey Williams
Carl
Carl Clare
Carl Hickman
Carl James Black
Carl Martinsson
Carl Speakman
Carl Walter
Carlos Eduardo da Silva Leal
Carlos Torrealba
Carmelo Di Noto
Carroll J Hunter
Carson Talley
Carsten Magerkurth
Carter Guy
Cas Hoffman
Casey
Casey Garske
Casey Shelton
Caz
cdaniel
CdeB
Cemal
Chair grills
Chamo
Chance
ChaosModifier
Charles
Charles Blanco
Charles McKnight
Charles Summerhill
Charles Wuchner
CharlesDM
Chase Day
Chase Uehara
Chase Walker
Chelan Blankinship
ChosenShadow
Chris
Chris Allison
Chris Archer
Chris Ballmann
Chris Bernhardi
Chris Bertram
Chris Best
Chris Chambers
Chris Clinton
Chris Dagen
Chris Del Gigante
Chris Edwards
Chris Galecki
Chris Gardiner
Chris George
Chris Halliday
Chris Harvey
Chris Hasson
Chris Hu
Chris Jahn
Chris Jansky
Chris Kalapodis
Chris Kenna
Chris Lawrence
Chris Matuszek
Chris Miller

Chris Mitchell
Chris Mitchell
Chris Nason
Chris Pickel
Chris S
Chris Slazinski
Chris Slowinski
Chris Sparke
Chris Taylor
Chris Trigger
Chris Turner
Chris Wagener
Chris Wagner
Chris Westbrook
Chris Whitney
Chris Wilms
chrispalmasi@gmail.com
Christian Corey
Christian Eilers
Christian Kitchener
Christian Korslund
Christian Pozzali
Christian Svalander
Christof Berger
Christoffer Eriksson
Christophe Bj Breysse
Christopher "Kier" Conroy
Christopher Aaron Johnson
Christopher Alan Slater
Christopher Blackett
Christopher Bruce
Christopher Callagan
Christopher Coulthard
Christopher Crowe
Christopher D Meid
Christopher Krueger
Christopher Lavery
Christopher Lee
Christopher Lee Kemper
Christopher M
Christopher Morley
Christopher Peter
Christopher Pietrzak
Christopher Querfurth
Christopher Robichaud
Christopher S. Knott
Christopher Trdan
Christopher Wiebe
Chuck Dee
Cian Shay
Ciril Neukom
Claes Svensson
Claire West
Clay Broeker
Clay Fowler
Clay Gardner
Clay Vernon
Clayton Higbee
Clément Perrochaud
Cliffjord
Clint Cachia
Clint Okerstrom
Clint Williams
Clint1337
Cody
Cody Hines
Cody Maggard
Cody Marbach
Cole Brown
Cole Nordin
Colin
Colin "Vindexus" Kierans
Colin Fredericks
Colin Mayer
Colin Sinclair
Colin Urbina
Colineff
ColinJ
Collin
Collin O'Connor
Colm O'Hara
Cominius
Conall Hammond
Connor
Constantin Patrascu
Contesse
Corey Hall
Cory Heminger
Cottar Bort
CP
CP McInerney
Craig
Craig A Tyler
Craig Bishell
Craig Concepcion
Craig Janssen
Craig Senatore

Craig Wright
Cristian
Crosse
Croy Salinas
Cryoban
CTibbs123
Cultist of Sooty
Curt Meyer
Cutter Goode
CyberHippie
D Morris
Daimadoshi_CL
Dain Lybarger
Dale
Dale C. Blessing
Damion Meany
Damon Wilson
Dan
Dan Barton
Dan Behlings
Dan Brackmann
Dan Cruickshank
Dan Hindmand
Dan Koeplinger
Dan Lalich
Dan Luxenberg
Dan Martland
Dan Vince
Dane Holden
Dane R
Dani Jang
Daniel "Aziraphale" Holmbäck
Daniel Bayless
Daniel Cleveland
Daniel Crisp
Daniel Davis
Daniel Drake
Daniel Dudugjian
Daniel Engström
Daniel Fernández García
Daniel Forinton
Daniel Freeman
Daniel G. Dyrda
Daniel Grondin
Daniel J. Bishop
Daniel Jonsson
Daniel Kühbacher
Daniel Lawrence
Daniel Lofton
Daniel Maberry
Daniel Markwig
Daniel Maxson
Daniel Mayer
Daniel McSorley
Daniel Nordström
Daniel Norton
Daniel Ravipinto
Daniel Rodriguez
Daniel Sattich
Daniel Skrivanek
Daniel Spencer
Daniel Stack
Daniel Stewart
Daniel Ungooglable Danilenko
Daniel Valda
Daniel Winter Good
Daniel Yauger
Danielle Weaver
Dante Van Devva
Darren MacLennan
Darryl Hills
Darth JoDa
Darth Krzysztof
Daryl Holm
Daug45
Dave
Dave Boyd
Dave Dunaway
Dave Kester
Dave Sherohman
Dave Wolf
David
David (Jester's) Craft
David Bowes
David Comer
David Csobay
David Daw
David Dickinson
David Dodge
David Donohoo
David E
David Gallo
David Ginsburg w/Tales from the Fandom podcast
David Goren
David Harrison
David Jenks

