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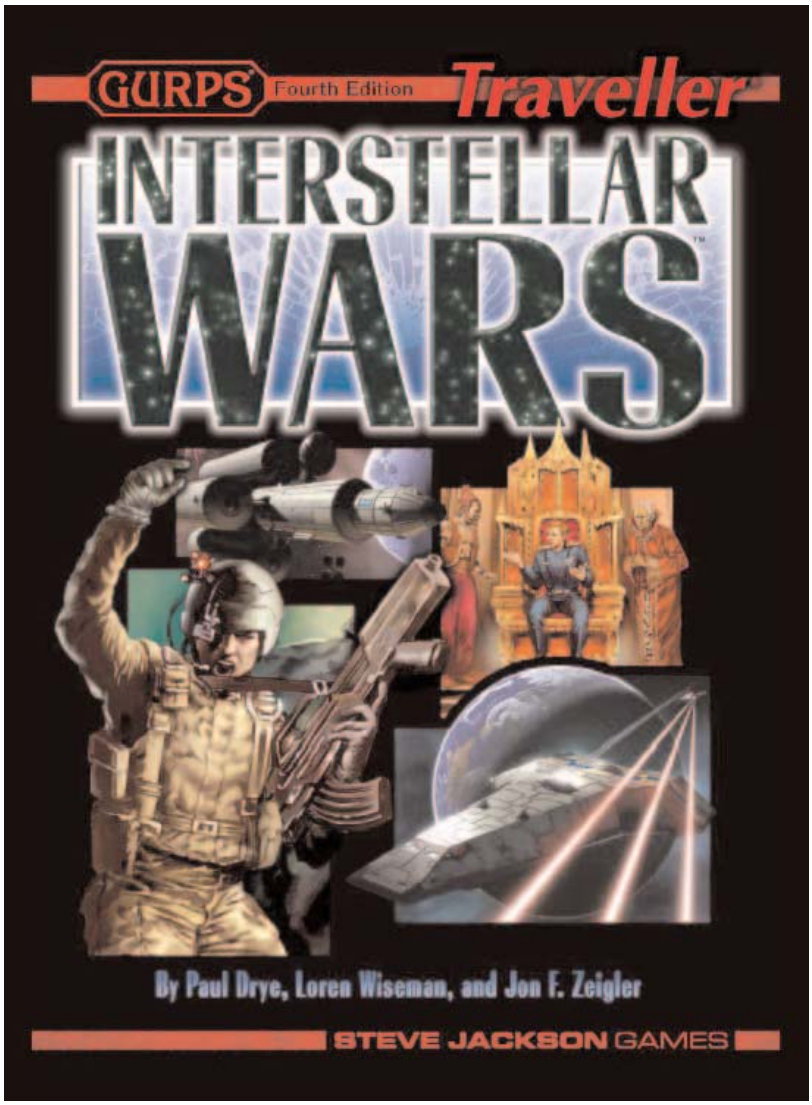

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This PDF is an electronic copy of the print edition of ***GURPS Traveller: Interstellar Wars***. All known errata at the time of the creation of this PDF document have been corrected.

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GURPS Fourth Edition *Traveller*®

INTERSTELLAR WARS™

By Paul Drye, Loren Wiseman, and Jon F. Zeigler

STEVE JACKSON GAMES

GURPS Fourth Edition *Traveller*®

INTERSTELLAR WARS™

Written by PAUL DRYE, LOREN WISEMAN, and JON F. ZEIGLER
Based on the award-winning *Traveller* science fiction universe by MARC MILLER
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STEVE JACKSON GAMES

Contents

Introduction 4
*About **GURPS*** 4
About the Authors 5

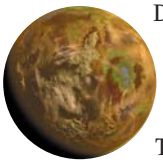
1. A Dangerous Galaxy . . 6
The Default Present 7
The Terran Confederation 7
Terran Colonies 10
Conquered Worlds 10
Being Terran 11
The Vilani Imperium 12
Outposts of Empire 13
The Mystery of Human Origins . . 13
Imperial Society 15
Being Vilani 16

2. The Epic Struggle . . . 17
Setting the Stage 17
The New Millennium 19
Rise of the UN 19
Using the Official History 19
The Conquest of Space 21
First Contact? 22
Unification 23
The Vilani Aristocracy 23
Opening Moves 24
The Pace of Operations 26
Terra on the Brink 27
The Empty Peace 29
How Did Terra Survive? 29
Breakout 31
Protracted Struggle 32
The Albadawi Period 34
Triumph and Uncertainty 37
Imperial Terra 37
The Imperial Collapse 39
Terrans and Colonists 40
Biographies 41
The Sharrukin Clan 41
Shana Likushan 42
Lorette Strider 43
Yukio Hasegawa 43
Kadur Erasharshi 44
Umar bin-Abdallah al-Ghazali . . 44
Sharik Yangila 45
Manuel Albadawi 45
Arpad Kovacs 46
Hiroshi Estigarribia 47

3. Terra 48
The Home Front 48
State of the World 48
The Citizen's Life 50
The Draft 51
Leisure and Entertainment 52
The Uplift Projects 52
The Terran Confederation 53
Political Organization 53
A World Under Siege 53
Major Nation-States 56
Colonial Administration 56
The Phoenix Expeditions 57
The Terran Navy 57
The Terran Marine Corps 59
Operations 59
The Terran Station 60
Terran Ground Forces 62
Army Slang 63
Operations 65
The Terran Merchant Marine 65
Major Corporations 67
Terran Starport Authority 68

4. The Imperium 69
Imperial Society 69
Vilani Psychology 69
Advertising 70
The Vilani Hero 71
The Vilani Way of Life 72
Classes and Careers 74
Vilani Culture 74
Vilani Longevity 75
Vilani Architecture *75*
The Vilani Imperium 76
Political Organization 76
Vilani Dissidents and Secret Societies 76
Sharurshid 77
Imperial Administration 78
Vilani Settlement Patterns 79
Subject Races 80
Anakundu 80
Answerin 81
Bwaps 82
Dishaan 83
Geonee 84
Anachronisms 85
Nugiiri 85
Suerrat 86
Vegans 88
The Vilani Military 89
The Vilani and Glory 89
The Vilani Navy 89
The Vilani Marines? 91
The Vilani Army 93

5. The Known Universe . 95
Describing Worlds 95
World Climate Table 97
Social Details 98
Map: The Galaxy 100
The Terran Neighborhood 101
Map Key 101
Shululsish Subsector 101
Map: Shululsish 103
Urima Subsector 103
Map: Urima 105
Duusirka Subsector 105
Map: Duusirka 107
Apishlun Subsector 107
Map: Apishlun 109
Dingir Subsector 109



Map: Dingir 111
Sol Subsector 112
Map: Sol 113
Looking Home 114
Thalassa Subsector . . . 116
Map: Thalassa 117
Capella Subsector 118
Map: Capella 119
The Green Badge 119
Gemini Subsector 120
Map: Gemini 121
Placing Worlds 121
Step 1: World Type 122
Step 2: World Size 122
Step 3: Atmosphere 124
Step 4: Hydrographics 124
Atmospheric Taints 125

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Step 5: Surface Climate 126
Step 6: Habitability and Resources 127
Placing Populations 127
Step 7: Population 128
Step 8: Starport Facilities 129
Naval Bases 129
Step 9: Government Type 130
Step 10: Control Rating 130
Step 11: Base Technology Level 130
Step 12: Trade Classifications . . 130
Port Modifier 131
Step 13: World Trade Number 131
Home Rule 131
PR Modifier Table 131
Step 14: Trade Routes 131
Per-Capita Income 132

6. Characters 133
Point Totals 133
Advantages, Disadvantages, and Skills 134
Status, Influence, and Wealth . . . 137
Status 137
Administrative Rank 138
Military Rank 139
Merchant Rank 141
Religious Rank 141
Merchant Rank Table 142
Wealth 142
Racial Templates 143
Occupational Templates 146
Jobs 157

7. Technology 159
Personal Gear 162
Armor and Protective Gear 162
Communications 162
Computers 162
Software Costs Table 164
Medical Equipment and Care . . 165
Sensors and Scientific Equipment 167
Survival Gear 167
Weapons 167
Vehicles 168

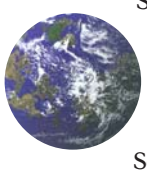
8. Starships 169
Starship Systems 169
Maneuver Drives 169
The Jump Drive 169
Bridge Systems 172
Sensor Systems 172
Life Support Systems 173
Starship Operations 173
Travel Times 173
Starship Costs 174
Interstellar Trade 177
Distance Modifier Table 179
Trade Volumes Table 179
Speculative Trade System 180
Speculative Goods Table 180
Actual Price Table 181
Interstellar Exploration 182
Survey Operations 182
Exploration Operations 184
Contact Procedures 184

9. Starship Design 187
Designing a Ship 188
Step 1 – Determine Design Concept 188
Step 2 – Hull 188
Step 3 – Armor and Surface Features 190
Step 4 – Evaluate Hull Design . 190
Step 5 – Drives 191
Step 6 – Fuel 191
Step 7 – Bridge 192
Step 8 – Sensors 192
Step 9 – Weapons and Defenses 192
Sensor Systems Table . . 193
Turrets Table 193
Turret Weapons Table 194
Spinal Mount Weapons Table 194
Bay Weapons Table 194
Step 10 – Small Craft 195
Step 11 – Power Plant 195
Step 12 – Crew 196
Step 13 – Quarters and Miscellaneous 198
Step 14 – Performance 200
Ship Hit Points Table 200
Drag Table 201
Step 15 – Finalize Design 201
Common Ships 201
Imperial 10-dton Missile Fighter 201
Terran 10-dton Light Fighter . . 202
Standard 10-dton Lifeboat 202
Standard 20-dton Assault Craft 202
Standard 30-dton Ship's Boat . . 202
Standard 100-dton Interplanetary Shuttle 203
Crockett-Class 100-dton Picket Ship 203
Deck Plan: *Crockett*-Class 100-dton Picket Ship 204
Iiken-Class 100-dton Scout/Courier 205
Phidippides-Class 200-dton Fast Courier 205
Hero-Class 200-dton Private Merchant 206
Deck Plan: *Hero*-Class 200-dton Private Merchant . . 207
Harmonious Repose-Class 200-dton Yacht 208
Lightning-Class 400-dton Frontier Merchant 208
Deck Plan: *Lightning*-Class 400-dton Frontier Merchant 209
Richtoffen-Class 400-dton Missile Corvette 210
Bannerjee-Class 400-dton System Defense Boat 210
Gashidda-Class 400-dton Imperial Patrol Cruiser 211
Zheng He-Class 800-dton Survey Vessel 211
Deck Plan: *Gashidda*-Class 400-dton Imperial Patrol Cruiser 212
Hardrada-Class 800-dton Commerce Raider 213
Karl Marx-Class 1,000-dton Heavy Free Trader 214
StarLeaper-Class 1,000-dton Exploration Vessel 214
Agrippa-Class 1,000-dton Corvette 215
Shamshir-Class 1,000-dton Imperial Destroyer Escort . . 215
Sharurshid Standard 2,000-dton Passenger Liner 216
Sharurshid Standard 2,000-dton Branch Freighter 216
Kargash-Class 2,000-dton Imperial Light Cruiser 216
Sharurshid Standard 10,000-dton Line Freighter 217
Indomitable-Class 30,000-dton Battleship 217

10. Starship Combat . . . 219
Sequence of Action 220
Detection and Communication Phase 221
Maneuver Phase 221
Movement Phase 222
Direct Fire Phase 223
Point Defense and Missile Phase 224
Launch and Docking Phase . . . 224
Damage Control Phase 225
Celestial Bodies 225
Special Rules 225
Charts and Tables 226
Space Weapons Table 226
Space Range Table 226
Sensor Modifiers 227
Gunnery Modifiers 227
Ramming Modifiers 227
Major Damage Table 227

11. Campaigns 228
The Default Campaign: Terran Free Traders 229
Goals 230
Campaign Character Packages . . 231
Obstacles 232
Resolution 232
Alternative Campaigns 232
Main Fleets 232
Commerce Raiding 232
Ground Warfare 232
Occupation 233
Exploration 233
Colonization 234
Diplomacy and Espionage 234
Campaign Seeds 234
Exiles to Glory 234
Grand Tour 235
Terra Conquered 235
Alternate Interstellar Wars 236
Adventure Seeds 237

Index 239



Introduction

Traveller was first published in 1977. It was one of the *first* roleplaying games, and for many years it was the standard by which all other science-fiction RPGs were measured. At first, the game was very nearly generic. It made certain broad assumptions about the far-future universe characters would travel in, but the details of back story and setting were largely left for players to define. Before long, however, a specific setting began to take shape: a vast Imperium existing over 3,000 years in the future, controlling thousands of worlds, with its own leaders, social forces, and deep history.

Yet the galactic state portrayed in ***Traveller*** was the *Third* Imperium, the successor to other empires that had existed long before. Once there had been a *First* Imperium, which laid the groundwork for everything that followed. After thousands of years of ruling the known galaxy, the First Imperium came into contact with an obscure barbarian race, backward and poor, from a world called Earth.

The Interstellar Wars followed: struggles against overwhelming odds, exploration of exotic worlds, heroism, betrayal, triumph, tragedy . . . and, in time, the fall of empire.

The Interstellar Wars era is one inspired by science fiction of the "space opera" genre. Here you will find epic battles, new worlds to explore, long trade voyages, exotic aliens, and the clash of civilizations. Fans of Poul Anderson, Isaac Asimov, James Blish, or E.E. "Doc" Smith – or of more recent "star empires" fiction, by authors like Iain M. Banks or David Weber – will find this universe to their liking.

As a concept, the Interstellar Wars actually predate ***Traveller*** itself. In 1976, before the first ***Traveller*** books were published, a subsidiary of Game Designers' Workshop published a board game titled ***Imperium***. The early versions of the game portrayed the early conflicts between Terra and a vaguely defined alien empire. In 1977 and 1978, new printings of the game were released directly by GDW. The board game was soon integrated into the ***Traveller*** back story, the "aliens" becoming the Vilani, their empire becoming the First Imperium of ancient history. By 1980 the Interstellar Wars were a well-established part of the ***Traveller*** future history, and the stars of the ***Imperium*** game map had been placed on the ***Traveller*** galactic map. Later releases of ***Imperium*** included "color" material that had originally been developed for ***Traveller***.

Imperium still exists – indeed, Avalanche Press released a new

edition of the game in 2001, which remains in print. Yet after over 25 years, the Interstellar Wars era has never made the transition to a role-playing game . . . until now.

If you're a long-time ***Traveller*** fan, here's your first chance to explore one of the most critical – but least-known – periods in the history of the Third Imperium.

On the other hand, if you're new to ***Traveller***, this book is *specifically* designed for you. Aside from the ***GURPS Basic Set***, the book you are holding provides everything you'll need to begin adventuring in the Interstellar Wars era. You won't need any other ***GURPS*** or ***Traveller*** materials to play – in particular, you won't need any of the dozens of ***Traveller*** sourcebooks that have gone out of print over the years. If you've always wanted to try ***Traveller***, here's an opportunity to do so in a setting that offers epic adventure.

About the Authors

When Paul Drye was 12 years old, his parents took him on a long plane trip. To give him something to do in-flight, they took him to a "game store" beforehand and let him buy any one item off the shelf. In the dusty corner labeled "roleplaying," he reached up and pulled down . . . ***Champions, the Superhero Roleplaying Game***. Fortunately, his brother had cut the same deal with his parents, and *he* picked ***Traveller***. This is all your fault, Stephen.

Loren Wiseman was one of the founding partners of GDW, the original publishers of ***Traveller***. He spent more than 20 years there as a game designer, developer, typesetter, and editor. After GDW closed, Loren freelanced for a while, and then came to Steve Jackson Games, where he serves as the ***GURPS Traveller*** Line Editor.

Jon F. Zeigler has been a science fiction fan since the cradle (literally). He and his wife and two children live in Maryland, where he works as a computer security consultant. He has written or contributed to over a dozen books for ***GURPS***, and served for two years as the ***GURPS Traveller*** Line Editor.

About *GURPS*

Steve Jackson Games is committed to full support of ***GURPS*** players. Our address is SJ Games, P.O. Box 18957, Austin, TX 78760. Please include a self-addressed, stamped envelope (SASE) any time you write us! We can also be reached by e-mail: **info@sjgames.com**. Resources include:

Pyramid (**www.sjgames.com/pyramid/**). Our online magazine includes new ***GURPS*** rules and articles. It also covers the ***d20*** system, ***Ars Magica, BESM, Call of Cthulhu,*** and many more top games – and other Steve Jackson Games releases like ***Illuminati, Car Wars, Transhuman Space,*** and more. *Pyramid* subscribers also get opportunities to playtest new ***GURPS*** books!

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Errata. Everyone makes mistakes, including us – but we do our best to fix our errors. Up-to-date errata sheets for all ***GURPS*** releases, including this book, are available on our website – see below.

Internet. Visit us on the World Wide Web at **www.sjgames.com** for errata, updates, Q&A, free webforums, and much more. The ***GURPS Traveller: Interstellar Wars*** web page can be found at **www.sjgames.com/gurps/traveller/interstellarwars/**.

Bibliographies. Many of our books have extensive bibliographies, and we're putting them online – with links to let you buy the books that interest you! Go to the book's web page and look for the "Bibliography" link.

GURPSnet. This e-mail list hosts much of the online discussion of ***GURPS.*** To join, point your web browser to **mail.sjgames.com/mailman/listinfo/gurpsnet-l/**.

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

Journal of the Travellers' Aid Society

The long-running ***Traveller*** magazine is now online at **jtas.sjgames.com**. It supports all versions of ***Traveller*** with news, articles, discussion areas, and reviews. Subscriptions are $20 per two years, for 52 biweekly updates and full access to archives.

The *Traveller News Service* is updated weekly, chronicling the life and times of the Imperium, and is viewable *free* at **www.sjgames.com/gurps/traveller/news.html**. The SJ Games ***Traveller*** links page **(www.sjgames.com/gurps/traveller/links.html)** links to the ***Traveller*** Web Ring, which includes most of the major ***Traveller***-oriented websites. For information on subscribing to the ***Traveller*** mailing list, go to **lists.travellerrpg.com.**

Chapter One
A Dangerous Galaxy

March 12, 2170 – Nusku star system, in Terran space:

*"**Cutty Sark**, you are cleared to the Apishal jump point. Your flight plan is on file as of 0900 standard time today, 12 March 2170. Squawk 2495. Maintain heading 090 for orbital insertion lane 43. Contact Nusku Departure Control on channel 65 passing through 50,000 feet."*

*William Blake nodded to the communications officer, who adjusted controls. "Nusku Tower, this is **Cutty Sark**, squawking 2495, on the go. Frequency change to Departure Control confirmed at this time. Thank you."*

Blake surveyed the cramped bridge, watching his officers going about their duties. They were a trifle rough, he judged. Just settling into their work, not really a team yet. That would change.