David Johnston
David Jordan
David Karlsson
David Keijser
David Klemish
David Lai
David Leong
David Lindsay
David Little
David Margowsky
David Martel
David Menefee
David Moreland
David Murphy
David Nebauer
David Nixon
David Paul Guzmán
David Priestley
David Renna
David Ross
David Rubin
David Scoggins
David Shugars
David Sullivan
David Viars
David Wellcome
David Yellope
David Zimmerman
david.horrocks
Dawei Yao
DD Ra
De Bona Michaël
DeadDocus
Deborah A. Dunlap
Declan Cox
Declan O'Brien
Demetrius K.
Demonhunter198
Denis Ricard
Dennis Binder
Dennis Malloy
Dennis Osborne
Dennis Sieg
dennis.witt@protonmail.ch
Derek Mitchell
Derek Schwab
Derek Watkins
Derrick Cook
Derrick Dodson
desrtfx
Devin Janelle
Devin King
Devin McIntyre
Devon
DGSnyder
Dick Boardman
Diego Ramirez
Dillon Burke
DimensionId@yahoo.com
Diogo Nogueira
Dirk Nobels
DivNull Productions
Djroma12@aol.com
docshadow13
DocSocrates
Dohtoor
Dominic Bozzo
Dominic Moore
Dominick Trascritti
Dominik Pielarski
Don
Donald Welsh
Donnovan
Dorion
Dorjan Smoković
dotha1dave@gmail.com
Doug "Kosh" Williamson
Doug Hurst
Doug Mercer
Doug Miller
Doug Pirko
Dr. Alberto Colombo
Dr. Marko Poleczek
Dr. VanPorcine
dragon513@comcast.net
Draško Prašnički
Drew
Drew C. W.
Drew Hurdle
Drew Walker
Drnoodles
drnuncheon
Drwgbliadd@gmail.com
Ducke
Dustin Headen
Dustin Knie
Dustin_00

Dylan Green
Dylan Mikus
Dylan Prentiss
Dylan Sinnott
Dylan Vincent Distasio
Dylan Whitney
E.T.Smith
Earl Scott Nicholson
Ecintron
Ed Dobies
Ed Kilcawley
Ed Silver
edchuk
Edgar Burke
Eduardo Inza
Edward Engquist
Edward Fewtrell
Edward Hand
Edward Kabara
Edward Kline
Edward Mallett
Eigen Ignacio
Eirik Oterholm Nielsen
Elad Hen
Eldrvarya
Elijah "Razu" Reyes
EM
Emil Wisti
Emlyn Breese
Enoch Starnes
EnterElysium
Eother
Eric
Eric Grice
Eric Koch
Eric Levanduski
Eric Lopez
Eric Maloof
Eric Matta
Eric Rumfelt
Eric Sanday
Eric Schaffer
Eric Williamson
Erich L.
Erick Carlson
Erick Vallejos
Erik Belsaas
Erik Dupont
Erik Halvarsson
Erik Labelle
Erik Schmidt
Erik Talvola
Erik Tenkar
Erik Turner
Erkan
Erratication
Espen Otlo
Ethan
Ethan Eichstedt-Anderson
Ethan Harris
Ethan Jackson
Ethan Mc Donald
Ethan Monahan
Ethan Trovillion
Ethan Zarembski
Etienne Olieu
Euclides Pereyra
Eva-Fiona Denehy
Evan
Evan Cohen
Evan Garay
Evan Gilbreath
Evan Lee
Evan Stark
evangben1999@gmail.com
Every Other Weekend Gaming
Evil Midnight Lurker
Ezann
Ezzarius
Fabio Almeida
Fabio Milito Pagliara
Facephase
fanguarn
Farid Kutyev
faultedravage28@gmail.com
Fedly Guerrier
Felisberto Lagartinha
Felix Grothkopp
Felix Roithmayr
Felix Rosenberger
FelTK
FeralGames
Fernando Segismundo Alonso Garzón
Fery
Filip Ogrodowczyk
Finbar Deane-Stott

FireSerpent
Flávio Stresser
Flession
flibb
Florent Poulpy Cadio
Florian Aßmann
Florian Hübner
Florian Ziesche
Fnorder
Forrest Fleming
Foxman
Francois Fleury
Francois Giuntini
Frank Falkenberg
Frank Mitchell
Frank Perrin
Frank Tonn
Frankie
Franko F
Frantisek Bujnoch
Fraser Imrie
Fred Parham
Fred Ramsey
Freddie Taylor-Bell
Freddy Pollock
Frederick Münch
Frederick Richmond
FredH
Fredrik Larsson
frostalma@gmail.com
furstenberger
G. Hartman
Gabriel Sorrel
Gabriele Fasano
Gage
gajoos
Gallant Knight Games
Garbelion
Gareth Crees
Gareth Fowler
Gareth Harrison
Garrett Comerford
Garth Dighton
Gary Anastasio
Gary Furash
Gary London
Gary McBride
Gary Shelton
Gaston Keller
Gatis Melkus
Gavin Lemon
Gavin Mendeck
Gavin Mutter
Gene D.
Geoff Gillan
Geoff Watson
Geoffrey (Jetstream) Walter
Geoffrey Crouse
Geoffrey Goucher
Geoffrey Kerslake
Geoffrey T. Nelson
George & Maria Orlov
George Alexander
George Carter-Bennett
George Cummings
George G Hoeflinger
Gerald
Gerald Rose
Gerard Hoey
Gérard Kraus
Gerben van der Heijden
Germán Jakob
Gerrit Czeplie
Gerry Saracco
Gestaltar skiten
Geza Letso
Gideon Mecum
Giles Dorrington
Gillan Martindale
Glen King
Glen Parker
Glenn Hallenberg
Glenn Rohrlach
Glenny Kenpachi Ramasama
Gord Sellar
Gordon Cranford
Gotta397
Grady Victory
Graeme Frear
Graeme Lewis
Graham Gentz
Graham Heath
Grant
Gray Shackelford
great.lemur@gmail.com
GreenWolf
Greg

Greg Mele
Greg Wood
Gregg Thomason
Gregory Stayner
Gretchen A
GrimLost
grogmonster
gstewart
gsugu
Guerin Payne
Gunnar Bangsmoen
Guy Reece
gwathdring
Gwendalyn Toh
Hannes Vilmi
Hanno
Hans BK
Hans-Jörg Meyer
Harpal Khalsa
Harrison Salzman
Harrison Snodgrass
Harrison Storer
Harrison W.
Harry Danby
Harry John Shephard
Harry Smith
Hauke Fock
Hayden Churchill
Heinrich Krebs
Hendell
Henrik Lemos
Henry
Henry "PandaDad" de Veuve
Henry Owen
Henry Ulrich
HerntheHunted
hidsnake
Hiltz
Hisher
Hobbs665
HolyBane
Horus
Hugo Marrero Ballesteros
Hunter Pfeiffer
Hunter Wiench
hydranoid52@live.com
Hydre
hyperotic
Iacopo Benigni
Iain Gillett
Ian & Catherine Woolley
Ian Borchardt
Ian Cunningham
Ian Donald
Ian Franklin
Ian Gibson
Ian Gunther
Ian Helmke
Ian Herbert
Ian McFarlin
Ian Runkle
Ian Scheffler
Ian Urbina
Ian Ward
Ian Williams
Ignatius Montenegro
Impius
InfiniteGeek
Inkwell Ideas
interiis
Inversions
Iowa Moondog
Ironhouse
Isaac 'Will It Work' Dansicker
Isaac VanDuyn
Isaac Wallace
Isabeau T. Silver Rain
Ishkar
Ismihall
Ivan Jalencas
Ivan Krechetov
Iván Tomás
J K Rasmussen
J. Michael Looney
Jaan Eerik Sömermaa
Jack Clarke
Jack Fagan
Jack Gulick
Jack Harvey
Jack Liska
Jack Marshall
Jack Murphy, III
Jack Norris
Jack Sernovitz
Jack Shirai
Jackson Anderson
Jacob

Jacob "King" Barrick
Jacob Banda
Jacob Barrick
Jacob Derby
Jacob Dill
Jacob Poole
Jacob Repp
Jacob Schwartz
Jacques Nel
Jaden Gailey
Jake
Jake Akin
Jake Marsh
Jake Simon
Jake Steinmann
Jake Williamson
Jakob Schmidt
Jakob Zagone
James
James A
James B
James Barrie
James Burgess
James Carpio
James Corlett
James D'Amato
James Dillane
James Duffy
James Dunbier
James E Goodrich
James Ellis
James Forest
James Gilray
James Halmayr
James Heath
James Holden
James Holloway
James Husum
James Jordan
James Lund
James N Blevins
James Noble
James Overton
James Padley
James Petrosky
James Pintal
James Powell
James Pullen
James Ramirez
James Ritter
James Robertson
James Schmidt
James Smith
James T
James Taylor
James Tomazos
James V Nutley
Jameson Cunningham
Jamie
Jamie Eiichi Yoshida
Jamie Officer
Jamie Whaley
Jan Novák
Jan van der Laan
Jan van der Wielen
Janne Hongisto
Janne Puonti
Jarad W.
Jared Hatchell
Jared Norman
Jarikith - SpaceKatta Hero-U
AGL589
Jarrett
Jarrod Maistros
Jason Allen
Jason Aschberger
Jason Bean
Jason Byrne
Jason Colombetti
Jason Corley
Jason Lee
Jason Lescalleet
Jason Mavor
Jason Orne
Jason Paasch
Jason Price
Jason Rampata
Jason Redford Drifter-Trenner
Jason Rieusset
Jason Scranton
Jason Tocci
Jason Wentworth
JavaJoeCoffee
Javier Koslow
Javier Perez Garcia
Jay Marsh
Jay Richards

Jay Ward
Jayson Turner
JD
Jean
Jean GAMBA
Jean-Christophe RANNOU
Jean-Francois CABIROL
Jeff Bernstein
Jeff Brooks
Jeff Dixon
Jeff Geisperger
Jeff H
Jeff Hincy
Jeff Kosko
Jeff Labrack
Jeff Long
Jeff Quick @jefftyjeffjeff
Jeff Smith
Jeff Stolarcyk
Jeff Threatt
jeffhar@udel.edu
Jeffrey
Jeffrey Allan
Jeffrey Allan Boman
Jeffrey Chapman
Jeffrey Doon
Jeffrey Elliott
Jeffrey Fuller
Jeffrey Head
Jeffrey Klingbeil
Jeffrey Lee
Jeffrey Meakins
Jeleinen
Jennifer
Jennifer and Mark Martin
Jennifer Timora Leedell
Jens Alm
Jens Stegemann
Jeramie
Jeremias Weber
Jeremy
Jeremy Baker
Jeremy Friesen
Jeremy Frost
Jeremy Kear
Jeremy Livingston
Jeremy Pickard
Jeremy Reed
Jeremy Scott
Jerry
Jerry Huckins
Jesper Nilsson Cyren
Jesse Alford
Jesse Roberge
Jessie Hickman
Jett
Jidairo
Jill Enke
Jim
Jim Alcala Sales
Jim DelRosso
Jim Dixon
Jim Hart
Jim May
Jim Montgomery
Jim Morris
Jim Sharples
Jim Stryker
Jim Young
Jimmy Gaylord
Jimmy Gertzog
Joakim Jonsson
João Mariano
Jodi Pink
Joe Bongi
Joe Campbell
Joe Hradec
Joe Ingledew
Joe Main
Joe Robinson
Joel
Joel Dunkelberg
Joely
Joey Schuringa
Johan Fält
Johan Kristian Worm
Johannes Paavola
John
John "evernevermore" Scheib
John "johnkzin" Rudd
John "Redring" Love
John Anderson
John Baldwin
John Barr
John Cohen
John Connelly
John Courtney