"Mr. Shimannii," he ordered, "forward cameras on main viewer, please."

"Aye, sir," said the pilot, his Vilani accent cool and unruffled.

An image sprang into being, the blue-brown arc of Nusku's surface falling away below, blue and white sky above fading rapidly to black. Even with a full cargo hold, the ship's engines were able to slam through the dense lower atmosphere, bringing it to the edge of space in mere minutes from level flight.

"I never get tired of that," Blake murmured to himself.

"Altitude 50,000 feet," reported Shimannii.

*"Thank you. Nusku Departure Control, this is **Cutty Sark**, climbing through 50,000 feet, bound outsystem for Apishal."*

*"**Cutty Sark**, this is Nusku Departure Control. We have you in radar contact. Continue standard departure profile, no need to contact Orbital. Current weather shows clear. Good luck and Godspeed."*

*"Nusku Departure, this is **Cutty Sark**, thank you and good day."*

Blake looked around at his officers, then at the stars now shining clearly on the viewscreen. "Let's go."

The Default Present

Interstellar Wars covers a period of about 200 years, from the beginning of the First Interstellar War (in 2114) to the collapse of the Vilani Imperium (in 2302).

The material presented in this book will permit GMs to run adventures at any point in the Interstellar Wars era. However, in many cases the book assumes a specific point in time – 2170 A.D., late in the Empty Peace between the Third and Fourth Interstellar Wars. Any text written in the present tense will assume this "default present." Text describing how the setting changes over time will usually be written in past or future tense, and may be placed in text boxes to set it aside from the main line of description.

As of 2170, the Terran Confederation has reached its "mature" form, in which it will remain more or less stable for the rest of the era. Terrans have survived the initial Vilani onslaught, but they still risk conquest if the Imperium should ever make a concerted effort. Terran adventurers are beginning to infiltrate deep inside the Imperium, coming into contact with its many worlds and internal factions.

The ***Traveller*** future history stretches thousands of years into the future, but it has its roots almost in the present day on Terra. Long before the rise of the Third Imperium, humans from Terra struggled mightily to reach the stars – only to discover that most of them were already claimed by *other Humans*, originating under distant suns. For 200 years, Terra stood against the might of a vast interstellar empire, the *Ziru Sirka* or Vilani Imperium. The epic conflict changed both societies forever, and laid the foundation for the empires of the far future.

Interstellar Wars covers the era of that conflict, roughly the 22nd and 23rd centuries A.D. At the beginning of the period, Terra was a single world, only beginning to explore interstellar space, vastly outnumbered and outgunned by the Vilani Imperium. By the end of the era, Terrans had taken over the Empire as its new rulers.

The period was one of epic conflict and high adventure. Terrans brought down the Imperium through a combination of high heroism and crass opportunism, stout courage and treacherous cunning. There was also a great deal of sheer luck – for much of the period, the Terrans were constantly in danger of conquest and the end of their independent civilization.

The Terran Confederation

For I dipt into the future, far as human eye could see,
Saw the Vision of the world, and all the wonder that would be;
Saw the heavens fill with commerce, argosies of magic sails,
Pilots of the purple twilight dropping down with costly bales;
Heard the heavens fill with shouting, and there rain'd a ghastly dew
From the nations' airy navies grappling in the central blue;
Far along the world-wide whisper of the south-wind rushing warm,
With the standards of the peoples plunging thro' the thunder-storm;
Till the war-drum throbb'd no longer, and the battle-flags were furl'd
In the Parliament of man, the Federation of the world.

– Alfred, Lord Tennyson, ***Locksley Hall*** *(1842)*

By the end of the 21st century, the United Nations was functioning as a world government. Only the most powerful nations could pursue any form of independent policy. For the smaller states, national sovereignty was as dead as the divine right of kings.

For most of the ***Interstellar Wars*** era, Terra and those worlds under Terran control were under a single governing body – the Terran Confederation.

The Terran Confederation grew out of the old United Nations organization. The UN began its history as an almost-impotent forum for international debate; for several decades, real power remained with the nation-states of divided Terra. However, in the course of the 21st century a series of global crises proved impossible for even the strongest nations to handle without close cooperation. Imperfect and unpopular as it often was, the UN was the only global institution in a position to consistently resolve international disputes and provide the coordination necessary to keep civilization afloat.

By the end of the 21st century, the United Nations had been reformed several times and was functioning as a world government. The world's nation-states were still in existence, but the center of power had shifted upward to the UN. Only the most powerful nations could pursue any form of independent policy. For the smaller states, national sovereignty was as dead as the divine right of kings. The UN was widely resented, but few Terrans could suggest a viable alternative, and the stability of Terran civilization had come to depend on the UN's rule.

After the near-debacle of the First Interstellar War, the UN was once again reformed and restructured, admitting representatives from the offworld colonies for the first time. The new governing structure, renamed as the Terran Confederation, provided leadership for the rest of the Interstellar Wars era. By the end of the Interstellar Wars period, the Confederation holds uneasy sway over thousands of inhabited worlds.

The Terran Confederation provides a veneer of social and political unity for Terran civilization. Still, even at its height the Confederation is not perfectly unified. There are a number of significant divisions – between major and minor nation-states, between the Terran homeworld and the colonies, and between Terran-dominated worlds and those that had been conquered from the Vilani Imperium.

The Homeworld

The 21st century was a time of almost constant crisis. Wars and revolutions killed millions of people. Agricultural failures and shortages of fresh water threatened billions with famine. The planet's climate shifted. New diseases appeared and swept through the world's population. Thousands of living species became extinct outside of zoos and laboratories.

Even so, Terra survived. It was battered, but still habitable for its population of over ten billion. By the time of the Interstellar Wars, Terran society had changed dramatically in several key respects.

Decline of the Nation-State

The survival of Terran civilization was almost certainly due to the collapse of an old political ideal: the notion of national sovereignty.

At the beginning of the 21st century, Terra was divided into about 200 nation-states. In theory, every one of these states was completely autonomous, free to apply any policies it wanted within its own borders. Every nation ran its own government, maintained its own armed forces, and fiercely resisted any outside interference. Even the smallest nations were permitted the fiction of sovereign independence.

> *We must all hang together, or assuredly we shall all hang separately.*
>
> *– Benjamin Franklin (1776)*

In part, the principle of national sovereignty was a reaction against an earlier period of Terran history, in which powerful nations had built globe-spanning "colonial" empires at the expense of weaker peoples. National sovereignty was regarded as the best way to prevent any such abuses in the future. For several decades, the stability of the global political order appeared to depend on the existence of sovereign nation-states.

By the early years of the 21st century, this ideal was beginning to show its age. Some national governments engaged in terrible abuses of their own citizens – mass deportations, torture, and murder. The principle of national sovereignty was discredited when it served to protect such regimes.

Meanwhile, as the world community became increasingly interconnected, the "internal" policies of one nation often had profound effects on others. Some nations pursued selfish economic strategies, enriching their own industries at the expense of others. Some refused to take action to protect the environment, with consequences that were felt globally. Some permitted internal corruption to run wild, harming industrial development and destabilizing their neighbors. Some provided a safe haven for political revolutionaries who used terrorism against their enemies.

As the 21st century wore on and civilization several times teetered on the brink of collapse, it became obvious that even the largest nation-states could no longer be permitted complete sovereignty over their internal affairs. Policies that violated basic human rights, or those that exacerbated the rising global crises, could no longer be tolerated. Over time, this trend helped consolidate governmental power in the hands of the UN.

The Terran Confederation is backed by a loose alliance of the most powerful nation-states. The smaller nation-states remain in existence, but their ability to set their own internal policies is now strictly limited. Corruption, industrial mismanagement, ecological negligence, revolution, violations of human rights – any of these is likely to provoke the Confederation into sending in military forces to depose one regime and put another in its place. Such "peacekeeping" campaigns are much less common today than they were in the late 21st century, but they still take place every few years.

Meanwhile, the most powerful nations have kept some of their own sovereignty, but even they must bow to the consensus of their partners. The alliance of major states, acting through the Terran Confederation, is more powerful than any one of its members. On several occasions, major nations have attempted to break away from the Confederation on some point of internal or foreign policy, and have been brought to heel by economic pressure or the threat of force.

Today, the idea of "national sovereignty" has been pushed to the

margins. Most Terrans who take the idea seriously are dissidents, nationalist rebels who oppose the Confederation and would like to see it dismantled. Mainstream political theory emphasizes the survival of Terran civilization as a whole, and sees the Confederation as the best way to insure that survival and secure the basic rights of every Terran citizen.

Cosmopolitanism

As of 2170, Terrans are far more cosmopolitan than their ancestors of the early 21st century. Although the Terran population remains very culturally diverse, most Terrans are familiar with the major features of cultures other than their own. More importantly, most Terrans are better able to *appreciate* the positive aspects of foreign cultures; societies that cut themselves off from outside contact, or which react with automatic hostility to "foreign" ideas, are now very much in the minority.

History is full of ironies. We finally learn to stop shooting at each other, at least most of the time, and what happens? We meet someone much bigger and stronger, and they start shooting at us.

– Bryce Kendall, British humorist (2105)

To some extent, this is a natural consequence of technological change. Even the poorest Terrans have had access to globe-spanning voice, text, and image services for over 150 years. This doesn't guarantee that Terrans will approve of foreign ideas, but it certainly makes it easy for any citizen to come into contact with them.

Cosmopolitan attitudes are also strongly encouraged by government policy. For almost a century, the UN and the Terran Confederation have done their best to discourage cultural isolationism and xenophobia. The world information grid has been subsidized, helping it to expand into every region of the planet. Passenger travel has also been subsidized, and nation-states have been rewarded for permitting free movement across their borders. Nation-states have been actively prevented from restricting the flow of information across their borders. Xenophobic local regimes have been deposed, in favor of those more willing to remain part of the world community.

As a result, more Terrans enjoy "foreign" media and entertainment, more Terrans work in a country other than the one in which they were born, and more Terrans routinely travel abroad than at any former time in history. Most Terrans speak at least two languages. Meanwhile, the modern dialect of English (which has plenty of loan words and slang from Mandarin, Spanish, and other languages) seems likely to become the first *universal* Terran language. It is already the official common language of the Terran Confederation Navy, and it serves as a *lingua franca* throughout the Terran colony worlds and nearby Imperial space.

One potential downside of this cosmopolitanism is the marginalization of many local cultures. Of the thousands of Terran languages spoken at the beginning of the industrial era, the vast majority now have no native speakers. Today, many local cultures only persist through active policies to preserve them. Some Terrans worry that many languages and cultures will only survive until the first period of apathy causes the preservation efforts to lag. Of course, the opening of interstellar travel and colonization has provided an opportunity to establish new worlds where distinctive cultures can more easily be preserved.

Progress and Prosperity

Despite the turmoil of the 21st century, Terran civilization has made a great deal of technological and economic progress.

New technologies have given Terrans a wide range of capabilities that were unknown in the early 21st century. Fusion power plants produce cheap, clean, abundant energy. Gravitic control has reduced transportation costs significantly – especially the cost of transporting goods from the Terran surface into space. Space development has made vast mineral and other resources available. Biotechnology has improved crop yields, and has done much to preserve the planet's last remaining wilderness areas. Advances in medical science have reduced the death toll due to infectious disease, heart disease, cancer, and other historical scourges.

Technological progress drives economic productivity; the Terran economy has nearly *30 times* the output that it did at the beginning of the 21st century. The average standard of living, worldwide, is about equivalent to that of the typical Western European in 2000 Very few Terrans currently live in real poverty or lack even the basic requirements of diet, clothing, shelter, and education. The wealthiest regions offer a lifestyle that would have been unthinkable in past centuries. Disparities in wealth and income still exist – many regions still have far to go to catch up – but most citizens find life much easier and more pleasant than their ancestors once did.

One unusual feature of the modern Terran economy is the very high level of military spending. Even in peacetime, about 7% of the planet's Gross Domestic Product is devoted to the military and to paramilitary projects such as the interstellar colonization effort. In times of open war against the Vilani, the military budget has sometimes risen as high as 15% of the planet's GDP. This level of military spending, sustained over decades of time, is almost without precedent in Terran history. It has profound effects on Terran society and politics, and would probably be impossible to sustain were it not for the obvious and continuing threat of the Vilani Imperium.

Terran Colonies

Terrans have settled a number of worlds, both in the Terran star system and elsewhere. See Chapter 5 for details of some of these colonies.

Worlds and Outposts

Due to the vagaries of astrography, Terra is in the midst of a "pocket" of stars in a region of space cut off on two sides by the Vilani Imperium and on the other two sides by a jump-3 "gap" (see Chapter 8 for a discussion of the interstellar *jump drive*). This has always tended to channel Terran expansion toward Imperial space. The situation is further complicated by the fact that there aren't very many Terra-like worlds inside the "pocket." Aside from Prometheus (p. 114) and Terra itself, the worlds immediately available for colonization at the beginning of the Interstellar Wars were no more than marginally habitable.

As a result, most Terran settlement has gone to Prometheus, and the Terran Confederation spends most of its effort on pushing the Imperial border back rather than exploring across the gap into uncharted space. There are known to be many Terra-like worlds inside the Imperium, most of them already developed by the Vilani but lightly settled by Terran standards. If the Imperium can be pressed back, all that desirable real estate will fall into Terran hands.

That doesn't mean that the marginal worlds inside the "pocket" are being neglected. Some of them have valuable resources to offer, while others are in strategic locations that invite the placement of way stations or defensive pickets. Terran policy is to place at least a military outpost in almost every reachable star system – if any local resources are worth developing, an industrial colony can take shape as well.

Some of the first interstellar outposts were established by national or private interests, but by 2126 all of them were brought under direct Confederation control. Today, all outposts that are primarily of a military character are administered by the Navy, while civilian industrial settlements are governed by the Colonial Bureau. There is always a planetary Governor appointed by the appropriate Confederation ministry, and a local advisory board composed of leading citizens of the outpost.

Once a colony has a substantial population (usually at least 1 million) and is economically self-sufficient, it can apply to the Confederation for home rule. If the petition succeeds, the Terran Confederation's colonial government is withdrawn, and the colony is admitted to the Confederation as an independent nation-state. As of 2170, this has only happened four times (Luna and Prometheus in 2122, Mars in 2128, and the once-Vilani world Nusku in 2161).

Although independent colony worlds can design their own laws and forms of government, they suffer the same limitations on their national sovereignty as nation-states back on Terra. They are protected somewhat by distance; colony worlds enjoy more independence of action because it would cost the Confederation more to send in a "peacekeeping" expedition. On the other hand, the colony worlds get only token representation within the Terran Confederation government, which remains under the control of the major nation-states on Terra. The net result is that the colony worlds often feel separated from the homeworld by social as well as physical distance.

Conquered Worlds

As the Interstellar Wars progress and Terran Confederation slowly gains the upper hand over the Imperium, many long-settled Vilani worlds will pass into the Confederation's control. As of 2170, however, there is only one such world (Nusku – see p. 112). In later years there will be dozens, then hundreds, then thousands of conquered worlds.

The Process of Conquest

The conquest of a Vilani world begins when the Terran Confederation Navy secures the space above it. Once the Imperial Navy is forced to withdraw, the world it defended is cut off from the Imperium and laid open to invasion.

In many cases, an Imperial world will surrender as soon as the Terran Navy arrives. Thousands of Imperial worlds are inhabited by minor-race Humans, aliens, or Vilani from some

Being Terran

Even though Terra has come under the unified rule of the Terran Confederation, Terran society still exhibits a lot of diversity. It's difficult to define a set of features that most Terrans have in common. Of course, those few Terrans who are likely to go on interstellar adventures are likely to have unusual personal histories – the community of Terran adventurers *does* have a number of features in common.

Innovation

The last few centuries have been hard on Terra's traditionalist subcultures. Waves of social, economic, and technological change have shattered many communities that would have preferred to cling to ancient ways of life. Although a few such communities still survive, most of today's Terrans are at least able to adapt to change.

Naturally, those Terrans who are likely to leave the homeworld for interstellar adventure are the most adaptable, even creative, of their kind. Many of them are entrepreneurs, aggressively seeking out new opportunities to make a fortune. Others are social or political misfits, who wish to escape the heavy hand of Confederation rule and set up a new community on another world.

Militarism

Since the beginning of the Interstellar Wars, the Terran Confederation military has become one of the dominant institutions of Terran life. Every adult Terran is required by law to serve a short term in public service, and many serve in the military during this period. Most citizens have either served in the regular military forces, or are close to someone who has. This is particularly true of Terrans who have the opportunity to seek adventure among the stars – prior military service is almost a requirement for many starship-crew or colonial jobs.

Individual Terrans vary in their attitudes toward the military, of course. There are very few rabid Terran imperialists, out to tear down the Vilani by any means necessary. There are also very few absolute pacifists. Most Terrans, especially those with prior service, view the military as a *necessary*, but not always positive, institution.

Independence

Most of the homeworld's citizens are at least tolerant of the Terran Confederation's rule – they may not agree with all of the Confederation's policies, but they support the Confederation as the best way to ensure Terran survival. Those who disagree are among the most likely to move to the colonies, or to take a job involving travel far from Terra. As a result, members of the Terran interstellar community are likely to be much more independent and disrespectful toward authority than citizens back on the homeworld.

This independence doesn't mean that all Terran adventurers are rebels. Most colonists and starship crewmen are willing to give the Confederation their loyalty, especially when directly employed by the government. However, that loyalty isn't likely to be unquestioning or absolute. The colonist or crewman is always thinking for himself. He prefers to avoid government interference when off-duty, and may eventually put his own interests ahead of those of the Confederation.

khagarii culture (p. 15). Many of these worlds chafe under Vilani rule and would like nothing more than to break away. Even some mainstream Vilani worlds have no real loyalty to the central Imperial government. Terran policy is to encourage such dissension within the Imperium, treating the subject peoples with respect, making alliances with them rather than imposing harsh Terran rule on them. As a result, many worlds switch sides as soon as it's clear that the Imperium has no way to retaliate.

If a world resists, or if loyal Vilani troops remain behind after the Imperial Navy withdraws, then the Terrans must fight to secure the planet's surface. This is often a long process, a siege rather than a quick campaign of maneuver. A ground war for the conquest of a major Vilani world usually lasts several months; some Imperial worlds with well-prepared defenses hold out for years at a time. But eventually, the last pockets of Imperial resistance are stamped out.