John Daly
John Davies
John DePaul
John Doyle
John Duffield
John Eisenhauer
John Even Bjørnevik
John Everett Till
John Farinelli
John Fiala
John Fitzgerald
John Gardner
John Greene
John Hacker
John Hammons
John Harper
John Jenson
John Kirkland
John Lemay
John Lorinskas
John M. Portley
John Marron
John Maven
John McDuff
John Michael Hess
John Moran
John Paul Ashenfelter
John Reaves
John Rose
John Roszkowski
John Ryan
John Snead
John Snee
John Stynes
John TK Veltman
John Ulbrech
John Unverferth
Johnathon Grach
JohnC
Johnny F. Normal
Jon Davison
Jon Finn
Jon Henrik Knapskog
Jon Kenkel
Jon Morris
Jon Munger
Jon Snodgrass
Jon Walker
Jon Wilson
Jonas Karlsson
Jonathan "Buddha" Davis
Jonathan "SteelSeraph" Steele
Jonathan Agens
Jonathan Cheatham
Jonathan Cliffen
Jonathan Fish
Jonathan Goodwins
Jonathan Korman
Jonathan Sherlock
Jonathon Byrer
Joonas Laakso
Jordan 'Sendo' Hardy
Jordan Lee Thompson
Jordan Raymond
Jordan White
Jordi Rabionet Hernandez
Jörg S.
Jose Alarico Teixeira Manzano
José Gilberto Olimpio Bezerra
Júnior
José Luiz F. Cardoso
José Morillo
Jose Roberto Vidal
José Sánchez
Jose W. L.
Joseph
Joseph Anderson
Joseph Avolio
Joseph Bohan
Joseph Gerard Fredette
Joseph Glover
Joseph Hacker
Joseph Kim
Joseph Lafayette
Joseph LaMothe
Joseph Montano
Joseph Scarpace
Joseph Thorne
Joseph Wheeler
Josh
Josh 'Tallknight' Higgins
Josh Brauer
Josh Cairns
Josh D.
Josh Olsby
Josh Peters
Josh Rasey

Josh Rudolph
Josh Sjothun
Josh Williams
Joshua
Joshua Cameron
Joshua Crowe
Joshua James Gervais
Joshua kooistta
Joshua LH Burnett
Joshua Liebeskind
Joshua Louderback
Joshua M Eaves
Joshua Martinson
Joshua Nicholas Aeria
Joshua Price
Joshua Ramsey
Joshua Smith
Joshua Spaw
Joshua Straub
JTB3
JTDimino
Juan Cruz Balda Berrotarán
Juan Cruz Vidal Gomez
Juan Fernández
Juan Raigada
Judd
Judd M. Goswick
Jukka Eerikäinen
Julian
Julian Strauch
Julius Wollfarth Jr
Jürgen Mayer
Jussi Kenkkilä
Justin
Justin Bowen
Justin Chan
Justin Hamilton
Justin Hein
Justin Koopmans
Justin Miller
Justin N Lee
Justin R.
Justin Reardon
Justin Smith
justinsortega@gmail.com
Juuso Pennanen
JVMMs
JYK
K-Slacker
K.C. L'Roy
Kai Mayer
kalletaekwondo@hotmail.com
Kalman Farago
Kamil Glowacki
Karim Dhambri
Karl Erik Hofseth
Karl Forster
Karl Hendricks
Karl Lanzetta
Karl Miller
Karl Scheer
Karsing
Kary "Realm Master K"
Williams
Kascade
Kat Enyeart
Keegan Lindgren
Keiran Sparksman
Keith C. Datum
Keith Davies
Keith E. Hartman
Keith Mantell
Keith Mount
Keith Nelson
Kelly Jolliffe
Kelly Roberge
Kelsa
Kelton Lawrence
Ken Bradfield
Ken Pawlik
Ken Taylor
Ken Wen Lee
Kenik
Kenneth Hite
Kenneth Walz
Kennon Ballou
Kenny
Kenny Crouch
Kenny Murray
Kerry Clarkson
Kesipyc
Keven McDaniels
Kevin
Kevin Brennan
Kevin Chauncey
Kevin Cook
Kevin Dale

Kevin Kostello
Kevin Martin
Kevin Mayz
Kevin McHale
Kevin Patti
Kevin Schott
Kevin Searle
Kevin Smith
Kevin Tompos
Kevin Vasquez
Kevin Wagner
Kevin Whitaker
Kevin Williams
Kevin Wine
Khan Shawnery
Kian Dashti
Kieran McGowan
Kieran Swystun
Killian Kelly
Kim Long Vo
Kim Mazaraki
Kiraah
Kirstie Kurtenbach
Kirt Dankmyer
Kiwihiker
KJ
KJ Potter
Klaus Ole Kristiansen
Knut Ivar Hellsten
Koen Plate
Koen van Baaren
Koen van der Keijl
Kon-Tiki
Kosta Kostulas
Kovács Zsolt
KP McGrath
Krister Blystad
Kristof Klee
Kristopher Volter
kschktnt
Kurt McMahon
Ky Grage
Kyle
Kyle Bedell
Kyle Burckhard
Kyle Duncan
Kyle Francoeur
Kyle Kiefer
Kyle McGeeney
Kyle Purkiss
kylepip
KyoshiroKami
L. Vollum
Labbiss
Lachlan Brad Easton
Lachlan Jones
Laith Noaman
Lakshman
Lance "UndeadViking" Myxter
Larry Hamilton (Follow Me,
And Die!)
Larry Haught
LaughingShadows
Lauren Bond
Lauretha
Lazytron
Le Collen
Leah Elliott
Lee Barnes
Lee Corder
Lee Graham
Lee Moran
Lee Perry
LegionForty2
Len Borowski
Len Smith
Lena B
Leonard Brey
Leopold Stiegler
Lerolabell
Lethio
Levi Burtner
Lewis Cassidey
Liam Butler
Liam Foley
Liam Hanson
Liam Murray
Lian
Lilian Duault
Lily / LilypadNebula
Linda L. Martelle
Lisa Padol
Lithran
Lloyd Rasmussen
Logan Hyvonen
Logan Laberge
Loïc Cremer

Lolta
Longdirt Harri
Lonni Swanson
Lorange
Lord of Ice
Lordson Yen
Loren
Loren Thompson
Lorenzo Bandieri
Lou Bajuk
Love Smedfors
Lowsonic
lpaull
Luc Teunen
Luca Neukom
Lucas
Lucas Cooperberg
Lucas Cowell
Lucas Graves
Lucas Horton
Lucas Hyon
Lucas Katt
Lucas Ludlow
Lucas Mathias Haasum
Lucas McDaniel
Lucas Rodriguez San Pedro
Lucas Ward
Lucias Meyer
Lucifer War Machine
Ludanto
Lukas
Luke
Luke Cunningham
Luke Moran
Luke Phillips
Luke Skeirik
Luke Stowell
Luke Thomson
Luke Thrower
Luke Winters
Luke Wootton
M Newman
Maahk
Mååns Eriksson
Mabel Harper
Machi
Mackenzie
madbird-valiant
madkids
Mads Fallesen Johansen
Makki
Malcolm McLeod
Mangoose
ManlyMcBeefington
Manny
Mantakree
Marc Plourde
Marc Tabyanan
Marc Young
Marcelo Paschoalin
Marco
Marco Grosso
Marcus
Marcus Burggraf
Marcus Rosenfeld
Margaret Norris
Mario Moreau
Mark
Mark A. Siefert
Mark Andrew Faulkner
Mark Barr
Mark Carter
Mark Collins
Mark Delsing
Mark Giordano
Mark H
Mark Harris
Mark Jones
Mark Kostecky
Mark Kriozere
Mark Laird
Mark Lemmon
Mark MacDougal
Mark Malone
Mark Miller
Mark O'Mealey
Mark Quinn Corcoran
Mark Stanley
Mark Story
Markku
Markus Raab
Markus Sommer
Markus Viklund
Marley Griffin
MarsSenex
Martin
Martin Cliffen

Martin Greening
Martin Hrádela
Martin Krebs
Martin Mörtsell
Martin Nichol
Martin Teasdale-Blais
Marty
Marty Price
Martyn Meeks
Marzio Spairani
Masaki Yamazaki
Mathew Roy Mckendry
Matias B
Matías Nicolás Caruso
Matt
Matt 'Haxar' Shaw
Matt "9littlebees" Kay
Matt "Catapult" Wang
Matt Bauer
Matt Caulder
Matt Helms
Matt Jorgenson
Matt Logan
Matt Melero
Matt Wilson
Mattaui
Matteo Signorini
Matteo Squillari
Matthäus Cebulla
Matthew
Matthew Aaron
Matthew Arbo
Matthew Asztalos
Matthew B
Matthew Barr
Matthew Caron
Matthew Cicchillo
Matthew Craner
Matthew Elcock
Matthew Franklin
Matthew Gagan
Matthew Grant
Matthew Jacques
Matthew Joel Stewart
Matthew Kinde
Matthew Koelling
Matthew Miller
Matthew Nixon
Matthew O'Connor
Matthew Sciscione
Matthew Shaver
Matthew Stark
Matthew Tucker
Matthew Tyler
Matthew Walden
matthew walker
Matthew Young
MatthewB
Matthias Haan
Max English
Max Kless
Max Perman
Max S
Max W 'Prometheus'
Maxime Girard
Maxwell Baker
Maxwell Kennington III
Maxwell Madden
Maxwell Paige
MClodi
Medawolf
Megan Coppock
Mel Hall
Mel White
Melanie Ngo
Melissa Matos
Metal Fatigue
Michael
Michael "Mammut" Sauer
Michael almond
Michael Beekman
Michael Bogumill
Michael Bower
Michael Bowman
Michael Brewer
Michael Calarco
Michael Cody Meyer
Michael Collins
Michael D
Michael D Lusby
Michael David Pereira
Michael Demchak
Michael Derry
Michael DiBlasio
Michael Doa
Michael Durkee
Michael Ellison

Michael Feldhusen
Michael G. Palmer
Michael G. Potter
Michael Gissing
Michael Hengeli
Michael Hvorecny
Michael King
Michael Krzak
Michael Law
Michael Littlejohn
Michael Lizardi
Michael Lombardo
Michael Loy
Michael MacPherson
Michael Mase
Michael Mazzei
Michael Mundy
Michael Paul
Michael Paulini
Michael Pearson
michael pfeiffer
Michael Pineda
Michael Pruitt
Michael Ramsey
Michael Rice
Michael Sanders
Michael Schulz
Michael Shollar
Michael Smith
Michael Thompson
Michael Vitousek
Michael Waters
Michael Wolf
Michael Wright
Michael Yater
Micheal
Michel Cayer
Michel Polisena-Petrelli
Micky
Miguel Alvim de Almeida
Miguel Angel Castro
Mikael Bergström
Mikael Hansson
Mikael Oliger
Mikael Theorin
Mikael Tysvær
Mike "Laz" MacMartin
Mike "The Viking" May
Mike (wrathofzombie) Evans
Mike Campagna
Mike Carlson
Mike Fletcher
Mike Lange
Mike Loranger
Mike M
Mike Marshall
Mike Nusbaum
Mike Quintanilla
Mike Reilly
Mike Sands
Mike Suderman
Mike0815
Mikey Free
Mikolaj
Miles Griffiths
Miles Nerini
Misha Lumen
Mitch Lovell
Mitchel Pigsley
Mitchell Hannan
Mitchell Pipes
Mitchell Silverman
Montgomery Fort
MoosenHammer
Mordecai
Moritz Boehm
Morry Veer
Morten
Morten F Grosvold
Mr. Encyclopedia
MrTripleCC
Munashe
Murray Corradini
Mythforger
Naas
Nachofan
Nachtflug
Nadia Debogori
Namdorg
Nancy Feldman
Nat Webb
Nate Hiers
Nathan
Nathan Birch
Nathan Cashman
Nathan Christenson
Nathan Easton