Unless a world has negotiated a full alliance with the Confederation ahead of time, Terran policy is to place a military government in temporary command. A large portion of the Terran military is trained to provide competent military administration for Vilani, and even non-Human, populations. Important industrial and social centers are secured, police protection is provided, and insurgents are located and dealt with. As of 2170, the Confederation is still gathering experience in how to deal with conquered Vilani populations. The skill, number, and size of "occupation armies" will grow rapidly in the coming decades, however, as more and more Imperial worlds come under Terran control.

During the period of military occupation, Terran civilians come in large numbers to the newly conquered world. Some take up positions in charge of civil administration and major industries, usually sharing power as far as possible with local leaders. Other Terrans come simply to make their fortunes, providing services to the civil administration or setting up new businesses among the local populace. All of these newcomers bring their families, setting up permanent Terran communities on the new world.

Eventually the military occupation is withdrawn, and the world is given self-government within the Terran Confederation. Confederation policy is to make sure that local citizens are as involved as possible, consistent with the need to maintain good order and make the world's industries available to the Terran war effort. Even so, Terrans are likely to be very influential in the new world-state.

Mutual Assimilation

Vilani worlds enter the Terran Confederation through "conquest," but in the long run the process is more one of mutual assimilation. The Vilani citizens of a conquered world often begin to imitate Terran customs, political theories, and social structures. They learn Terran languages, read Terran literature, choose Terran names for themselves or their children, open businesses organized along Terran lines, hold office in the Terran-imposed political system, and so on. Already in 2170, this process is underway on Nusku; in the coming centuries, billions of Vilani on other worlds will become "imitation Terrans."

More importantly, this process works in both directions. Terran settlers on former Imperial worlds are far from the home world, and are often vastly outnumbered by their Vilani colleagues. Some of them respond by clinging to their Terran identity, isolating themselves from the Vilani population, sometimes even holding the Vilani in contempt. The more effective response, taken by most Terran settlers, is to integrate into the Vilani populace. Terrans often find Vilani culture attractive – they are likely to pick up a few Vilani folkways and bits of Vilani language. Some Vilani welcome Terran settlers into partnerships, forming business and family connections to further integrate the two communities.

Within a few decades, a "conquered" Vilani world will usually develop a distinctive culture of its own. A mixed Terran-Vilani ruling class grows, Terran in language and in most of its customs, but feeling more attachment to the local (mostly Vilani) population than to distant Terra. So long as the wars against the Vilani Imperium continue, the former Imperial worlds are likely to remain loyal to the Terran Confederation – but they will look for safe ways to assert their independence from the home world.

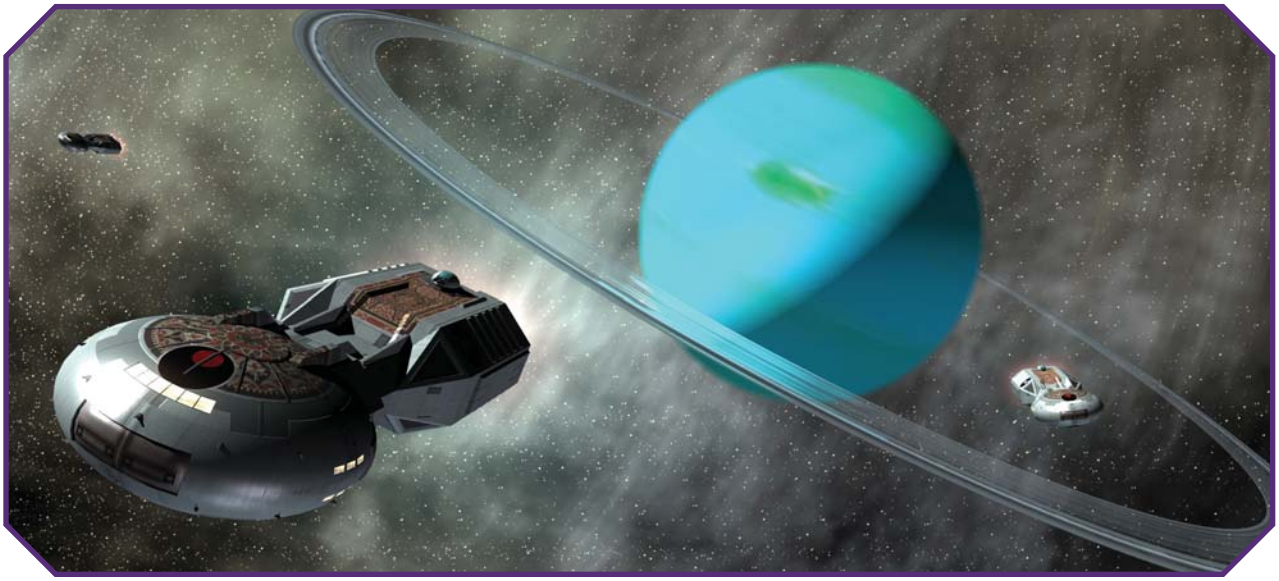
The Vilani Imperium

Is it not a noble farce, wherein kings, republics, and emperors have for so many ages played their parts, and to which the whole vast universe serves for a theater?
– *Michel de Montaigne,* ***Essays*** *(1580)*

When Humans from Terra first reached the stars, they expected to be surprised by what they found. The universe was vast and would doubtless contain wonders beyond imagination. What no one expected – what no one could have predicted – was the presence of other Humans already living among the stars, running a vast interstellar civilization that was already thousands of years old.

In 4000 BC, there was no civilization on Terra. Settled agriculture was just beginning in a few favored regions. The largest town on the planet had a population of less than a thousand souls. The mystic city-states of Sumeria, the pyramid-building dynasties of Egypt, and the half-mythical kings of Shang China, were all centuries in the future.

In 4000 BC, the Human race known as the Vilani had already developed the jump drive and was busily exploring the galaxy. While Egypt built the pyramids, the Vilani built interstellar colonies. While the Greeks refined the tactics of shield and iron-bladed spear, the Vilani launched campaigns of conquest across the galaxy. While Rome rose and fell, the Vilani established an interstellar empire that spanned ten thousand worlds. That empire – the *Ziru Sirka*, also called the "Grand Empire of



Stars" or the Vilani Imperium – still exists today. It presents the ultimate challenge to Terran civilization.

Outposts of Empire

The Vilani Imperium occupies an irregularly shaped region of space, about 220 parsecs coreward-to-rimward and 160 parsecs spinward-to-trailing. The Vilani homeworld is actually well away from the center of this volume. For a variety of historical and astrographic reasons, the Vilani expanded much further toward the galactic rim and "down" the Local Arm of the galaxy than in other directions.

The small bubble of stars currently under Terran control is nestled close to the extreme rimward frontier of Imperial space. Terra itself is only a few parsecs beyond the final edge of Vilani settlement. Indeed, it's a minor miracle that the Vilani failed to discover the existence of Humans on Terra centuries before Terrans attained spaceflight.

On Imperial maps Terra is located in the Kushuggi sector, also informally known as "the Rim Province." The region is a relatively "young" segment of the Vilani empire. Although a few Vilani scouts tentatively explored the sector as early as 1500 BC, the first permanent Vilani settlement was only established a thousand years later. Almost all of the Imperial worlds in the immediate vicinity of Terra were colonized during the first millennium A.D. (see Chapter 5).

The worlds of the Rim Province are lightly settled – even the most hospitable planets have Human populations of only 2-3 billion. They are also very distant from the Imperial core – the fastest courier service still needs more than two years to carry a message from the provincial capital to Vland, the Vilani capital world. As a result, despite over a millennium of Imperial settlement, the province retains a strong "frontier" flavor. Local Imperial administrators feel cut off from their superiors in the Imperial core. Local Vilani populations are often more stubbornly independent than their distant kin on Vland, and more inclined to pursue their own interests rather than those of the empire as a whole.

The Mystery of Human Origins

Over centuries, Terran scientists became certain that Humans evolved from non-sapient origins on Terra. Humans are well-adapted for the Terran environment. Genetic analysis shows that they are closely related to other Terran animal species, especially the nearly extinct great apes. The fossil record, incomplete though it may be, clearly indicates a line of development that gave rise to modern Humans.

Contact with the Vilani threw the Terran scientific community into chaos. The Vilani originated far from Terra and have been on their homeworld for ages. Yet they are fully Human, a first impression that has been confirmed by both medical examination and intermarriage with Terrans.

Also, the Vilani Imperium contains other Human races – dozens of them, each originating on a different world in the distant past. According to Imperial scientific data, the various Human races known to the Vilani all seem to have appeared at close to the same time, about 300,000 years ago.

Terran scientists have developed several theories to account for the presence of Humans on worlds distant from Terra.

Convergent Evolution: This theory claims that the Human shape and psychology are optimal for a tool-using sapient species, and that they have somehow been selected for on many widely separated worlds. The scientific community never took this theory very seriously, although it has some support from the religious community and from certain pseudo-scientific groups.

Lost Human Civilization: Another theory holds that there was an unknown high-technology culture in Terra's distant past, which explored the galaxy hundreds of thousands of years ago and then vanished. This civilization supposedly left behind "lost colonies" that eventually became the present-day Human homeworlds. Archaeologists have combed Terra for signs of this ancient spacefaring culture, and have found no trace. Pseudo-scientists still talk about Atlantis, or lost civilizations now buried under a mile of Antarctic ice.

Alien Interference: Some scientists suggest that aliens must have transplanted Human stock to many worlds in the distant past. This theory seems to be the most likely – aliens visiting Terra to pick up "samples" might not leave much evidence behind. The hypothetical aliens who may have transplanted Humans around the galaxy are usually called "the Ancients."

The Vilani themselves have shed very little light on the subject. Most Vilani who are interested in pre-Human history lean toward the "alien interference" theory. They point to artifacts and mysterious sites that have been found on hundreds of worlds, and which appear to predate the rise of any Human civilization. The earliest Vilani legends speak of mysterious "gods," possibly referring to the aliens (or to their robotic servants).

Of course, most Vilani are not interested in such abstract questions. Very few Vilani are willing to admit that Terra could possibly be the Human homeworld . . .

Corporate Feudalism

The Vilani govern their empire with a very light hand. They have no choice – the sheer size and dispersion of the Imperium make it impossible to govern with strict central control. Instead, local officials have a great deal of autonomy, handling most situations on their own and making occasional reports to their superiors. A vast (but loose) hierarchy covers the empire, from the few ultimate leaders on Vland down to the *billions* of local administrators who get things done.

In many ways, the Vilani hierarchy is similar to the feudal political systems once common on Terra. High office is often inherited, and political influence tends to run in important noble families. Officials live within a complex web of obligations and privileges, defining how they must behave toward their superiors and subordinates.

Unlike most of the Terran feudal systems, the Vilani aristocracy is not military or religious in nature. Vilani nobles are not primarily warriors or priests – instead, they are *managers*, leaders of business enterprises or the civil bureaucracy.

Indeed, the line between business and government is almost invisible in Vilani society. Organizations that provide civil administration are expected to produce a surplus. Business firms provide housing and consumer goods, organize military defense and police protection, administer civil justice, and perform other "government" services for their employees.

This blending of corporate and government institutions is most obvious at the highest levels of Vilani society. For example, the regions of Vilani space closest to Terra are ultimately controlled by a single organization called *Sharurshid* (roughly translating as "Direct Exchange Facilitators"). Sharurshid is a vast organization run by a network of Vilani noble families. It operates as a corporation; its primary business is interstellar trade and transportation, but it has thousands of semi-independent subsidiaries that manufacture goods and provide services on individual Vilani worlds. Meanwhile, within the Sharurshid sphere of influence, the megacorporation *is* the Imperial government. Sharurshid itself administers the Imperium at the subsector level and above, while its major subsidiaries provide government services on thousands of Vilani worlds.

The Game of Empire

Sharurshid controls a large portion of the Vilani empire. Terran observers are aware of at least two other organizations of similar size that hold sway over other parts of the Imperium. However, the Vilani appear to divide their empire among these *shangarim* (a difficult word, usually translated as "bureaus" to suggest a bureaucratic agency) so that their territories overlap very little. This means that Sharurshid faces little or no competition within its own sphere of influence.

Within Sharurshid, however, there is considerable competition. Although Vilani are more community-oriented than Terrans (see *Being Vilani*, p. 16), they don't lack all personal ambition. They compete for positions of responsibility within the Sharurshid system, for resources for their favored projects, and for influence over policy. Even the most selfless Vilani administrator can still be convinced that he would do a better job in high office than the bumbler currently in charge . . .

This kind of "hidden" competition manifests itself in many different ways. Vilani officials may openly oppose their rivals when it comes time to meet in committee and discuss policy. They may conceal or distort information in their reports in order to trap a competitor into error or to cover up their own mistakes. They may try to sabotage their rivals' projects. All the techniques of bureaucratic infighting familiar to Terran office workers are also known to the Vilani – and have been honed to a high degree of sophistication over thousands of years.

One aspect of Vilani competition has been *very* fortunate for the Terran Confederation: it has led various Vilani individuals and factions to work with Terrans *even against the Imperium*. On a small scale, this means that individual Vilani administrators are often willing to hire Terran adventurers or mercenaries. On a larger scale, certain Vilani factions seem willing to consider seceding from the empire entirely, in order to pursue an independent course with a Terran alliance. Even factions that are not interested in secession have sometimes been of great assistance to the Terran cause – for example, it seems likely that Terra would not have survived the Third Interstellar War (p. 27) had factions within Sharurshid not undermined the aggressive policy of the provincial governor.

Imperial Society

Vilani civilization is by no means monolithic. Indeed, the designers of the Vilani Imperium deliberately included cultural diversity as a permanent feature of the empire. They recognized that Imperial society needed the flexibility that a certain amount of diversity could provide. As a result, every caste has its own customs and traditions, every Vilani world follows its own path of social evolution, and many of the Imperial subject races have accepted a veneer of Vilani culture while retaining portions of their own.

The Vilani Mainstream

The core of Vilani civilization is its "High Vilani" and "Low Vilani" subcultures.

High Vilani culture is that of the interstellar elite, the aristocrats and senior *shangarim* administrators who wield Imperial power. It is characterized by routine access to interstellar travel and communication, sumptuous standards of living, elaborate artistic styles, even more elaborate codes of courtesy, and (to a Terran) extreme arrogance.

Low Vilani culture is that of the Imperial "middle class." Its members include the vast majority of the Vilani population, as well as those Imperial subject races that have fully assimilated into Vilani civilization. Members of the Low Vilani culture usually remain on the world of their birth for their entire lives, and don't participate directly in interstellar affairs. They usually live comfortably but not lavishly, and spend their lives working hard for one of the *shangarim* or a subsidiary organization. Low Vilani artistic styles are much simpler and less ornate than those of the High Vilani; Terrans often consider Low Vilani art to be dull and uninspired. Low Vilani are loyal to the Imperium, but they are much less arrogant than their High Vilani leaders. Indeed, some Low Vilani show a keen interest in foreign ideas and culture.

Dissidents

On the Imperial social hierarchy, the rung below the Low Vilani is occupied by the *khagarii,* or "dissidents." Dissident groups live and work within Vilani society, but they reject some or all of the age-old Vilani traditions. Some *khagarii* are Vilani who deliberately refuse to follow Imperial social norms. Most of them are non-Vilani Humans or non-Humans, whose ancestors were conquered by the Imperium but who have never been fully assimilated.

Dissidents are denied a variety of rights within the Imperial system. In extreme cases, a world inhabited by dissidents can be *interdicted*, forcibly cut off from all outside contact by Imperial naval forces. Other dissident communities are forced to live apart from mainstream society, in ghettos or reservations where they can follow their own customs without disturbing Imperial harmony. Dissidents who work within Vilani society must accept placement in the "caste" system (p. 73), but are restricted to low-prestige careers. In particular, dissidents are denied the right to legally own or operate starships, and must negotiate at a serious disadvantage with the *shangarim* if they wish to participate in interstellar trade.

Despite these handicaps, the Imperium is home to many *khagarii* groups; some estimates place them at over 10% of the total Imperial population. *Khagarii* are particularly common in frontier subsectors, and on low-population worlds off the main trade routes. Small dissident communities can also be found on most of the Vilani core worlds.

Not all Vilani "dissidents" are openly classified as *khagarii*. Vilani society requires its members to behave in accordance with tradition *in public*, but private thoughts and behavior are not so strictly regulated. It's possible for a Vilani to engage in quiet dissent from the social norms without being considered *khagarii*. Many such Vilani join informal clubs or secret societies, which have traditions of their own outside the caste system and in opposition to the mainstream of Imperial culture.

Barbarians

The Vilani word *lukurranii* suggests "those who come from foreign lands," but it also suggests people who come from "the underworld," a realm of chaos and uncertainty. It is usually translated into English as "barbarians," but that translation doesn't carry the full weight of repugnance indicated by the Vilani word.

Lukurranii are those sapient beings, Human or not, who live entirely outside the Imperial system. They reject Vilani traditions – in fact, they may not even be *aware* of those traditions. They threaten the order, stability, and harmony of Vilani society simply by existing. When they are capable of operating starships, the threat becomes far greater because they can spread their chaos into the heart of Vilani civilization.

In a sense, the Vilani Imperium exists solely for the purpose of conquering and assimilating *lukurranii*. Long ago, the Vilani fought a series of Consolidation Wars, during which they tracked down and conquered every *lukurranii* race they could find. After centuries of conflict, every starfaring race that the Vilani could reach was assimilated into the growing Imperium. Only after that did the Imperium – quite deliberately – cease its growth and begin the long period of stability that has continued to the present.

Today, the Imperium is once again challenged by *lukurranii* who have acquired or developed the jump drive. Terrans are clearly one such "barbarian" group, but there are rumors of more in other segments of the Imperial border.

The Vilani have clearly lost much of their ability (or their will) to put down any barbarians who might challenge them. Terra would doubtless have been conquered some time ago if the bold, warlike Vilani of the Consolidation Wars era were still in charge of the empire. As it is, even Vilani aristocrats are sometimes willing to bargain with Terran *lukurranii*. Of course, such negotiations rarely treat Terrans as equals, always involving face-saving formulae to maintain the pretense that the barbarians are subservient to the Imperium. Still, the end result is that Terrans can often win favors or concessions in return for helping Vilani officials to promote their own agendas.

Being Vilani

Across thousands of Imperial worlds, Vilani tend to share certain common traits. Even Vilani *khagarii* have the same basic psychology.

Tradition

Vilani are devoted to *tradition*. Whenever a Vilani must make a decision, his first thought is usually given to what other Vilani have done in similar situations, what the customs of his family and caste require, and so on. Vilani rarely rely on their own initiative to solve problems, and can struggle when the situation is genuinely new. On the other hand, Vilani gain confidence from the vast body of tradition they can draw upon.

Creative and innovative thinking are strongly discouraged by Vilani society. Those who insist on applying new ideas are regarded as a danger to society, attacking the traditions that hold civilization together. A Vilani who persists in being innovative is often treated as criminally insane.