Nathan Ellsworth
Nathan Gaudry
Nathan Joy
Nathan Milfull
Nathan Reetz
Nathan Schmitz
Nathaniel Bennett
Nathaniel Foster
Nathaniel Lanza
Nathaniel McIntyre
Neal Allen
Neal Dalton
Necrozius
Neil Roach
Neil Woodhouse
Nerdwerds
Nerra
Nessalantha
Nethulmeow
Newton Grant
Ngo Vinh-Hoi
Niall Boyd
Niall O'Donnell
Nicholas "Snuggly Wuggums"
Baughman
Nicholas Bronson
Nicholas Cadigan
Nicholas Cassidy
Nicholas Clements
Nicholas Emricson
Nicholas G. Rais
Nicholas Goehring
Nicholas Hall
Nicholas Lee Goodman
Nicholas Muehlenweg
Nicholas Priebe
Nicholas Whaling
Nick
Nick Boughton
Nick Bower
Nick Carruthers
Nick Comber
Nick Pilon
Nick R.
Nick Roach
Nick Roland
Nick Ventricelli
Nick Zakhar
Nicklas Andersson
Nickolas
Nickolay Golubev
Nicolas Brian
Nicole Karel
Nigel Clarke
Nigel the Leptopus
Nik May
Nikita Levedis
Niklas Herbold
Niklas Österholm
Nikolai
Nikolaos Deligiannidis
Nikolay Samsonov
Nils Mahrwald
Ninh Qui Do
Nipper Phinizy
Noah
Noah Caleb
Noah Connally
Noah Doyle
Noah Price McGillivray
Noël
Noofle
Odin Collins
Ogre
Oh Seung Han
Ola Håkansson
oldstevo
Oliver Gibney
Oliver Lind
Oliver Summers
Ols Jonas Petter Olsson
Omari Brooks
Omer Golan-Joel
Oneil
Orffen
Oscar Diez Martinez
Oscar Söderbäck
Otis Martin
Oubliette
Owen
Owen Davies
Owen Thompson
Owlglass
Oz Mills
p7
Pablo Pérez Gómez
Pablo Saldaña

Pandatheist
Paolo & Kyra
Paolo Robino
Paris Conte
Pat Slauson
Patrick Brannick
Patrick Brewer
Patrick Buckendorf
Patrick Cigno
Patrick Delisle
Patrick Emery
Patrick Fagan
Patrick Pilgrim
Patrick Riley
Patrick Sullivan
Patrick Trapp
Patrick Young
Patryk Adamski 'Ruemere'
Patryk Misiapa
Paul
Paul "Ettin" Matijevic
Paul "Trkhellian" Morgan
Paul Amala
Paul Beakley
Paul Courtenay
Paul Duffy
Paul Evans
Paul Friswold
Paul Harrison
Paul Jenkinson
Paul Kalupnieks
Paul Kohler
Paul Mertz
Paul Messenger
Paul Mitchener
Paul Morell
Paul Sheppard
Paul Umbers
Pavel Ojeda
Paweł Litewka
pdcurry
Pedion Modular Battlefields
Pedro Salgado
Pedro-Juan Ferrer
Pedro(Te)
Penny Lantern
Per Olav
Pestilence
Pete Ho
Pete Petrusha (Imagining
Games)
Peter Agg
Peter Bogdasarian
Peter Browning
Peter Colletti
Peter Engebos
Peter Gates
Peter Griffith
Peter Mazzeo
Peter Olfelt
Peter Smith
Peter Smits
Peter Stals
PeterThomas6
Petri Virtanen
Phil Corpuz
Philip
Philip Adler
Philip healy
Philip Kristoffersen
Philip Schneider
Philip Stein
Philip Williams
Philippe "Sildoenfein" D.
Philippe Daigneault
Philippe Gamache
Philippe Jofresa
Philippe Marcil
Philippe Marichal
Phill Calle
Phillip McGregor
Phillip Roszko
Phillip Stephen Wright
Phoenix8008
Phoenixabo
Phurl
Phyrexus
Physicsmason@gmail.com
PickleTheCat
Pierre-Philippe Renaud
PillB
Pixel_Kitty
Planet Deathstar
Pol Garcia i Oto
Poul Meyer
Preston Bruce
Prospero101

psychicblue
pulsemeat
Puppetminion
Qurrion
Racheal Miller
Raf Bressel
Rafal Kita
Rahshaad Benjamin
Ralph Mazza
Randall Orndorff
Randall Thyodore
Raphaël
Raphael Bombayl
Raskal
Ray Goerke
Ray M. H.
Ray Nolan
rebtonguewriter@gmail.com
Recknar
Red
Redsean
Reg Langford
Reginald
Reid San Filippo
Rema Casprowiak
Rev. Keith Johnson
Rhialto the Marvellous
Ricardo Costa
Ricardo Fuente
Riccardo "Malbet" Caverni
Rich Lescouflair
Rich Wermske
Richard
Richard 'Scylld' Comfort
Richard 'Vecna' Hussey
Richard 'Vidiian' Greene
Richard "Bondo" Bondurant
Richard Barton
Richard Budop III
Richard Comfort
Richard Cumberland
Richard Dill
Richard Ellis
Richard Franey
Richard Gregory
Richard Leonard
Richard Ling
Richard Mundy
Richard O'Loughlin
Richard Powell
Richard Rivera
Richard Ross
Richard Ruane
Richard T. Balsley
Richard Watkins
Richzrd, Dark Lord of All
Rick Arneson
Rihards
Riley Chandler
Rimvidas Gabrėnas
Rob Abrazado
Rob Lowe
Rob Malo
Rob Miles
Rob Nadeau
Rob of the North
Rob Sansone
Rob Thomas
Rob Wieland
Rob Young
Robert
Robert Adair
Robert Clampitt
Robert Conley
Robert Davis
Robert Day
Robert DiDomenico
Robert G. Male
Robert Hysing Berg
Robert Kempe
Robert Kim
Robert Kosek
Robert Lai
Robert Mazique
Robert Miller
Robert Mohl
Robert Morrison
Robert Mull
Robert Oertly
Robert Ott
Robert Parini
Robert Saint John
Robert Simpson
Robert Wiesehan
Robert William Crocker
Robert Wockner
Roberto López Arnau

Roberto Nieves
Robertson Sondoh Jr
Robin Droste
Robin Schoonover
Robin Wenström
Rodney J Kelly
Roger Smith
Roger Snyder
Rogue Comet
Rogue Fithp
Rolf Laun
Ron
Ron Beck
Ron Boero
Ross Cowman
Ross Mills
Ross Smith
Rowan Lloyd
Rowell
Roy Church
rsdockery
Ruben Navarro
Ruhuka
Rus Ketcham
Russell Saur
Russell Townsend
Russell Ventimeglia
RustingKnight
RVH
Ryan
Ryan Anderson
Ryan Bearrick
Ryan Crowe
Ryan Estep
Ryan James Kolodziejczak
Ryan Junk
Ryan Kent
Ryan Lybarger
Ryan McCarter
Ryan Meier
Ryan Moore
Ryan Nunes
Ryan O'Connor
Ryan Percival
Ryan St. Wrba
Ryan Wiegert
Ryan Ziegler
Rysa
S. Kilian
Saajan 9000
Sabastian
Sage Barton
Sage LaTorra
Saila Oikelmus
Salva Campoy
Sam
Sam CB
Sam Curry
Sam Garamy
Sam Genoese
Sam Hawken
Sam Hillaire
Sam Hinshaw
Sam Lawton
Sam Malcolm
Sam Phoenix
Sam Slocum
Sam Zeitlin
Samantha
Sami Cyberpilot Veillard
Samir
Samjoko Publishing
Samoel Di Wilsleff
Samuel
Samuel Doepken
Samuel Klingensmith
Samuel Puddleduck
Samuel Schuerch
Sara Waits
Sarick
Sarutomaseth@gmail.com
Sascha Weber
Sasha Thirlby-Flynn
Saturn McLaughlin
Savannah Casto
Scott
Scott Caslow
Scott Donatti
Scott Ferreira
Scott Gomoll
Scott Hess
Scott Hill
scott jenks
Scott Maynard
Scott Morrison
Scott P McClellan

Scott Serro
Scott Skene
Scott Thede
Scott Tooker
Scott Udall
Scott Whitehurst
SeaGnome
Sean
Sean 'Ariamaki' Riedinger
Sean Ebersviller
Sean Hinphy
Sean Mannion
Sean Mattox
Sean Richmond
Sean Rivera
Sean Silva-Miramon
Sean Smith
Sean Trader
Seany
SeaWyrm
Sebastian
Sebastian Banzet
Sébastien Mailier
secondrevan
SeeleyOne
semiomant
Sergio Silvio Herrera Gea
Seth A Spurlock
Seth Day
SGM
sgreimann
Shad Corliss
Shadowriku
ShaggyTh3Dog
Shale Crom
Shaleblade
Shan Lewis
Shane
Shane C
Shane Dunlap
Shane Gallocher
Shane Jackson
Shane Phillips
Shane Starr
Shane Trapp
Shawn Meyer
Shawn Wood
Sheldon
Shelly Consoli
Sheringford Hope
Shervyn
Simon Brunning
Simon Carter
Simon Geard
Simon Jennings
Simon Joseph Brown
Simon Plain
Simon Smalley
Simon Stroud
Sir Aldi
SirJAGman
Skye
Skylar
Smith
Snake
Soap
Sohrab Zolfaghari
Sol Extract
Solin Outlander
Sophia Brandt
SoSo_Tsundere
Spencer Sandoval
Spencer Wankier
Spenser A Rubin
Spenser Isdahl
Spyros Stavropoulos
Spyros Veronikis
Stacy Forsythe
Stanley Huang
Stargazer
Stefan Lahr
Stefan M. Feltmann
Steff Bisinger
Stephan
Stephan Szabo
Stephanie Bryant
Stephanie Turner
Stephen
Stephen L.
Stephen Lewis
Stephen Paterson
Steve
Steve Burchett
Steve Bush
Steve Cooper
Steve Dodge