Tradition covers Vilani technology, standardizing it almost everywhere in the Imperium. Tradition also freezes Vilani technological development in place; the standard Imperial toolset has seen no significant changes in over 2,000 years. Vilani art, music, and literature are also firmly grounded in tradition – a present-day Vilani artist will often produce works in a style thousands of years old.

One peculiar tradition among Vilani artists concerns the lost wax-process. While used extensively in industry and jewelry-making, the process is never applied to fine-art sculptures. As with the vast majority of Vilani customs, there is no rhyme or reason behind them, beyond the mere fact that "it is tradition."

– Lamon hault-Devereaux,
Vilani Sculpture: A History

Pragmatism

No matter their caste or subculture, the Vilani are very *pragmatic* people. They don't waste time on abstract theories or unattainable ideals – they are interested only in doing what works. To them, the real universe is much more important than the world of ideas. Vilani are administrators and engineers, not philosophers or scientists.

To some extent, Vilani pragmatism is related to their insistence on tradition. Methods, technologies, and ideas become traditional once they have been proven to work over long periods of time. Vilani innovators are regarded as dangerous because they proceed without being able to prove that their innovations will do more good than harm.

Community

Vilani are strongly *community-oriented*. Vilani are certainly capable of individualistic behavior, but their society trains them to always measure their actions by their effect on the community. A Vilani defines his self-image in the context of his family, his caste, his work team, his home city, his home world, and the Imperial system as a whole. He regards his prosperity as depending on that of the group. He expresses his ambitions by demonstrating that he is better able to advance the group's interests than anyone else.

One expression of this group thinking is the Vilani attitude to work. Vilani are diligent and efficient workers. A Terran might expect to spend a third of his day on the job; a Vilani thinks nothing of spending half of his day, and will often work longer hours than that. Vilani enjoy their recreational time, but to them life isn't about having fun – it's about working hard to make the community healthy and prosperous.

The Vilani prefer communal decision-making. The notion of the autocrat, the lone decision-maker who is subject to no other authority, is alien to Vilani thought. Even the Vilani Emperor is simply the chairman of the ruling council of the Imperium. At all levels of Vilani society, from the Imperium down to the single family, decisions are reached by groups who meet and work out consensus. The process is often slow, but once a decision is reached it has the committed support of all members of the group.

Vilani communities are held together by codes of courtesy; these codes can be extremely elaborate, especially among the "High Vilani" castes that fill out the aristocracy and the ranks of senior administration. Vilani courtesy helps maintain harmony within the community, and helps individuals to keep their expression of emotion within the bounds set by tradition. Even bitter enemies are unfailingly polite to one another when they must interact socially.

Chapter Two
The Epic Struggle

On Saturday we had no meetings to attend, so I decided to give Adkhar a treat. We took the morning suborbital to Paris, and then tubed down to Cairo for a day's visit to the Egyptian antiquities. I decided we could spend a few hours in the Cairo Museum, and then go out to Gizeh to say hello to the Sphinx.

It didn't work out quite the way I planned. Adkhar was polite but unimpressed.

"These must be very old," he remarked at one point.

"They are," I assured him.

"How old are they? To be in such a state of disrepair, they must be from the very dawn of your civilization."

"That's true," I said.

"So? 15,000 years? 20,000 years? How old are they?"

So of course I had to admit that they were only 5,000 years old. I'm afraid that after that he didn't appreciate anything he saw. Not that his veneer of urbane courtesy ever wavered, of course. Even so, it was clear that he found it all rather childish, and rather quaint, and more than a little shabby.

Vilani. No wonder you sometimes have to beat them over the head with a battleship squadron before they'll take you seriously.

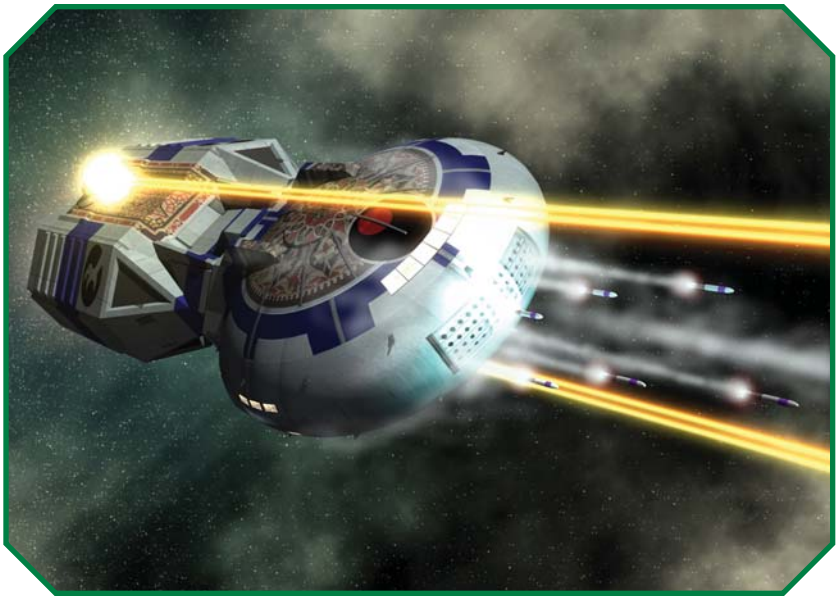
– John Billingslake, Terran Confederation administrator (2190)

Setting the Stage

Vilani civilization is quite ancient. The oldest written records still preserved on Vland are about 20,000 years old. An industrial revolution began about 6500 B.C., slowly but steadily building up to the first space exploration about 1,000 years later. For centuries the Vilani explored the nearby stars using slower-than-light ships, before developing the jump drive about 4700 B.C. (for a description of this critical technology, see *The Jump Drive*, p. 169).

Vilani Exploration (to c. 900 B.C.)

These early Vilani were quite different from their descendants, the Vilani encountered thousands of years later by the first Terran interstellar explorers. To be sure, they were already cautious about social and technological innovation – but when it came to exploration and trade, they were *bold*. For 3,000 years they poked into every nook and cranny of space, mapping star systems as far as their scouts could reach. They contacted dozens of sentient races, both Human and alien. They set up long-lasting trade relationships; their merchant ships carried exotic goods from hundreds of worlds.



These early Vilani were much more interested in trade than in conquest, and made little attempt to gain direct rule over "barbarian" worlds. Close to Vland there was a sphere dominated by various Vilani factions, but Vilani goods and technologies reached far beyond this region of space. For example, by 1500 B.C. the Vegans (p. 88) had acquired the jump drive at third hand, 100 parsecs beyond the most distant frontier of the Vilani trade empire.

The Consolidation Wars (c. 900 B.C.-c. A.D. 500)

Many barbarians used their Vilani-derived technology in ways that clashed with Vilani law and custom. They made unapproved innovations, failed to pay royalties to the *shangarim*, or built small interstellar empires that openly resisted Vilani influence. Over time, the Vilani became dissatisfied with this situation and shifted their strategy. Once they had explored the galaxy as peaceful merchants; now they marshaled war fleets and proceeded to unite all of known space under their direct rule.

Despite the dispersal of advanced technology among the barbarian races, the Vilani still had a considerable technological edge. Indeed, shortly before the Consolidation Wars began, Vilani researchers had developed the jump-2 drive (p. 170), giving Vilani ships an unprecedented advantage in strategic speed and mobility.

At the beginning of the Consolidation Wars era, the *shangarim* were already organized to provide governmental services within their respective spheres of influence. Indeed, each of them already operated an armed fleet in order to protect merchant convoys from barbarian or renegade attack. It was natural for each of the three *shangarim* to be given the responsibility for conquering and ruling a specific region of barbarian space. The Sharurshid organization was the *shangarim* responsible for expanding Vilani control to rimward – toward distant Terra.

Sharurshid's ultimate goal was the Vegan Polity, a small interstellar state that had been established using a Vilani-derived jump drive. As far as anyone knew, there were no starfaring races to rimward of the Vegan colonial sphere. Once the Vegans were part of the Vilani empire, expansion in that direction could safely be halted.

The Vilani conquered and colonized methodically to rimward, finally making direct contact with the Vegan Polity about A.D. 75. A Vilani military colony was established on Shulgiasu (p. 107), which later became the center of Vilani civilization on the Rim. A few decades later, the Vegan Consolidation Campaign was kicked off with a surprise attack on several Vegan outposts. The conquest of the Vegan Polity took only a few years to complete, and was over by A.D. 120.

After the Vegan conquest, the Vilani continued to expand to rimward and spinward, following a jump-1 "main" that trailed out into uncharted space beyond the Vegan sphere. However, the main effort of the Consolidation Wars went elsewhere, and colonization in the rimward direction was very slow. The *Kushuggi* or "Rim Worlds" province soon became a backwater of the growing empire.

The Ziru Sirka (c. A.D. 500 and later)

The Consolidation Wars ended about A.D.500, with the conquest and assimilation of the last known non-Vilani starfaring culture. The *Igsiirdi*, the ruling council dominated by the *shangarim*, recognized this accomplishment by proclaiming the foundation of a formal interstellar empire. The *Ziru Sirka* or "Grand Empire of Stars" would be a vast interstellar state, governed by the three *shangarim* for the benefit of all sapient beings.

The primary goal of the new Imperium was *stability* rather than further expansion. Exploration beyond the borders of the empire was permitted only under special circumstances, and within a few centuries had ceased entirely. New colonization was likewise slowed, and later halted. Technological innovation was even more strictly controlled. With these changes, the *Ziru Sirka* was to provide a mature, steady-state economy in which trillions of sophonts could live in safety and comfort. While greed and personal ambition were not stamped out, they were channeled into relatively "safe" pursuits, notably the quest for higher status within the elaborate Imperial hierarchy.

Not all of the new Imperium's subjects agreed with this goal. Even in the early centuries of the *Ziru Sirka*, dissident factions sometimes appeared and tried to alter the Imperial social contract. One such faction was the *kimashargur* ("Virtue of the Foremost") movement, which became very influential in the Imperium's rimward sectors beginning about A.D. 800.

The *kimashargur* were romantics. They remembered the days of technological advance and galaxy-spanning exploration, and considered the Imperium poorer for having turned its

back on such ventures. They demanded that controls on exploration and technological innovation be relaxed, so that at least a small section of Imperial society could continue to engage in such pursuits. They also pointed out that the empire's stability, while a laudable accomplishment, could be threatened if some outside force arose to challenge Vilani authority. Clearly *someone* had to be responsible for exploring uncharted space and discovering new technological tricks, so that the Vilani community as a whole could be prepared for the unknown.

Imperial authority tolerated the *kimashargur* for a time, but eventually cracked down on the movement about A.D. 950. Many thousands of *kimashargur* fled Imperial space entirely, settling beyond the rimward frontier. Thus it was a dissident population that first established Vilani worlds such as Dingir, Gashidda, Iilike, Shulimik, and Nusku – all of them within only a few parsecs of Terra. Whether any *kimashargur* scouts discovered Terra itself during this era is unknown; if they did, no records of the discovery appear to have survived.

About A.D. 1000 the *kimashargur* exiles established a Vilani pocket empire, with its capital at Dingir. For over a century the dissidents prospered, developing their new worlds, diverging from the Vilani cultural norms that had been imposed on them back in Imperial space. Unfortunately, the experiment did not last long; just after A.D. 1100 the Imperium gathered a war fleet and forcibly annexed the *kimashargur* state. The war was quite short but very bitter – even centuries later, the populations of the old *kimashargur* worlds remembered and resented the Imperial conquest.

After the reduction of the *kimashargur*, the Imperial rimward border was static for over 1,000 years. The Vilani expanded no further, hampered by a jump-3 gap to rimward and by sheer inertia. Fatefully, the Imperial advance had stopped a mere three parsecs from Terra.

The New Millennium

While the Vilani carved out their interstellar empire, Terra remained in a primitive state. An industrial revolution began about A.D. 1800, centering in Western Europe and North America. The result was a period of upheaval, as the thousands of local pre-industrial societies were gradually unified into a single world community. The process took centuries, and was not yet complete when Terra first came into contact with the Vilani.

Rise of the UN

As industrial progress spread, Terran civilization began to go through a slow historical cycle driven by social and economic change. Great crises tended to alternate with periods of peace – but each outbreak of violent disaster was stronger, harsher, and more difficult for Terran civilization to survive.

The last major outbreak of crisis struck soon after the turn of the new millennium. For many years, Terra was wracked with war, revolution, terrorism, famine, epidemic disease, radical climate shifts, and ecological disasters. The very survival of civilization often seemed in doubt.

Using the Official History

This chapter describes the *official* history of the Interstellar Wars era, a very early (and pivotal) period in the ***Traveller*** future history. GMs and players already familiar with ***Traveller*** will be aware of events that take place *thousands* of years further into the future – and, of course, they will be aware of how the Interstellar Wars themselves are "supposed" to work out.

The official history of the era is intended to give GMs and players *background* for their own adventures. The GM may choose to set his campaign at the "default present" (p. 7) assumed in most of this book. Or he may use the historical narrative here, together with the worldbuilding tools and other rules in later chapters, to design his own campaign setting at any point in the era.

However, once an ***Interstellar Wars*** campaign is under way the best approach is probably to push the official history firmly to the side. Permitting events to take their own course will maintain the element of mystery and surprise, and will let players feel that they are in charge of their characters' destinies. Indeed, the Interstellar Wars era was a time when individual actions often had a profound effect on the course of events. This is a worthwhile feature for any campaign setting, but only if PC adventurers are given the chance to change history.

It should be obvious that the "future history" described here is very unlikely to come about, even in those details that describe life on Terra in the 21st century. GMs and players shouldn't spend too much effort trying to make the future history fit with current events! Many ***Traveller*** fans assume that the game's history diverges from our own sometime in the mid-1970s . . . by no coincidence, about the time that ***Traveller*** was first published.

The Treaty of New York (c. A.D. 2000-2024)

During the early years of the crisis era, cooperation among Terra's major nation-states was infrequent and grudging. The United States was the most powerful nation at the time, and for years it tried to take on the role of single world leader. The attempt failed, as the deepening crisis era moved beyond the ability of any one state to handle on its own.

During the late 2010s, several major powers – notably France, Germany, India, Japan, Russia, the United Kingdom, and the United States – began to search for a different solution for the global crisis. Various international treaties were signed to improve cooperation among the major powers; these had some beneficial effect, but were soon found to be inadequate. Eventually, the major nations turned to the United Nations Organization (UN).

Since its foundation, the UN had functioned primarily as a forum for international debate. It had dozens of subsidiary agencies and commissions, many of which were directly concerned with aspects of the growing global crisis, but it had never been given the authority or resources to be truly effective. Now the major powers reluctantly agreed that the UN was the only institution capable of coordinating the international community.

Before the UN could take a central role in solving the world's problems, its structure and authority needed extensive revision. The necessary reforms were enacted over a period of several years, culminating in the Treaty of New York (signed in 2024). This treaty revised the UN Charter, making extensive changes to the organization's structure. In particular, the two organs that had traditionally exercised the most power lost much of their authority.

The General Assembly remained in existence, but it was stripped of its right to elect the Secretary-General. It also lost its ability to authorize military action in emergencies. The General Assembly became an effectively powerless forum. It was the only place in the reformed organization where minor states were guaranteed representation – but that representation was nearly useless except as a platform for trying to move world opinion.

The most crucial change in the UN was a drastic expansion of its military power.

Meanwhile, the Security Council was abolished entirely. This had the effect of eliminating the rule of "Great Power unanimity," which had often served to hobble the UN whenever its policies came into conflict with a major nation's desires.

To replace the powers once vested in the General Assembly and Security Council, the Treaty of New York vastly expanded the role of the Secretariat.

The Secretariat as a whole was placed under an Advisory Board, which was given primary policy-making authority. The Advisory Board's members were selected from all of Terra's nations, but it was stacked with major-power representatives and its voting rules tended to prevent minor nations from changing the outcome of any vote. Meanwhile, no *major* nation had the ability to control the Advisory Board either; the major powers were therefore forced to cooperate to accomplish anything substantive.

The Secretary-General himself was given a much wider range of executive powers, including the ability to order limited military action under his own authority. The power to appoint the Secretary-General was given to the Advisory Board; this ended several unwritten rules that had effectively prevented any major-power candidate from holding the Secretary-General's office. Indeed, the first Secretary-General appointed after the Treaty of New York was signed was a major-power candidate (Sadao Kanzaki of Japan, appointed in 2026), and many of his successors were from the major nations.

The Secretary-General and the Secretariat, each within its own sphere of authority, were granted a power that had formerly been limited to the Security Council. Each could issue orders and policies that were binding on *all* member states of the UN.

The most crucial change in the UN was a drastic expansion of its military power. Formerly, the UN had no military forces under its own command – it had to call on the member states to provide them for any specific purpose, usually by way of a Security Council resolution. Now the major nation-states agreed to place the bulk of their own armed forces under *direct* United Nations control.

Meanwhile, the UN's existing agencies for humanitarian aid and international development were placed under close major-power supervision. They were also drastically expanded, and given much greater budgetary support from the major nations.

The Quest for Stability (A.D. 2024-2050)

The Treaty of New York was widely regarded as a massive political compromise. Almost no one was pleased with it – but Terra's global crisis had grown so severe that most of the major nations could find no alternative.

Even so, the first obstacle that the reformed UN had to face was the major nations themselves. Few of them were happy with the notion of turning over so much of their own sovereignty – especially military power – to a multinational body. The United States threatened to withdraw from the UN altogether; the People's Republic of China actually did (in 2025) and remained outside the UN for over a decade. Several times these disputes threatened to break into open war among the major powers, but such a conflict was averted each time.

Meanwhile, many minor states and stateless peoples interpreted the Treaty of New York as the foundation of an *empire*, in which they were to be treated as subjects. They feared that the major industrialized nations would

begin to openly dictate policy to all others, using their combined military might to enforce their wishes.

These fears were soon confirmed. The new UN proved much more likely to send peacekeeping forces into hot spots around the world, and these "blue helmet" troops were much more aggressive than the peacekeepers of the 20th century. The new international regime was also much more willing to use military force against nation-states that tolerated high levels of corruption, habitually violated human rights, gave safe haven to international terrorists, or otherwise fell afoul of UN policy.

The result was a drastic escalation in international tensions through the 2020s and 2030s, as the reformed UN was almost constantly forced to assert its authority around the world. Yet where the "blue helmet" troops were not required to go, the new UN also demonstrated much greater ability to help solve local social, economic, or ecological problems. Even in regions of armed conflict, the UN was better able to overcome resistance and *then* provide humanitarian and development aid.

Whether the Treaty of New York actually saved Terran civilization from collapse is debatable. Certainly the UN's centralization and increased militancy created as many problems as they solved. Still, by the late 2040s there was an appreciable lightening in the global crisis. World population stabilized, economic growth increased, and standards of living improved. The worldwide level of violent conflict also declined, leading to a reduction in UN peacekeeping commitments. An era of relative peace and prosperity began.

The Conquest of Space

Even at the height of the global crisis, Terra's nation-states recognized the potential of deep space. The competing states saw space as a frontier to be explored and exploited, but they also saw space as a danger – a "high ground" that none could allow another to hold unchallenged.

Wearing the Blue Helmet

The "crisis era" of the early 21st century was a time of tremendous conflict and danger, but it was also a time in which the actions of individuals often had a profound effect on the course of history. A wide variety of campaigns could be designed around the effort to save civilization from collapse. The advantage of such a campaign is that the background is not too different from the present day; inspiration can be drawn from "techno-thriller" adventure fiction, or from the front pages of the newspaper.

Characters in such a campaign could be intelligence agents working for the UN or one of the major nation-states, soldiers in the new UN-controlled armed forces, specialists working for a humanitarian organization, or just ordinary citizens caught up in events beyond their control. Their foes could be nation-states unhappy with the UN's new authority, terrorists, or corrupt corporations. Or, to turn the situation on its head, the adventurers could be *opponents* of the UN.

For additional weirdness, add conspiracy theory. The notion of the United Nations as a world government is already prominent in a number of conspiracy theories. The Bavarian Illuminati, an alliance of computer hackers, or a cabal of psionic adepts could be behind the UN. Or all three . . .

Also consider that even if nothing is *publicly* known about space beyond the Terran system, it's possible that offworlders are already on Terra to pull strings. A near-future campaign could involve Vilani covert agents, secret jump-drive programs, Vegans held captive at Area 51 . . . In the *official* ***Traveller*** future history, Terrans definitely developed the jump drive on their own, but that doesn't preclude a great deal of alien manipulation of events years or even decades before.

Although each nation maintained its own space operations, they recognized the need for coordination between those space forces in matters such as traffic control, orbit assignment, radio frequency allocation, and so on. Eventually the spacefaring powers decided to address this need by setting up a new agency of the United Nations.

The United Nations Space Coordination Agency (UNSCA) was established under the authority of the UN Economic and Social Council in 2015. The new agency would handle all of the mundane administrative chores that would help avoid conflict among the spacefaring powers. It also soon became a clearinghouse for the information that space operations generated – scientific data, maps and charts, technical specifications, accident reports, and so on. As additional nations reached space independently, they also joined the UNSCA as participating members.

The UNSCA began as a rather minor agency of the UN, overshadowed by the massive upheavals that shook Terran society throughout the early 21st century. Even so, its role was critical in the conquest of space.

First Colonies (A.D. 2050-2088)

The first manned space expedition launched by Terrans was actually in 1961 – the *Vostok I* orbital probe, launched by the Soviet Union and crewed by the heroic Yuri Gagarin. Despite this early start, Terrans did not establish any permanent settlement in space for decades.

The first permanent offworld colony was Archimedes Station, established on Luna in 2013. Additional lunar bases were established over the following decade, culminating in the Copernicus settlement (founded in 2022). The lunar colonies were marginal ventures for a long time, but they served as valuable jumping-off points for exploration deeper into the solar system.

Terran space colonization truly got under way in the 2040s, as the homeworld's crisis era receded and various nation-states felt free to invest in space development. Orbital colonies sprang up in near-Earth orbit, and at the Lagrange points associated with Luna. The population of Luna itself grew quickly, the first settlements growing into full-fledged towns and cities. New colonies were established on Mars. Scientific and mining bases were set up on Mercury and Ceres.

During this period, the UNSCA maintained a number of research stations throughout the Terran system. These laboratories produced a number of scientific breakthroughs, which were then licensed by the UNSCA to the various national and private space forces. This helped ensure that new technologies were not monopolized by any one nation – and it also provided the UNSCA an independent source of revenue. Indeed, such licenses eventually began to provide a significant portion of the UN's overall budget, increasing its independence and improving its reputation.

In 2052, it was an UNSCA lab on Luna which produced the first practical "grav modules," offering Terrans control of gravity for the first time. A UNSCA research station on Ceres also produced the first working reactionless thrusters in 2064.

These new technologies knocked down one of the most persistent obstacles to space development – the massive gravitational pull of Terra itself. By the late 2060s, the cost of moving a pound of payload from Terra's surface into orbit had fallen by a factor of over 100. Space travel was *cheap* for the first time, encouraging a flood of migration and new commercial ventures. By 2070, the total Terran population off Terra had reached the 250,000 mark and was growing quickly. Most of these colonists were in the near-Terra orbital settlements and on Luna, but the other colonies were beginning to expand rapidly as well.

The most ambitious venture of the era was mounted by the European Space Agency, beginning in the 2050s. The ESA built a series of very large "generation ships," slow but designed for extremely long travel times; some of the ships were intended for voyages that would be *centuries* in length. The first of these ships, the *Europa*, was sent to the nearby Alpha Centauri system, where a Garden world (p. 96) was already known to exist. Others were designed to scatter through the galaxy, finding Human-compatible planets for settlement. The project was immensely expensive, but the Europeans were determined to demonstrate that the harsh years were over. A Promethean spirit had settled over Terra, and it seemed that nothing was beyond the Human grasp.

First Contact?

There are a number of strange elements in the commonly known story about Terran-Vilani contact. Throughout the Interstellar Wars era, there were persistent rumors that at least some Terrans knew a great deal more about the Vilani than is normally believed – even *before* the USSF expedition to Barnard's Star was launched.

For example, there is the whole question of why the Americans chose Barnard's Star as their target. The Alpha Centauri system was closer, and it had been known for decades that a garden world existed there. Indeed, the European Union had already launched the greatest of its generation ships toward Alpha Centauri, and in 2097 the world community expected to hear from the new colony at any time.

Against such a prospect, the American statement that "scientific reasons" justified the choice of Barnard's Star rang hollow and was widely criticized in the world media. Some European journalists observed (rather caustically) that the Americans wanted to avoid playing messenger for the new Prometheus colony. It is true that a jump-drive voyage even to Alpha Centauri would have required the location of a convenient jump point, but in fact such points were eventually proven to exist – and before 2097 the American mission planners made little attempt to find them.

In retrospect, another possible justification for the choice of Barnard's Star was that the American government *knew ahead of time* that the expedition would contact aliens there.

The source of such putative knowledge is unknown. Perhaps some renegade Vilani, or members of an Imperial subject race, had secretly been in contact with the United States government. Perhaps, indeed, the "Roswell" legend was true after all.

On the other hand, there may be no need to engage in such wild speculation. Once Terran explorers had the jump drive, it would have been natural to examine astronomical records for evidence of nearby interstellar civilizations. By the 2090s, the Sandage Deep-Space Telescope and similar instruments were extremely powerful. It was (barely) theoretically possible for such instruments to detect the emissions generated by Vilani starships at Barnard's Star, two parsecs away. The American government owned the Sandage telescope, and so could have had secret access to such results.

The Jump Drive (A.D. 2088-2098)

The UNSCA research station on Ceres had one more miracle to produce. It was at that station that Terrans first developed the jump drive, which allowed for accessible interstellar travel, in 2088. At first, the prototype jump drive was extremely fuel-hungry and limited in range. It was used only within Sol system, as a fast means of reaching the outer planets and the cometary cloud.

Even after the UNSCA produced a true jump-1 drive (in 2092), there seemed to be little practical application for the technology. No other star systems were within a parsec of Sol, and the mathematics of jump navigation seemed to imply that a jump into empty space was not possible. Most of the spacefaring powers viewed the development with interest, but made no changes to their strategy; the European Union in particular

continued with its program of slow "generation ships."

The United States was the main exception. Beginning in 2093, the US Space Force began an ambitious program to launch a manned interstellar expedition to use the jump drive. The target was Barnard's Star, about two parsecs away to coreward. The expedition was planned as an expression of American leadership in space, although it had a strongly international character. The UNSCA approved the mission plan, and the US coordinated with several other international space agencies. While the mission crew was to be commanded by an American astronaut, most of its members were from the other spacefaring powers.

The first step was to locate a "jump point," a wandering planet or brown-dwarf star located at a convenient point in interstellar space. Such bodies were known to exist, although locating them precisely was often quite difficult, and it was unlikely for one to be in a convenient location. Here the American mission planners were lucky – a candidate rogue planet was found, located so that jump-1 starships could reach it from both Sol and Barnard's Star.

Once the jump point was established, and the painstaking work of computing jump coordinates was done, the mission could proceed. Jump-drive ships operating from a base at Luna made several trips to the jump point, creating a makeshift fuel depot in orbit. Finally, in 2097 the *StarLeaper One* expedition was ready. The starship, the largest thus far built around the jump drive, departed from Luna orbit and spent a full year in interstellar space.

The US had planned for the expedition to end in a blaze of publicity, but when *StarLeaper One* returned to the solar system its crew immediately called for a news blackout. After conferring with senior US officials, the expedition's crew reported to a specially called secret session of the UNSCA governing board.

When news of the expedition's findings was finally released to the world late in 2098, it shocked the global community. The Barnard's Star expedition had contacted *intelligent life* at the target star.

The aliens were the Vilani crew of a small prospecting base, established without Imperial sanction beyond the borders of the *Ziru Sirka*. To everyone's astonishment, the "aliens" were biologically Human, but they belonged to a culture that had no Terran roots. They claimed to be citizens of an interstellar state whose border was only a few parsecs from Sol, an empire that was ancient, vast, and immensely powerful. The Vilani were polite to their Terran guests, but if anything their attitude was one of *amusement*.

Unification

News of the Vilani contact took some time to sink in, and was met by a variety of reactions – from sheer denial to stark terror to unbridled optimism. For most, however, the reaction was one of *fear and anger*.

Even the earliest contacts with the Vilani demonstrated that the Imperium was vast and incredibly powerful. The Vilani outnumbered Terra by a thousand to one, and controlled the resources of thousands of star systems. Their technology was sophisticated and advanced. Their culture was very old and had already assimilated dozens of subject races. It seemed that, should the Imperium choose to exert its power, Terran civilization would be easy to conquer and absorb.

Yet while there was clear cause for fear, there was also cause for anger. During the 21st century, Terrans had recovered much of their self-confidence. In particular, space was regarded as a naturally infinite frontier for Terran expansion. While everyone expected to meet alien civilizations someday, they expected that encounter to be on relatively even terms.

The reality was quite different, and quite disappointing. Once the extent of the Vilani Imperium became clear, there seemed to be almost nowhere left to explore. All of the valuable real estate was apparently in Vilani hands. Worse, the Imperium hemmed Terran explorers into a "pocket," from which expansion could only take place through space already claimed by the Vilani. Many Terrans had entertained hope of a glorious interstellar future – but those hopes were now dashed, and the Vilani were blamed.

The Vilani Aristocracy

The Imperium used a hierarchical system of command, from the *Ishimkarun* or "Shadow Emperor" down to the millions of *kiduunuuzi* ("holders of special privileges") who did the routine work of local administration. In the upper tiers of this hierarchy stood the extremely powerful nobles who set Imperial policy across hundreds of worlds. It was a collection of these aristocrats who managed – or *mismanaged* – the early conflicts with Terra.

For most of the Interstellar Wars era, the highest official who ever concerned himself with the Terran challenge was the *apkallu kibrat arban* ("minister of the four quarters") who supervised all Sharurshid activities across six sectors at the rimward edge of the Imperium.

Beneath the *apkallu kibrat arban* was a set of *saarpuhii,* or "underkings," officials who supervised Imperial government across as many as a hundred worlds each. The *Saarpuhii Kushuggi* ("Underking of the Rim Worlds") was the *saarpuhii* closest to the Terran frontier during the early Interstellar Wars. With his capital at Shulgiasu (p. 107) he was only a few months of travel time from Terra; his policies had a profound effect on the course of the early wars.

Envoys to the Empire

The "contact era" was the time in which Terrans first learned about the Vilani Imperium. Everything about the vast empire was new and exotic, and the first Terrans to travel in Imperial space had much to learn. (This era would be a good period for high adventure, as Terran explorers visit the worlds of the Vilani Imperium and try to figure out how the empire works.)

These first adventurers worked at a huge disadvantage: they had no jump-2 starships of their own, so unless they could somehow acquire a Vilani ship they had to rely on Imperial passenger transport in order to move around. They spent years completely cut off from Terra, forced to adapt to Vilani customs in order to operate within Imperial society.

Despite these disadvantages, many Terran explorers did quite well during peacetime. When the First and Second Interstellar Wars broke out, the situation changed for the worse. Most Terran adventurers were imprisoned as enemy aliens, some of them doomed to never return to Terra.

However, a few Terrans, lucky enough to have bought their own starships during peacetime, turned privateer and attacked Imperial merchant shipping many parsecs behind the front lines. Their life was desperate and dangerous, but it could be profitable – and these "black-flag Terrans" were often lionized as heroes if they managed to return home with battle honors.

Opening Moves

In fact, the situation was not nearly as bleak as it seemed in the first days after contact. Although the Vilani Imperium was certainly massive and powerful, it was unable to bring much of that power to bear, and was not overly motivated to conquer Terra in the first place. Meanwhile, as time passed, Terran individuals and corporations discovered ways to explore and expand despite the presence of the Imperium.

Still, in those first years many Terran leaders saw the Imperium as an intolerable challenge to their own aspirations. Although contact with the Vilani was peaceful for a long time, most Terran citizens fully expected – and even welcomed – an eventual conflict in which they could win their own place in galactic history.

The Contact Era (A.D. 2098-2114)

After the initial contact between Terrans and Vilani, the two civilizations maintained continuing communications in the Barnard's Star system. The *kimashargur* Vilani who had participated in the first contact established a permanent mining colony, which was soon overshadowed by an "official" Sharurshid base. Several Terran nations built their own outposts, both to lay claim to portions of the Barnard's Star system and to keep in contact with the Vilani. Before long, the marginal Vilani outpost had transformed itself into something quite different – a kind of frontier bazaar, a place where two civilizations could meet and explore the possibilities of trade and social contact.

It was at Barnard that the two societies began an enthusiastic trade in high-technology goods. Terran entrepreneurs did especially well offering medical and biotechnological goods in exchange for examples of Vilani engineering. The Vilani felt that they got the better end of this bargain, not realizing how quickly Terran scientists would reverse-engineer the technology they received. One critical item developed (by 2108) was a Terran version of the Vilani jump-1 drive, allowing Terran explorers their first easy access to the nearest stars.

While trade grew in the Barnard's Star system, Terran expeditions visited the more populous worlds of the Imperial Rim Province. UN and major-nation envoys were received with polite disdain by the Vilani aristocracy, and had little luck reaching formal agreements with the Imperial government. On the other hand, some Terrans began to make informal but productive contact with dissident factions within the Imperium, especially the *kimashargur* population of the worlds closest to Terra.

Back home, the UN considered the defense of Terran civilization against possible Imperial aggression. Under UNSCA oversight, space had become an almost weapon-free zone; the most powerful weapons outside the Terran atmosphere were personal sidearms used by the various UN and national police forces. Now many of the treaties and agreements that had limited the military uses of space were quietly repealed.

This led to an unusual situation, a kind of cooperative "arms race" among the major Terran states. Long-standing agreements had placed most military weapons under UN control *on the Terran surface*. Now armed spacecraft and starships were rapidly being built for the first time – but no agreements existed to place *them* under UN control. Each Terran nation built its own armed starship flotilla, and a few private organizations followed suit.

All of this activity made very little impression on the Vilani Imperium, at least at the level of official Sharurshid planning. To the Vilani ruling castes, the people of Terra were simply one more minor race on the fringes of civilization – or possibly an *alliance* of minor races; the Vilani at first failed to understand Terran ethnic diversity. As Terrans asserted themselves, Vilani officials tried to fit them into the Imperial system – but they soon grew impatient with these new and arrogant barbarians.

Tensions rose, especially after Shana Likushan (p. 42) was appointed *Saarpuhii Kushuggi* in 2112. Likushan barely noticed the existence of the Terran "savages," but her arrogance made an impression on lower Sharurshid officials who did deal directly with Terrans. Armed forces on both sides began edging toward a provocation.

Finally, in 2114 a Sharurshid merchant convoy approached too near the American base at Barnard, ignoring the base's traffic-control signals. Believing an attack to be imminent,

the Americans opened fire, destroying two ships before the rest could get out of range. The First Interstellar War had begun.

The First Interstellar War (A.D. 2114-2122)

Saarpuhii Likushan was no warrior, but even she could not permit the Terran provocations to go unanswered. In 2115 she dispatched a small punitive expedition, which engaged a mixed collection of Terran national squadrons at Barnard's Star.

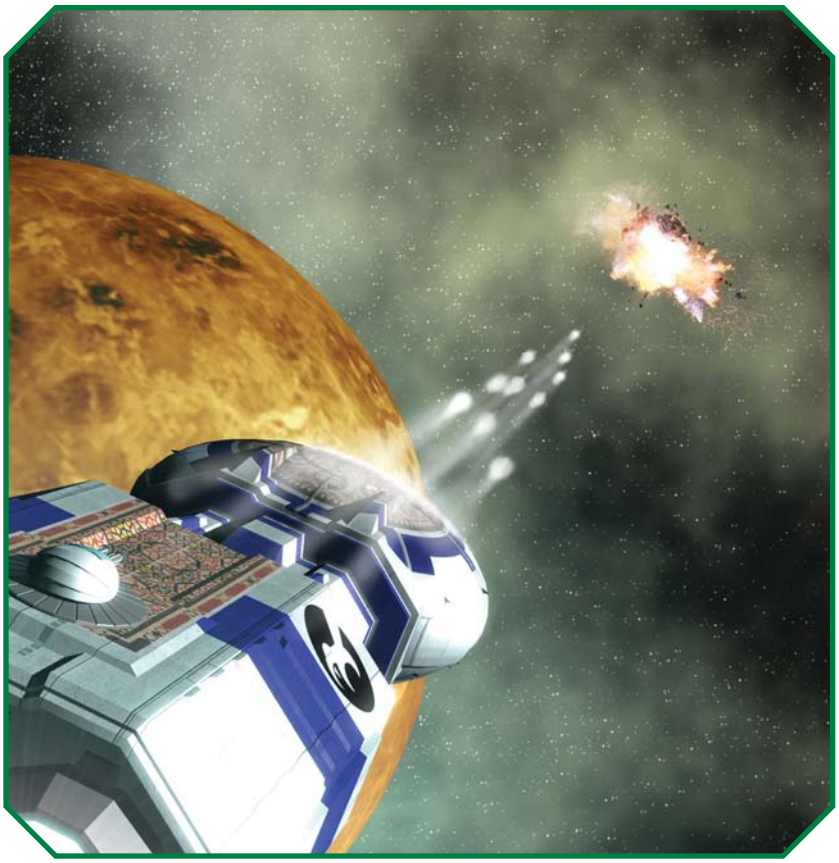
The Terrans found themselves at a severe disadvantage, even against such a minor Imperial detachment. Their ships were still technologically inferior, despite frantic attempts to upgrade to the Imperial level. Worse, the Terran command structure was inexperienced and poorly integrated. At first, some of the national squadrons refused to engage the Vilani at all, leaving the American and Chinese detachments to take the brunt of the engagement.