Steve Guetre
Steve Hyatt
Steve Pugh
Steve Thompson
Steve Van Gorder
Stevec
Steven
Steven A Murray
Steven Bakker
Steven Cornell
Steven Fetter
Steven G
Steven Locke
Steven Lord
Steven Roman
Steven Sparkman
Steven Stone
Steven Wales
Steven Warble
Steven Ward
Stew Wilson
Storapan
Storium / Stephen Hood
Stras "Space Cowboy" Acimovic
Stuart Keith Rabson
Susan Mair
Suwaree
Suzi
Sven Scheurer
SwiftOne
Sylvain Martel
Sylvestre Picard
Sythmaster
Taichara
Tamoline
Tamuz
Tanner Clark
Tanner Yea
Tapani Moilanen
Targaff
Tarkom
Taylor Bleir
Taylor Goehring
Taylor LaBresh
Tazdrin
Team AlecSanChar
Ted
Tefmon
Tegan Smith
Tehjo
Temmo Cramer
Tentreto
Teorius
Terrasaur
Terry Gilbert
Terry Kolhoff
TextBasedBob
Thanasis Tsiakmakis
The Cartularium
The Cold Flames of Eternity
The Demolissionary
The Elderflower
The Enigmatic Cakelord
The Lost King
The Rooster
The Rosenthal Family
thegreat93
thekingtiger8
TheMunkis
Theo
TheOnlyWes
Theophenes
TheRustyScale
Thien Nguyendo
Thierry De Gagné
Thomas Brindley
Thomas Egebak
Thomas Franz
Thomas Green
Thomas Günther Estabrook
Thomas Ladegard
Thomas P. Kurilla
Thomas Rim
Thomas Scroggs
Thomas Tatum
Thomas Vanstraelen
Thomas Walters
Thomas Whittaker
Thor Hansen
Thorin Messer
Thoryn Haylett
thraggon@gmail.com
ThrustBomb
Tibor Kosa
Tiernan

Tiernán Ó hAlmhain
Tiffany Korta
Tim Bruning
Tim D
Tim Fowler
Tim Goodfellow
Tim H
Tim Knapp
Tim Rudloff
Tim Smith
Timecrash
Timo van Balen
Timolution
Timothy
Timothy Carroll
Timothy Carter
Timothy Huygens
Timothy Lam
Timothy McGowan
Timothy Samuel Whitworth
Tobey Feeley
Tobias Dahlberg
Todd Agthe
Todd McCorkle
Todd Phillip Hansen
Toju Xinshu
Tom Androy
Tom Bolenbaugh
Tom Cifelli
Tom Foolery Pritchard
Tom Lommel
Tom McGrenery
Tom Shen
Tom White
tom.kalbfleisch@gmail.com
Tomas B. C.
Tomas J Skucas
Tomas Rocha Martins
Tomer Gurantz
Tomio
Tone Berg
Toni P.
Toni Rheker
Tony A. Thompson
Tony Digaetano
Tony Lin
Tony Patterson
Topcc
Torstein Rødset
Toryn
Toy Spears
Trampas Johnson
Travis Cannon
Travis Coker
Travis Geery
Travis Wright
Trent Hamm
Trevor Bailey
Trevor Bammel
Trevor Fish
Trevor Hannon
Trevor McDonald
Trevor Proffitt
Trevor Sheldrake
Trevor Turner
Trevor Waggoner
Trip Space-Parasite
Tripleyew
Tristan Chester
Tristan Harness
Tristan Stewart
Troy LaGro
Troy Otway
Trylden
tunglashr
Turbiales
TurboGuy16
Tyler
Tyler Brunet
Tyler Frazier
Tyler Hunt
Tyler Justin
Tyler Martinez
Tyler Potter
Tyler Rennell
Tyler Wirth
Tyrian
Ubiratan Pires Alberton
Universal Knight
Uqbarian
Uwe Schumacher
Vaclav G. Ujcik
Valkyness
Valle Fabio
Valthek
Valtteri Rantamäki

Vance Rawson
Veronica Wakefield-Cooper
Vex Godglove
Vicknesh Suppramaniam
Victor Grinevskii
Victor Serrano
Victor Suarez
Victor Zammit
Vidal Bairos
Vincent Eskilsson
Vincent Newkirk
Vincent Yasi
Vincente Gonsalves
Violet Cason
Vlad Zsariski
Vojtech Pribyl
Von Redrikk Allenegui
VonEther
Vony256
Vorindi
Vorpal Rapier
W. David Pattison
Wade Patterson
wadledo
Wajanai Snidvongs
Walt
Wannes Ooms
Warren
Warren Nelson
Waste93
Wayne Clemmer
Wayne Grelle
Wes
Wes Fournier
Wes Makin
Wesley E. Marshall
Wesley S. Batson
wetgauntlet
whitewolfzita
Widdershins
Wilhelm Fitzpatrick
Will Bryant
Will Dawson
Will Gaffey
Will Konijn
Will Mitchell
Will Smith
William
William Anderson
William Fischer
William Hensley
William Hochella
William J. Decker
William James Dowie
William Kirk
William McCleery
William Nourse
William P
William Sainty
William Strickling
Willoxq
Willy Dustis, Esq.
Workshop
Xander
Xander Guzman
Xanmyral
Xavi Nieto
xtheflysamuraix
Yann Raoul
Yellowrobe
Yeran
Yodoza
Yongi
Yossi and Dad Siragher
You Don't Meet In An Inn
Young-hoon Lee
Yragael
Zac W
Zach
Zach Alexander
Zach Edwards
Zach Gauthier
Zachary B. Rogan
Zachary Bryan
Zachary Pilarski
Zachary Wysk
zachary.callen@gmail.com
Zack MacDonald
Zak Gordon
Zeb Berryman
Zelix
Zera Veronica Day
Zyfram
Zynx