Once battle was joined, the experienced Vilani commanders were able to defeat the Terrans in detail. They laid down withering long-distance missile fire, first crippling the American and Chinese flotillas, and then ruthlessly smashing the rest of the Terran ships on hand. The Terran base facilities on Barnard were destroyed, with the loss of almost all personnel.

Had the Vilani pressed their advantage, they could have mounted a credible attack against Terra itself. However, the fleet commander on the scene decided that the Terran barbarians had been sufficiently punished, and withdrew his forces. This gave the Terrans critical time to assess their mistakes, rebuild their fleets, improve their technology, and prepare for the next encounter.

Meanwhile, Terrans stranded within Imperial space launched a quiet war of their own. For years, these scattered Terrans fought a desperate campaign, cut off from home and surrounded by a suddenly hostile empire. With sabotage, commerce raiding, and political provocation of dissident populations, they did all they could to harm the Vilani war effort.

In 2122, a second Imperial punitive expedition entered the frontier region. This time, the Terrans were ready, meeting the Imperials with a new fleet under unified UN command. A new class of light attack craft, or "missile boats," returned Vilani missile fire, taking heavy casualties but damaging the Imperial expedition. The battle was effectively a draw, but it proved that Terran forces could stand up to an Imperial task force and survive.



Imperial losses were high enough to appear as a line item in *saarpuhii* Likushan's provincial budget. Not wishing to be distracted from the business of advancing her own ambitions, Likushan ordered a withdrawal. Soon afterward, she offered an unofficial agreement, recognizing Terra's claim to the Barnard system in exchange for a promise to stay out of Imperial space.

The First Interstellar War set the pattern for many of the following conflicts. The Vilani could have destroyed Terran civilization – but they failed to put forth the necessary effort. Each side considered itself the victor. While the Vilani simply turned back to matters they considered more important, the Terrans were energized by their "victory" over a vastly superior force.

Pause and Regroup (A.D. 2122-2125)

During the brief peace that followed the First Interstellar War, several developments took place in Terran society that would set the tone of much of the following conflict.

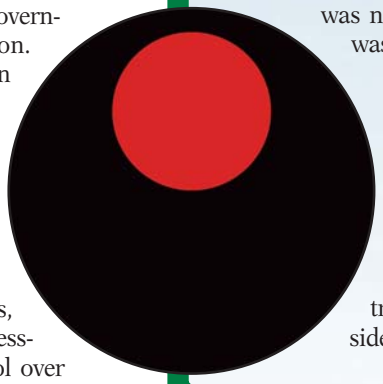
Already during the late 2110s, a new "free trade" movement had begun to grow rapidly on Terra. The new movement was originally concerned with international commerce on Terra itself, and with industrial development in the growing colonies. Die-hard free-market capitalists, its members resented UN and national regulation of business, insisting that prosperity depended on giving entrepreneurs complete freedom to develop new commercial enterprises. After contact opened with the Imperium, the movement began to press for new commercial contacts with Vilani worlds – and it agitated for the removal of both UN and Imperial barriers to such trade.

The Free Trade movement first found its political voice in 2123, when a Japanese industrialist named Yukio Hasegawa created the Free Traders Foundation (p. 66). The new foundation grew quickly, becoming politically important in several of Terra's most powerful nations. With its assistance, a number of Terran entrepreneurs built starships and began to carry Terran goods into the Imperium – "Free Traders" who often operated despite the disapproval of both Terran and Imperial governments.

Meanwhile, the UNSCA continued to operate, coordinating dozens of crash programs to improve the Terran technological base. The greatest success of this effort came in 2124, when the UNSCA released the specifications for a Terran jump-2 drive. This broke a monopoly that the Vilani had held for thousands of years, and made it possible for Terran ships to carry goods – or military offensives – directly into Imperial space.

The last major development of the short peace was political. After the first Terran defeat at Barnard's Star, it became obvious that the Imperium was too great a challenge for the various Terran nations to meet without a strong centralized command. Immediately after the armistice, the UN admitted its first delegations from the colonies (Luna and Prometheus) and changed its name to the *United Worlds Organization* (UWO). The expanded organization opened a series of negotiations among the major Terran powers, eventually drafting a set of comprehensive reforms that would transform it into a viable all-Terran government.

In 2124, the new organization's charter was completed and presented to the various national governments for ratification. Several major Terran nations signed the charter within the same year, and the new *Terran Confederation* was formally in operation. Although scattered resistance to Confederation rule continued for decades, no major nation ever successfully challenged its control over Terran affairs for the rest of the Interstellar Wars era.



The Pace of Operations

Despite its name, the Interstellar Wars era was not one of constant bloody warfare. The conflict between Terra and the Imperium had a rhythm of its own, one which permitted long periods of relative peace.

The Early Phase (A.D. 2114-2246)

During the first eight Interstellar Wars, major naval campaigns invariably ended in major naval battles, during which the Terran and Imperial fleets mutually pounded one another into scrap. Even the "winner" of such an engagement usually lost so many ships and men that it could not immediately press its advantage. The Terrans would often have to rebuild their fleet almost from scratch. The Imperial *saarpuhii* theoretically had more resources to devote to fleet construction, but the Imperial system of governance was too inflexible to permit him to divert those resources quickly.

The necessary time for rebuilding on both sides meant that major naval campaigns *could not* be fought every year. A more typical interval was three to five years. Each of the first eight wars was defined by a small number of these major naval campaigns, as few as one (the Fourth Interstellar War) or as many as four (the Third and Eighth Interstellar Wars).

Major naval campaigns never lasted for more than a few months, after which main-battle-fleet activity always halted until the next round. During these breathing spaces, both sides worked to rebuild their fleets, while commerce raiders and other detachments skirmished on the frontier. The relatively peaceful intervals were also the main time for *ground* warfare, if one side or the other had cut off a major world and was prepared to attempt its conquest.

Aside from the abortive attempt at the conquest of Terra in the Third Interstellar War, the early wars were always fought for limited political objectives. Eventually one side or the other would tire, and would offer peace terms to the enemy. Such periods of formal peace were often quite lengthy – during the 132 years of the "early phase," Terra and the Imperium were at open war for only 65 years (less than half of the time).

The Late Phase (A.D. 2246-2303)

The Ninth Interstellar War changed the entire flavor of the conflict. After 2246, Terra and the Imperium were *constantly* at war. Formal peace did not return until the Imperial surrender in 2303. The conflict was no longer a matter of limited frontier engagements – it was a battle of conquest that only one side could survive.

However, the military frontier between the two powers was now dozens of parsecs long, and it was rare for hostilities to be going on *everywhere* along that line at once. As before, any given subsector-sized region of the frontier might see a major naval campaign only every few years. The rest of the time would be taken up by border skirmishing and ground campaigning, while both sides prepared for the next confrontation. Local truces also occurred in some regions, permitting both sides to stand down and enjoy a brief period of near-peace.

The Second Interstellar War (A.D. 2125-2134)

Despite *saarpuhii* Likushan's hopes, the Terrans did not meekly avoid further provocation.

The Terrans still felt fenced in by Vilani control of nearby space, and were willing to defy the Imperium to find room for expansion. By 2125, Terran starships equipped with the new jump-2 drive were beginning to appear in Imperial space. These ships explored Vilani space, made covert contact with local dissidents, spied out defenses, and searched for some way past the Imperium. Some of the Terran explorers were Free Traders, carrying Terran goods and making their first inroads into Vilani commerce.

All of this infuriated senior Sharurshid officials, who carried their complaints to *saarpuhii* Likushan. Finally, she decided to send another punitive expedition into Terran space. The new invasion fleet arrived on the Imperial frontier late in 2125.

As it happened, the Terran Confederation received some advance warning of the new invasion. Rather than reaching Barnard without incident, the Vilani fleet was delayed by a Terran screening force at Agidda. The unified Terran fleet soon arrived and fought a main-fleet engagement – the first battle involving cruiser-class ships on both sides. The Battle of Agidda was a tactical draw, which left both fleets unable to press the attack. The Terrans can be considered the strategic victors, however, since they retained control of the Agidda system and soon established a base there.

What followed was a "false war," in which neither side made any serious attempt to take up the offensive. The Vilani made desultory attempts to keep the Terrans fenced in, while the Confederation began a strategy of mounting commerce raids across the Sirius Gap. Although individual ships fought small skirmishes, there were no more fleet engagements for several years.

By the early 2130s it became obvious to Terran planners that something was distracting the Vilani. In fact, the assassination of Usham Sharrukin (p. 41) had led to an outbreak of civil war far to coreward of Terra. *Saarpuhii* Likushan had intervened in the conflict on the side of the Sharrukin family, hoping to impress her superiors with her loyalty in order to win assignment back in the Imperial core. To this end, she played a double game, exerting the minimal effort required to keep the Terrans at bay while she sent the bulk of her forces elsewhere.

War is cruel and you cannot refine it. The crueler it is, the sooner it will be over.
– William Tecumseh Sherman (1864)

Encouraged, the Confederation mounted a raid against Nusku in 2134. Although the Terrans were driven off with heavy losses, the raid prompted Likushan to seek an armistice. After a token attack on Procyon designed to give the Imperium final battle honors, Likushan signed a treaty. The agreement made the Terrans official allies of the Imperium, with nominal control over everything between Agidda and Procyon.

Terra on the Brink

So far, the Terrans had been fortunate. Their existence had become known to the Imperial government, but not even the *Saarpuhii Kushuggi* had taken more than a passing interest in military response. The *apkallu kibrat arban* and the core Imperial government had taken no notice of the situation at all. Two conflicts had taken place, "wars" to the Terrans, insignificant border skirmishes to the Vilani.

Now a new regime would take control of the Imperial Rim Province – and Terra would barely survive the experience.

Preparations (A.D. 2134-2145)

Shana Likushan's support for the Sharrukin faction proved critical to its victory in the Imperial civil war of 2129-2135. As she had hoped, Likushan was rewarded for her loyalty by appointment to a position in the Imperial core. She ended her career on Vland, managing a substantial portion of Sharurshid's core business and writing her memoirs.

The new *Saarpuhii Kushuggi* was another non-dynastic governor, Kadur Erasharshi (p. 44). Erasharshi was convinced that a full-scale attack on Terra would one day be necessary, and he spent years preparing for it. He ordered the largest Vilani colonial effort in centuries, establishing Imperial military outposts on a number of formerly uninhabited worlds near Terra. He invested heavily in military construction, nearly doubling the size of the available war fleet. Finally, he moved his headquarters from Shulgiasu to Dingir, leaving the snake pit of court intrigue behind so that he could concentrate on communication with the front lines. All of these violations of tradition made him a more effective military leader, but at the cost of alienating most of the Rim aristocracy.

While Erasharshi laid his plans, the Terrans were not idle. Colonial development and technological improvement continued. The Terran Navy introduced several new heavy-cruiser classes to stiffen the main battle fleet. However, the Terran economy was still not large enough to match the resources of the Rim Province, or to undertake a great deal of new naval construction.

The Third Interstellar War: The Siege of Terra (A.D. 2145-2148)

The Third Interstellar War opened with a strategic *tour de force* – a two-pronged attack designed to take the Terran Confederation by surprise. Although Terran intelligence agencies had some warning of *saarpuhii* Erasharshi's intentions, the initial attack took place almost exactly as planned. Imperial forces assaulted both Agidda and Procyon within a few days of each other, smashing the Terran picket forces in each system.

Taking personal command of the forces on the scene, Kadur Erasharshi maneuvered to draw the Terrans into a main-fleet engagement. The critical battle took place at Agidda in 2146. Although the Terrans had addressed their shortfalls in training and technology, they were still unable to stand up to an experienced Vilani commander at the top of his form. The Vilani won a decisive victory, destroying almost the entire Terran fleet at very little cost to themselves. Erasharshi then mounted a methodical campaign down the Corridor, capturing the Agidda and Barnard outposts. By late 2147, Terra itself was wide open to the enemy.

Fortunately for the Terrans, the Imperials were reaching the end of their tether. Erasharshi had planned for logistical difficulties, but he was also under a great deal of unanticipated *political* pressure. His rivals were busily undermining his position back at the provincial capital, and it seemed increasingly likely that nothing but his personal attention would solve the problem. Erasharshi ordered a new offensive, hoping for a decisive and *quick* victory, followed by a triumphant return home.

A new Vilani attack on Procyon secured the system long enough for the Terran military base there to be captured. Meanwhile, Erasharshi's main fleet attacked Terra itself. The remnants of the Terran Navy mounted a desperate resistance, and Terran ground defenses fought fiercely against any Imperial ship that entered low orbit. Although Imperial forces briefly secured the immediate vicinity of Terra, they were unable to hold the space long enough to land significant ground forces. Terra suffered only a brief bombardment – but the attack involved nuclear weapons, which destroyed a dozen cities and killed millions of Terran civilians.

After several days of laying siege to Terra, Erasharshi was forced to concede that his campaign was probably futile. He could possibly *destroy* Terra, but despite the Imperial fondness for destructive raids, such destruction had never been his goal. Instead, he wanted to *conquer* Terra, integrating it into the Imperium as a major world under his rule. Unfortunately, this no longer seemed possible with the force he had available.

Meanwhile, news arrived from Shulgiasu to warn Erasharshi of an open revolt against his authority. He decided to withdraw, gathering his forces for a return to Imperial space. Many of his subordinates believed that Terra had been mortally wounded, that the Terrans would never again challenge Imperial authority. Erasharshi himself wasn't so certain of this, but he believed he had no choice but to defer the conquest for another day.

The Third Interstellar War: The Terran Counteroffensive (A.D. 2148-2156)

The Confederation *had* been badly damaged, but not irreparably so . . . and for possibly the first time in Terran history, the entire population of the planet was unified in its purpose. Nuclear bombardment of Terra had convinced even the most committed pacifists that the Imperium was a bitter enemy. Those holdout groups who still resisted Confederation authority set aside their grievances for the duration of the war. Emergency measures were passed, raising revenues to bolster the Confederation military and providing relief to the war's millions of civilian refugees.

The Terran counteroffensive got under way in 2151. While the main battle fleet was still rebuilding, a smaller detachment moved to lift the occupation of the Procyon colony. After defeating Vilani forces at the Battle of Junction, the navy secured the Procyon system and permitted Terran troops to land and retake the planet. With one front now secure, the Confederation could concentrate on taking the fight directly to the Imperium.

A second offensive moved up the Corridor, retaking Barnard and Agidda against token Vilani resistance. In 2156 the main fleets clashed at Nusku. Terran ships and crews now demonstrated that they were capable of matching Vilani performance – and

the Imperial commanders on the scene were not up to Erasharshi's standard. The Imperial Navy was handed a decisive defeat and forced to withdraw from the system.

Once Nusku system space was secure, the Terran Navy launched a brief bombardment of the planet. Once planetary defenses had been suppressed, Terran ground forces began to land.

While Terran forces invested their planet, the civilians of Nusku began their own quiet campaign against Imperial troops. Most of the population was of the *kimashargur* dissident subculture, not necessarily pro-Terran in sentiment, but strongly resentful of Imperial rule. Many local citizens moved to sabotage Imperial forces, sometimes even working with the Terran invaders to help trap and destroy Imperial troop formations.

Although the Nusku ground campaign saw several bloody battles, Imperial resistance collapsed with surprising speed. Once Nusku had fallen, the Terran Confederation sent an armistice offer to *saarpuhii* Erasharshi. Reluctantly, the governor accepted. Terran civilization had managed to survive the fiercest Vilani onslaught thus far.

The Empty Peace

A relatively long peaceful period followed the Third Interstellar War. This so-called "Empty Peace" was a time of consolidation for the Terran Confederation. The first three wars had transformed Terran society, creating the first true world state, and giving many people the sense that their destiny lay out among the stars. The threat of the Vilani was still present, but now it seemed more distant, and most Terrans were tired of war. It was time, many felt, to enjoy peace and consolidate the gains already made.

Colonial Expansion (A.D. 2156-2161)

During the Empty Peace, Terra's interstellar colonies flourished. The populations of Earthlike worlds such as Prometheus and Mirabilis rose rapidly, as millions left Terra to make a new life. Terran military outposts also grew, with some of them becoming small but healthy industrial colonies.

How Did Terra Survive?

Viewed from a distance, the Interstellar Wars era is a historical puzzle.

In 2114, Terra was a single technologically backward world on the fringes of the Vilani Imperium, with only a few tiny interstellar colonies. The Terrans had never fought a significant conflict in space. They were outnumbered *thousands to one* in manpower and in economic productivity. Yet after less than 200 years, Terran civilization had not only managed to survive every Vilani assault, it had attained a dominant position within the Imperium.

The Terran ascent to Imperial rulership is actually the lesser mystery. Terrans had a great deal of help, both from dissident Vilani factions and from the empire's subject races. Still, that help only came *after* the Terrans had demonstrated that they could hold out alone against the might of the Imperium. So how did Terra remain independent through the first three Interstellar Wars?

By the late 2200s, students of Vilani history had come to a startling conclusion: the Vilani of the Interstellar Wars era genuinely *were not the same* as their galaxy-conquering ancestors. What's more, the change was a matter of deliberate choice.

The Vilani were masters of the *social* sciences, able to build social and political institutions that were effective and stable over very long periods of time. However, Vilani methods seemed to require a "closed system," a society that was self-contained and insulated from outside contact. The unpredictable influence of outsiders made Vilani social engineering less effective, less able to produce a stable community.

Some Terrans speculated that the Consolidation Wars (p. 18) were an attempt to create such a closed system, a Vilani-controlled sphere which would include every starfaring culture in existence. Once the Consolidation Wars were over, a great change took place in the Imperium, turning every citizen's ambitions toward the eternal struggle for social status. Bold, outward-looking leaders were no longer needed, and could even be a liability to the new Imperium. Ambitious citizens were deliberately shackled, weighed down with tradition and the constant need to defend against internal rivals.

Naturally, this approach depended on the absence of any new starfaring civilizations outside the sphere of Imperial control. For many centuries, the Imperium was indeed unrivaled. However, once new starfaring "barbarians" began to appear, the transformed Imperium found itself unable to muster a decisive response.

Imperial leaders who were primarily interested in political intrigue would ignore outsiders, or would even hire foreigners to assist against their internal rivals. The occasional conquest-minded leader might still arise, but in order to make a barbarian conquest he would have to turn his back on his peers – who would then combine to bring him down. The effect was to halt each Vilani conqueror before serious harm could be done to any foreign target.

Thus the Vilani Imperium failed to bring more than a tiny fraction of its power to bear on Terra. Even that miniscule effort was *almost* enough to wreck Terran civilization – but in the end it left Terra independent, able to rebuild, and eventually able to carry the fight to the Imperium itself.

Possibly the most surprising Terran colony was Nusku. After the armistice, a trickle of Terran migration rapidly grew into a flood, bringing millions of Terran civilians to settle among the Vilani population. The adjustment was not always an easy one, but within a few years many people – both Terrans and Vilani – had learned to like and respect their counterparts from the other culture. This was especially true of Vilani from the *kimashargur* subculture, who were particularly likely to adopt Terran customs and philosophy. As a result, Nusku earned home rule and full membership in the Terran Confederation much faster than anyone had expected. In 2161 the Terran military occupation was withdrawn, and a joint Terran-Vilani civilian regime took control of the planet.

From Nusku, Terrans fanned out to explore the Vilani Imperium. Entrepreneurs, many of them Free Traders, quickly invested in the sophisticated Nusku shipyards. Free Trader ships built at Nusku ventured deep into Imperial territory, seizing a role in Imperial commerce and bringing Terran goods to new markets.

Challenges to Imperial Rule (A.D. 2161-2170)

For their part, the Imperial ruling classes were beginning to understand the long-term threat posed by the Terrans. Kadur Erasharshi had departed the Rim Province in disgrace, but his successors found the Terran presence in Imperial space to be terribly disruptive.

One challenge that the Terrans posed to Imperial society was economic. Terrans were now beginning to surpass the Imperial technological standard in a few areas, producing goods that found a ready market in parts of Imperial space. Meanwhile, the concept of open competition was rather new to the Vilani, who for millennia had managed their economic activity through traditional guilds and the centralized control of the *shangarim* system. Suddenly, Terran free traders and corporations were everywhere in the Rim Province, producing superior (or just *cheaper*) products which undercut the traditional price structure. Some Vilani rejected Terran goods out of respect for tradition – but many, especially among the *khagarii* dissidents, did not. The result was economic upheaval, the likes of which had not been seen in the Imperial province in centuries.

Another Terran challenge was on the political level. Before the Third Interstellar War, no one in the Imperium – not even the *khagarii* – had taken Terrans seriously. Yet Terra had not only survived the determined assault of a powerful Vilani leader, it had recovered in a few short years, mounting a counteroffensive that actually *took a major world from the Imperium*. Even more significant, that world had adapted very quickly to Terran rule; its Vilani citizens had been integrated into Terran society on a respectful and equal basis.

All of this had a powerful effect on *khagarii* groups on hundreds of Imperial worlds. The remaining *kimashargur* worlds of the Rim Province were soon hotbeds of anti-Imperial unrest, difficult for the Imperial ruling class to control. Even on worlds dozens of parsecs from the Imperial border, dissident groups began to seek out and work with any Terran visitors who appeared.

A final challenge, the most tragic of the three, was a matter of public health. Immediately after the end of the Third Interstellar War, a series of plagues began to spread through Vilani populations, especially on worlds close to the Imperial border. Nusku appeared to be the epicenter of these plagues, and it was soon proven that the disease outbreaks always followed contact with Terrans.

Working on Nusku and elsewhere, Terran physicians discovered that simple Terran viral diseases – especially influenza, measles, and mumps – caused the plagues. To their horror, they found that much of the Vilani population was vulnerable to these diseases and had no evolved resistance to them. As it happened, the Vilani had often dealt with "alien" diseases in their thousands of years of starfaring history – but Terran viruses seemed particularly virulent and deadly when introduced to Vilani populations.

Terran physicians fought a fierce battle against the plagues on Nusku, and also traveled deep into Imperial territory to help deal with disease outbreaks there. Vaccines and anti-viral

Playing in the Empty Peace

The "default present" assumed in this book is in 2170, late in the Empty Peace, just before *saarpuhii* Sharik Yangila finishes her preparations for war against Terra. The period is a good one for a variety of campaign types.

Merchant characters, of course, can take part in the Free Trader exploration of Imperial space. They will have some difficulty with Imperial officials, but they will be able to sell goods and make a decent profit on many Vilani worlds. This is also a period during which the Free Traders work closely with Terran intelligence services, gathering information about regions far behind the military frontier. For more suggestions, see *The Default Campaign*, p. 229.

Military characters will also have plenty to do. With the Fourth Interstellar War approaching, forces on both sides of the frontier are beginning to prepare for confrontation. Navy characters will have patrols, and may face an Imperial probe or renegade Free Traders. Meanwhile, back on Terra a surge of nationalist unrest has been going on for several years. Army troops may see significant action on the homeworld itself.

The Empty Peace is also a good period for campaigns involving espionage and political intrigue. *Saarpuhii* Sharik Yangila, more than any other Imperial leader, is willing to use covert activity and subversion against the Terrans. Naturally, the Terrans are always willing to respond in kind. As a result, from Terra to Shulgiasu, the stars are currently a playground for spies, assassins, saboteurs, and counter-intelligence agents.

therapies were mass-produced and shipped everywhere, saving millions if not billions of Vilani lives. This work was critical in winning the respect of Vilani populations – but the plagues had already presented the Vilani ruling class with yet another reason to deal decisively with the Terran challenge.

The Imperial Response (A.D. 2170-2173)

After the fall of Kadur Erasharshi, the new *Saarpuhii Kushuggi* was one Sharik Yangila (p. 45). It was during her administration that the Rim Province attempted to respond to the Terran challenge to Imperial authority.

As *saarpuhii*, Yangila showed little interest in launching great campaigns of conquest toward Terra. She was an intriguer and manipulator, not a military strategist, and had no interest in glorious – but ultimately futile – frontal assaults. She permitted the Terrans to enjoy peace for well over a decade, all the while laying meticulous plans for her own campaign against them.

Yangila collected a staff of military experts, ordering them to revive long-unused warship designs and develop methods that could counter Terran tactics. The provincial war fleet that resulted was actually smaller than the one used by Kadur Erasharshi, but it was more sophisticated and less likely to collapse under its own logistical weight.

Meanwhile, Yangila mounted an extensive intelligence campaign against Terra, using her expertise in covert operations to "soften up" the target. She carefully measured Terran weaknesses – military, economic, social, and political. She also subverted the Terran Confederation from within, trying to divide the Confederation along lines of national identity and social class. This effort met with only mixed success, but some of the Terran nationalist unrest of the 2160s can probably be traced to Vilani covert intervention.

All these efforts came to fruition in the late 2160s. In 2170 Yangila decreed an almost complete shutdown of all trade with Terra, imposing very tight border controls and steep tariffs on Terran goods. She justified these moves by pointing to the economic and social disruption that seemed to follow extensive contact with Terrans, and to the public health problem the "plague-ridden barbarians" posed to innocent Vilani populations.

The Terran Confederation government actually made an attempt to comply with the new Imperial restrictions, not wishing to set off a new conflict with the Imperium. Not all Terran individuals agreed, however. Terran smugglers, especially members of the Free Trade movement, carried goods past the border checkpoints in violation of both Imperial and Confederation policy. This placed the two civilizations on a collision course once again.

Breakout

"Horatius," quoth the Consul, "As thou sayest, so let it be."

And straight against that great array forth went the dauntless Three.

For Romans in Rome's quarrel spared neither land nor gold,

Nor son nor wife, nor limb nor life, in the brave days of old.

Then none was for a party; then all were for the state;

Then the great man helped the poor, and the poor man loved the great.

Then lands were fairly portioned; then spoils were fairly sold:

The Romans were like brothers in the brave days of old.

Now Roman is to Roman more hateful than a foe,

And the Tribunes beard the high, and the Fathers grind the low.

As we wax hot in faction, in battle we wax cold:

Wherefore men fight not as they fought in the brave days of old.

– Thomas Babington, Lord MacAulay, "Horatius" (1842)

So far, the Terrans had done little except survive against superior Imperial force. However, the Confederation was beginning to wear down the advantages once enjoyed by the Vilani. The Terran technological base was improving dramatically, the Terran economy was growing, and Terran military commanders were learning the art of interstellar warfare. The Confederation was also learning how to exploit the deep political and social divisions that existed within the Imperium.

Over the next century, the Terran Confederation would slowly learn to hold its own – and then it would *break out* of the cramped "pocket" in which Terra was contained.

Protracted Struggle

Historians eventually labeled the next stage of the Interstellar Wars (from about 2170 to the end of the Seventh Interstellar War in 2214) as "the protracted struggle." Terrans learned how to manage a sustained war effort across decades rather than years, slowly wearing down the Imperial position.

The Fourth Interstellar War (A.D. 2173-2176)

When Sharik Yangila closed the Imperial border in 2170, she doubtless knew in advance that not all Terrans would conform to the new policy. After her repeated demands that the Terran Confederation control smuggling came to nothing, she declared that the Terrans had provided *casus belli* and opened hostilities.

The Fourth Interstellar War began in 2173, with a massive raid against the Terran colony on Procyon. The Terran naval station and shipyard there were destroyed in the first assault, and a brief bombardment of the colony made a shambles of the planetary defense. The colonists prepared for a last-ditch defense, but to their surprise the Imperial forces simply withdrew to their own space once again.

Terran strategists soon realized that the raid was a very bold opening move. Procyon was the gateway to a whole cluster of Terran industrial colonies and outposts, in the so-called "Outback" region. With the naval station destroyed, this flank of Terran space was suddenly at risk, and a significant portion of the Navy had to be diverted to shoring up its defenses. At very little cost, the Terran Navy's offensive capability had been gravely reduced.

In 2174, Imperial forces began a series of probing raids in the Nusku system, at the opposite end of Terran space. The attacks, spaced several weeks apart, each did as much damage as possible with long-range missile fire, then withdrew before the Terrans could move to close range. This technique proved very effective, permitting Imperial forces to wear down the Terran defensive position at relatively low cost to themselves. The third attack was pressed home, smashing the remaining system defenders and landing troops on Nusku. By the end of 2175, the planet had been fully occupied by Imperial forces.

The Terran Confederation was not exactly idle during all of this, but its leaders discovered that the Empty Peace (and Yangila's campaign of subversion) had sapped Terra's ability to fight. Military budgets had been reduced, and military industries had been converted to civilian use. The citizens were not prepared for war, and indeed the Confederation had been snarled up in internal disputes for several years before the outbreak of hostilities. These problems were all correctable, but it took time before the Confederation could effectively mobilize for war. By then, Nusku had fallen and the Vilani were beginning to mount new probes at Procyon and into the Outback. Even if the Imperium launched no new major offensives, the Confederation faced a long and difficult war.

Faced with an impossible military situation, the Terrans tried diplomacy instead. Envoys met with *saarpuhii* Yangila at Dingir, literally begging for peace in very meek terms. Yangila was naturally delighted at this turn of events, thinking that she had done more than any other Vilani to humble the stiff-necked Terrans. She magnanimously agreed to a peace, on the condition that Terra respect the border controls and keep to its own space.

The Fifth Interstellar War (A.D. 2176-2186)

Most historians consider the armistice of 2176 to have ended the Fourth Interstellar War, but in fact the Confederation never went off a war footing. Careful internal diplomacy unified the Terran population behind the Confederation once more. Terran

economic might soon made itself felt, supporting a military buildup of unprecedented speed.

Meanwhile, the Imperial position declined with unusual speed. The renown of Sharik Yangila's provincial fleet brought it to the attention of the *apkallu kibrat arban*, Eneri Sharrukin (p. 41). In 2178 Sharrukin ordered Yangila to divert a substantial portion of her fleet to a nearby sector, in order to help put down a local rebellion.

The Terran Confederation took advantage of Yangila's sudden weakness. Three years after the armistice, a new fleet launched a surprise attack against Nusku. Another raid struck at the Imperial naval station at Shuruppak. Finally, small detachments raided Vilani commerce deep inside the Imperial zone. All of these campaigns met with some success; in particular, the new Nusku offensive of 2183 ended with a fierce ground campaign that brought the planet back into Terran hands.

After the recapture of Nusku, battle losses brought a temporary halt to the Terran offensive, and gave *saarpuhii* Yangila time to consolidate her defenses. When the next Terran offensive got underway in 2185, Yangila and her military aides were able to keep the Terrans at bay, suffering only the loss of the frontier outpost at Markhashi.

Yangila was prepared to continue the struggle, but the military reverses had eroded her position among the high nobles of the Rim Worlds. By the mid-2180s, most of her time and energy was tied up in fending off the intrigues of her rivals rather than defeating the Terrans. Finally the master manipulator was out-intrigued, and she was forced to step down after the fall of the Markhashi outpost. The Dumushirs, a noble clan based on Shulgiasu, took over the post of *Saarpuhii Kushuggi* and took command of the war against Terra.

The Dumushirs were not fond of Terrans, but they had no interest in prolonged warfare and were soon looking for a way to end the conflict. They opened peace talks with the Confederation – the first time any Vilani government had *taken the initiative* to negotiate with Terrans – and soon reached an agreement. The Confederation was confirmed in its control of the stars between Nusku and Procyon, along with its new outpost at Markhashi. The matter of Terran commercial rights in Imperial space was left unresolved, but Sharik Yangila's most restrictive border controls were abandoned.

The Initiative Shifts (A.D. 2186-2195)

Under the Dumushir regime, the Imperial Rim Province began to crumble in earnest. The Imperium had lost the initiative, and was now limited to responding to Terran actions on all fronts.

Vilani customs patrols were still under orders to enforce some border controls and tariffs against Terran trade, but many inspectors began to turn a blind eye to Terran smuggling. By 2190 Terran merchants were able to move freely through the Rim Province, even taking over some of Sharurshid's freight and passenger lines in the border region. Terran goods finally began to win an enthusiastic reception in some Vilani markets.

All this Terran intrusion into the Imperial economy actually improved the standard of living of many Vilani, as competition and rapid innovation came to many markets for the first time in centuries. On the other hand, contact with Terrans and with Terran goods had a corrosive effect on Vilani social structures, undermining the centuries-old framework of tradition and caste.

While Terran merchants took up a growing position in Imperial markets, the Terrans also found themselves to be central players in Imperial internal politics. Internal factions were growing more important in the Rim Province, as the Dumushir government proved unable to enforce the ancient structure of Vilani tradition. Even members of the Vilani mainstream, groups that had never been classified as *khagarii*, were now thinking in terms of their own survival first and the Imperium later. Not every Vilani faction was friendly to the Terrans, but each faction was beginning to choose its own strategy for responding to the challenges of the day. Some factions had been weighing the benefits of a Terran alliance ever since the Third Interstellar War. Now such alliances became frequent, as Terran influence grew and that of the Dumushir government waned.

The Sixth Interstellar War (A.D. 2195-2201)

The Sixth Interstellar War began in 2195, with a Vilani raid against the Terran outpost at Markhashi. The raid did considerable damage, but the outpost was not destroyed and was soon reinforced.

At the time, the *Saarpuhii Kushuggi* was Kidarneri Dumushir, the man who had deposed Sharik Yangila and made peace with Terra a few years before. He blamed the Markhashi raid on "renegade corsairs," former members of Yangila's provincial fleet who were operating without Imperial sanction. He was unwilling to resume hostilities, and tried to pacify the Terrans with token concessions.

So far had the Imperial provincial structure decayed that Dumushir's excuse may have been true – but the Terran Confederation was not inclined to let the Vilani off easily. Sensing that Terra finally had the advantage, the Confederation's leaders imposed a trade embargo against the Vilani Imperium, and launched a main-fleet invasion of Imperial territory.

The Terran attack was apparently aimed at the old Vilani provincial capital at Gashidda. Moving slowly, the Terrans gave their foes plenty of time to gather their forces and accept a main-fleet battle. The fleets clashed at Shuruppak in 2197, fighting a running series of engagements that ended in a decisive Imperial defeat. Securing the system, the Terrans placed a naval station on Shuruppak, isolating the ancient Vilani worlds of Iilike and Shulimik.

With the Imperial fleet in disarray and two major Vilani worlds cut off, the Terrans began a ground campaign to conquer both worlds. The campaign proved to be lengthy, difficult, and bloody. Although both worlds had substantial *kimashargur* populations that were pro-Terran in sentiment, the dissidents were not well organized and the worlds' ground defenses had been strongly reinforced before the war. Terran ground forces struggled for almost four years to stamp out resistance on both worlds, succeeding only in late 2201.

While the Iilike and Shulimik ground campaigns wore on, the Terran and Imperial fleets maneuvered across nearby space. No further main-fleet engagements were fought, but there were dozens of small raids and skirmishes. Commerce raiders struck at merchant convoys on both sides of the military frontier.

It is well that war is so terrible, else we should grow too fond of it.

– Robert E. Lee (1862)

By the time Iilike and Shulimik fell to Terran control, the Imperial Rim Province was suffering from a deep economic depression. Many Imperial worlds had become dependent on Terran goods, which had undermined traditional economic systems. With the supply cut off by the Confederation's trade embargo, local managers had considerable difficulty keeping their economies afloat. The depression hampered efforts to rebuild the provincial fleet, and made any further defense of the Rim Province impossible. Recognizing the inevitable, *saarpuhii* Dumushir sued for peace in 2201, ceding Iilike, Shulimik, and Shuruppak to the Terran Confederation.

The Seventh Interstellar War (A.D. 2201-2214)

Kidarneri Dumushir was humiliated by the Vilani defeat in the Sixth Interstellar War. Recognizing that he could not defeat the Terrans with the resources he had available, he took the unprecedented step of approaching the *apkallu kibrat arban* and asking for military and economic assistance.

The *apkallu kibrat arban* at the time was Arashir Sharrukin (p. 42). When the Dumushir request for aid came to his court, he decided that he had no time to attend to the situation personally. Instead, he placed his kinsman Khugi Sharrukin in command of a capital ship task force, placing the battleships at the disposal of the Dumushir clan in order to win a glorious victory. The Imperial battleships arrived in the Rim Province in 2205, only to find that their presence was less than helpful. The province was in poor economic condition, and could barely support the expense of maintaining several dozen capital ships.

In early 2206, Khugi Sharrukin led a hasty attack against the Terran naval station at Shuruppak, opening the Seventh Interstellar War. Although the Terran base was sacked, the naval engagement was indecisive. Terran forces soon reinforced Iilike and Shulimik, and the war settled down to a near-stalemate. At one point a "loyalist" Vilani uprising on Shulimik threatened to undermine the Terran defensive structure, but Terran ground forces and their *kimashargur* allies managed to put down the rebellion before any serious damage was done. By 2209 the Vilani offensive had been halted with no further territorial losses to the Confederation.

Once the Imperial offensive bogged down, the Vilani leaders began to feud among themselves. Kidarneri Dumushir and Khugi Sharrukin fought to avoid blame for the war's military failures, each writing reports to the *apkallu kibrat arban* that portrayed his own actions in the best light and blackened the other's reputation. By late 2210 the dispute threatened to cause a breakdown in the Rim Province government. Arashir Sharrukin intervened by ordering his kinsman to return home with his battleships. Brushing the dust of the Rim Province from his boots, Khugi Sharrukin complied, leaving the province alone to defend itself against any Terran counterattack.

The Terrans were quick to take advantage of the situation. Although the Terran main battle fleet was still being rebuilt, small Terran detachments launched a series of raids into Imperial space. Several outposts in the "wilderness" between Dingir and Gashidda were attacked. Meanwhile, commerce raiders penetrated deep into Imperial territory, further disrupting the provincial economy and wearing away at the Dumushir regime.

In 2214, a disgruntled subordinate assassinated Kidarneri Dumushir. The Sharrukin clan's representatives were soon implicated in the murder, throwing the provincial government into total disarray. After a few weeks of internal struggle, Kidarneri Dumushir's younger sister Sharikkamur took over the position of *Saarpuhii Kushuggi*.

The new governor soon sued for peace, making drastic concessions to the Terrans. Four more Imperial star systems were ceded to Terran control; none of them were densely inhabited, but the grant further widened the buffer zone protecting Terra. More importantly, the provincial government dropped all of the official border controls that had been imposed to restrict access to Vilani markets. Now Terran traders could legally travel and trade anywhere in the Rim Province, the only restriction being the reluctance of traditionalist Vilani to buy Terran goods. In return, the Confederation dropped the trade embargo against the Vilani, a move which lifted the economic depression but which also reinforced the growing dependence of many Vilani worlds on Terran imports.

The Albadawi Period

The Seventh Interstellar War was a serious blow to the Vilani Imperium. Not only were the Terran "barbarians" holding their own against Vilani authority, they were beginning to advance into Imperial territory whole worlds at a time. Freed from the border controls, Terran explorers and merchants were finding opportunities all over the rimward portion of the empire. Many of the *khagarii* and subject races were beginning to turn to the Terrans for political leadership.

Yet the Imperial cause was far from lost. The Vilani would make one more attempt to throw the Terrans back into the stellar wilderness, led by the most formidable strategist the latter-day Imperium ever produced. Fortunately for the Terrans, they were able to produce a remarkable leader of their own – Grand Admiral Manuel Albadawi (p. 45).

Preparing for the Endgame (A.D. 2214-2228)

After the Seventh Interstellar War there was a relatively long period of peace. During this pause in the long conflict, the slow retreat of Vilani power on the Rim became an apparent rout.

Several major Vilani worlds were now integrated into the Terran Confederation as allied or occupied territory, drastically expanding the Terran industrial base. Terran factories and shipyards could now outproduce the military budget available to the *Saarpuhii Kushuggi* by a factor of three or four to one. New ship designs were being placed into service, clearly superior to anything in the Vilani standard databases.

Meanwhile, the Imperial government's hold on the province was disintegrating. There was little or no effort to rebuild the provincial fleet or to shore up defenses against Terran invasion. Almost all of the military outposts between Shuruppak and Dingir were abandoned. Even the civilian population was affected by a dreary fatalism. Some wealthy Vilani packed up and fled for the Imperial core, while most of the Rim Province's population simply waited to make whatever accommodation they could with the Terrans.

The situation was well known at the court of the *apkallu kibrat arban*, who had finally taken the time to become familiar with events on the empire's rimward frontier. In the early 2220s, Arashir Sharrukin decided that Imperial security required him to give his personal attention to the Terran problem. He gathered a substantial war fleet from across his domain, and ordered logistical preparation be made so that the fleet could operate

without having to draw on only the Rim Province's resources. He moved his own court to the Rim Province, taking up residence on Shulgiasu in 2224. Finally, he sent an envoy to the Imperial core worlds, taking a full report of the situation to the *Igsiirdi* and the Emperor himself.

The Eighth Interstellar War (A.D. 2228-2238)

Arashir Sharrukin's strategic plan for the next war against Terra was brutally simple. There would be no subtlety, no war of maneuver, no long series of raids and skirmishes. The main Imperial battle fleet would simply advance into Terran space, taking worlds away from the Confederation one at a time, always bringing overwhelming force to bear in each subsequent battle. The main thrust of the attack would be from Gashidda toward Iilike and Shulimik, then toward Procyon, and then toward the Terran core worlds.

Sharrukin's plan relied heavily on *logistics* rather than on tactical planning. The battle fleet would be large enough to crush any resistance, so the main problem was ensuring that supplies and maintenance were sufficient to keep the fleet in operation. Sharrukin was no military genius, but he was the consummate Vilani *manager*, supremely suited to lead divided factions and keep vital resources flowing. He was also extremely ruthless, quite capable of eliminating any subordinate who showed signs of plotting against his authority.

The Eighth Interstellar War began early in 2228 with a Vilani attack against Karkhar. The Vilani battle fleet advanced slowly and methodically, brushing aside Terran picket forces, seizing outpost after outpost in turn. Within a year the Vilani had taken Shuruppak and Markhashi, and the major worlds of Iilike and Shulimik were under siege.

Meanwhile, the main Terran battle fleet had been gathered and was in the field opposing the Vilani. The Terrans were thoroughly outmatched in naval tonnage, and refused to engage in a main-fleet engagement. Instead, they harassed the Vilani main body, sniping from a distance and trying to slow down the Imperial advance. Terran Grand Admiral Josip Degen took personal command of the main fleet, fighting an inspired campaign to keep the Vilani off balance. Although the Vilani twice attempted to attack Procyon, Admiral Degen was able to hold them off and keep a thin line of communication open to the embattled ground forces defending Iilike and Shulimik.

It was at this point that Rear Admiral Manuel Albadawi entered the history books. He was in command of a relatively small Terran fleet stationed at Nusku, several jumps away from the main theater of the war. In late 2229 he launched an ambitious attack against the Vilani flank, sacking the Imperial outposts at Zaggisi and Shulgi. In the following year he was the first Terran commander to mount a significant attack against the Vilani provincial capital at Dingir. By virtue of clever tactics and a well-timed *kimashargur* revolt on the planet's surface, Albadawi was able to take the planet in early 2231.

The fall of Dingir threatened the entire Vilani position on the Rim. While Grand Admiral Degen pinned down the Imperial main fleet, Albadawi launched a new campaign to spinward. Late in 2231 he seized and fortified Ensulur, thus cutting off the Vilani communications line between Gashidda and Shulgiasu. He then left about half of his fleet to guard Ensulur, taking the remainder down the Rim Main in a series of lightning advances. He also used his new base to support Terran covert operations on the Vegan worlds, which prepared to launch an open revolt against Vilani authority.

Over the next two years, Albadawi secured Apishlun, Shikashu, and Duriim. Small Terran troop detachments landed on each world, facing little resistance from the surprised local garrisons (or the mostly sympathetic local populations). During these campaigns, Albadawi was many parsecs *behind* the military frontier, relying on sheer logistical improvisation to keep his fleet in operation. When supplies could not be brought in from the Terran core worlds, Albadawi bought or seized them from the Vilani – and when that also failed, his fleet somehow managed to do without.

By 2234, the Vilani main fleet had been cut off from all of its supply lines back to the Imperial core. Admiral Degen, who had managed to keep the main Terran fleet intact, launched a counteroffensive. He soon lifted the sieges of Iilike and Shulimik, and forced the Vilani to fall back on Gashidda.

The Vilani offensive had failed, and now the Imperial fleet was in serious trouble. Not even Arashir Sharrukin's logistical brilliance could keep battleships in working order while Albadawi was free to ravage the Vilani supply lines.

The Imperial position collapsed in 2236. The Vegan worlds rose up in open revolt against the Imperium, ending any hope that the Vilani lines of communication could be restored. Arashir Sharrukin engaged in a final purge of the Rim Province's leadership, and then fled ignominiously for the core worlds of his domain. The last Terran offensive reached Gashidda a few months later, at which point the remnants of the Vilani fleet surrendered almost without firing a shot. Admirals Albadawi and Degen met on Gashidda for the first time in several years, solemnly shaking hands in a blaze of press publicity.

With Arashir Sharrukin temporarily departed, the Dumushir clan was left to negotiate a peace accord with the Terrans. The resulting Treaty of Ensulur (2238) more than doubled the territory under Terran rule, turning over several major Vilani worlds and a dozen minor outposts to Terran control. Even more importantly, the treaty recognized the existence of the Vegan Polity, newly independent for the first time in over 2,000 years. The new Vegan state immediately allied itself with the Terran Confederation, further bolstering the Terran position against Imperial aggression.

Final Gambits (A.D. 2238-2245)

During the Eighth Interstellar War, Terran engineers made two critical breakthroughs in naval technology. The jump-3 drive had the potential to give Terran fleets unprecedented speed and mobility, while advances in particle-beam technology gave rise to the first meson-cannon weaponry. Neither of these technologies was even familiar to the Vilani or to any other known civilization – so the Imperium had no defense against their use on the battlefield.

The new innovations came too late to be used during the Eighth Interstellar War, so Admirals Degen and Albadawi perforce defeated the Imperium without them. After the Treaty of Ensulur was signed, Terran fleets were quickly overhauled to make use of the new systems, under the guidance of Manuel Albadawi (promoted to Grand Admiral in 2242).

As it turned out, the naval rebuilding was carried out just in time.

Arashir Sharrukin's envoy had departed for Vland in 2223. By using the fastest available transport and earnestly wielding the *apkallu kibrat arban*'s authority, the envoy had reached the Imperial core in excellent time. In 2229 he presented Sharrukin's report directly to the *Igsiirdi*, later having an audience with the Shadow Emperor himself.

The Emperor recognized the threat that the Terrans posed to Imperial authority. Unfortunately, the rimward frontier was not the only one faced with internal dissension and external invasion. Indeed, on the coreward border – much closer to Vland itself – a new race of alien barbarians was on the rise. These *urbarrani* ("pack-predator barbarians") had been a problem for over a century, raiding undefended worlds and hiring out as mercenaries in the service of renegade Imperial officials.

The Emperor deliberated, and then made a crucial decision. The Imperial Core Fleet would be dispatched to the rim, to crush the Terrans once and for all.

Given what the Emperor knew at the time, this was probably a wise decision. Although the *urbarrani* raiders were much closer to Vland, they did not pose a threat to the *legitimacy* of Imperial rule. They were simply barbarians, and non-Human barbarians at that. On the other hand, the appearance of a powerful *Human* rival state on the rim might tempt whole sectors to defect. For thousands of years, no enemy had ever been able to withstand the Imperial Core Fleet. While deploying it so far from Vland carried its own risks, no one seriously expected the Terrans to survive.

The Ninth Interstellar War (A.D. 2245-2256)

In 2245, Terran intelligence became aware that a massive Imperial fleet was working its way down the Rim Main. Not only had Arashir Sharrukin returned at the head of a new provincial fleet, but he was accompanied by a huge armada of warships from much deeper inside Imperial space. Confederation leaders correctly deduced that the Imperium was preparing to hurl overwhelming force at Terra.

While Grand Admiral Albadawi made final preparations, the Vilani armada reached its main depot at Shulgiasu. Early in 2246, an Imperial envoy delivered a formal declaration of war to the Terrans.

At first, the Imperial forces believed that they were succeeding. While the armada traversed Vegan space, it met Terran and Vegan squadrons, which made hit-and-run raids but never stayed to fight for long. The Imperials prepared to lay siege to the Vegan homeworld of Muan Gwi.

At this point, Admiral Albadawi sprang his trap. He ordered jump-3 raiding forces to move from Lagash directly onto the Rim Main, a maneuver the Vilani did not expect because they did not believe the jump to be possible. Albadawi's raiders struck at the Imperial armada's line of communications, threatening to cut it off from Shulgiasu. This caused the armada to abandon its methodical advance, turning back to deal with the raiders.

At Muan Kwoyen, Albadawi used the bulk of his "new model" battleships – capable of jump-3 and carrying spinal-mount meson weapons – to surprise the Vilani. Suddenly the Imperials faced numbers far greater than they expected. Worse, the Terran battleships poured long-range meson fire into the Imperial line of battle. The Imperials had never developed meson weapons of their own, and knew of them only from fearful ancient legends. Now the Core Fleet faced the mythical "certain death weapon" in bitter reality, as its proudest ships were destroyed by internal explosions.

The subsequent engagement was a devastating defeat for the Imperium. The Imperial grand admiral was killed in the first battle at Muan Kwoyen. Arashir Sharrukin was killed while trying to rally fragments of the armada a few weeks later. Less than 10% of the Imperial armada ever escaped from the Rim Province. The rest was captured or destroyed as the Terran fleet leapfrogged up the Rim Main in pursuit.

No formal armistice ever ended the Ninth Interstellar War. However, most historians place the war's end in 2256. In that year the retired Admiral Albadawi, widely recognized as one of Terra's greatest military leaders, died. Also in 2256, Terran forces captured the critical Vilani world of Arkiirkii, almost 30 parsecs from Terra. At this point, the fighting paused for a few years while Terran forces consolidated their territorial gains.

Triumph and Uncertainty

Alexander wept when he heard from Anaxarchus that there were an infinite number of worlds. His friends asking if any accident had befallen him, he answered: "Do you not think it a matter worthy of lamentation that when there is such a vast multitude of them, we have not yet conquered one?"

– Plutarch,
On the Tranquility of the Mind

Despite the pause in active hostilities after the Ninth Interstellar War, fighting between Terran and Imperial forces never wholly ceased. The Terrans were almost constantly on the offensive until the final collapse of the Imperium.

Unfortunately, such complete military success led to its own problems. Even while the Terran armed forces continued to advance, Terrans found it increasingly difficult to *govern* hundreds and then thousands of Imperial worlds. Meanwhile, divisions within Terran society, long papered over by the need for unity against the Imperium, became apparent once again. Even final victory over the Vilani did nothing to resolve the deepening crisis in Terran affairs.

Imperial Terra

Of course, none of the long-term problems inherent in Terra's military success were obvious at first. Grand Admiral Albadawi's successors continued to press the Vilani back. The Terran Confederation was no longer a simple "pocket state" fighting a prolonged war against a much more powerful foe. Now the Confederation was a true empire, a new Imperium taking shape on the ruins of the old.

Wars on the Frontier (A.D. 2256-2280)

In the aftermath of the Ninth Interstellar War, the Terran Confederation had to pause for several years in order to consolidate its territorial gains. Most of the Kushuggi sector was now under Terran control; over 200 formerly Imperial worlds had to be brought firmly into the Confederation before Terran forces could continue their advance.

In fact, in the late 2250s some Terran leaders called for an end to the wars. The Imperium had been so decisively defeated that any serious future threat to Terra was inconceivable. The limits to Terran expansion had been shattered; exploration and colonization could now proceed in almost every direction without needing to further disturb the Imperium. Surely there was no need for further bloodshed or involvement in Imperial affairs?

Before long, events demonstrated that this isolationist approach could not succeed. Khugi Sharrukin was still at large in Imperial space, still claiming the title of *apkallu kibrat arban*. He and other Imperial leaders continued to fight, engaging Terran forces on the military frontier, stirring up unrest on the occupied Vilani worlds. The bulk of the Imperium remained in the distance, still outnumbering the Terran Confederation, still ready to make a new attempt to regain its lost territory.

By 2260, it was obvious that Terran power had to keep expanding if any kind of stable situation was to be built. Terran leaders therefore launched several new military expeditions, striking out of the Kushuggi sector for the first time. The new offensives were designed to cut off whole subsectors of Imperial territory, isolating Imperial fleets into "pockets" where they could be destroyed in detail.

For decades, chaotic warfare raged on the frontiers. The fighting could no longer be broken into neat, understandable chunks that could be labeled as distinct "wars." Every conflict was interrupted by local armistices, cease-fires, or shaky periods of peace. Terran navies often had to stop and regroup before pressing on. Imperial forces might be defeated on the field, but would renew the fight after reinforcements arrived from the Imperial core.

During this period, there was no possibility of central control for either side. Both empires' local commanders started and ended campaigns, signed and broke treaties, and did their best to administer the worlds being fought over. Indeed, new fighting often broke out along the front lines before the news of an armistice could reach Terra or Vland.

Actually *pacifying* this vast region of space took much longer. It was already taking longer to secure new worlds and integrate them into the Confederation than it was taking to conquer them in the first place. After the end of the Sharrukin dynasty, the pace of advance was determined by the Confederation's civilian bureaucracy rather than by the military.

The Great Schism (A.D. 2280-2290)

Of course, the continued string of Terran military victories could not disguise the fact that the nature of the Interstellar Wars had changed dramatically.

The change was most clearly felt on Terra itself. The homeworld of the Confederation had spent over a century in a state of constant warfare, but now the pressure was suddenly relieved. Terra itself no longer *needed* to drive the war effort – in fact, it was more convenient to perform military shipbuilding, construction, and recruitment on worlds closer to the front lines. The clearest sign of the times came in 2276, with the abolition of compulsory military service for homeworld citizens. In the next four years, military recruitment on Terra fell by over 95%.

While the homeworld settled down to enjoy unprecedented peace and prosperity, the colony worlds took up the banner of war against the Imperium. Colonial shipyards built and supplied the Terran Navy, colonial citizens provided manpower for the Terran Army, colonial administrators took on the task of managing conquered Imperial worlds, colonial businessmen continued to build trade links into new regions of space. Indeed, even while the homeworld turned to peaceful pursuits, the colonies were able to support a massive *expansion* in the war effort.

In fact, Terra was no longer the economic center of the empire. It took time to integrate conquered Vilani worlds into the Confederation, but by the 2270s the process had been completed on over a dozen such worlds. From that point onward, most of the Confederation's industrial production – including most of its military construction – took place in what was once Imperial territory.

This redistribution of economic power was not reflected in the political structure of the Terran Confederation. The central government remained dominated by homeworld interests, especially by the major nation-states who still controlled the Secretariat 250 years after the Treaty of New York. The colonial planetary republics had only nominal representation in the powerless General Assembly, and had no direct influence in the Secretariat. This situation continued even after the colonial republics came to represent the majority of the Confederation's citizen population, the majority of its industrial production, and the bulk of its military might.

While the Interstellar Wars raged close to Terra, the potential split between homeworld and colonies remained unexpressed. However, after the Ninth Interstellar War some colonial leaders began to question why they should continue to bear the burden of war against the Imperium without adequate representation on Terra.

Once the Terrans recognized the need for a continuous offensive, their string of military victories was quite consistent. Khugi Sharrukin was eventually brought to the peace table, signing an agreement in 2266 that placed the Imperium's six rimward sectors under nominal Terran control.

Playing Out the Endgame

The late Interstellar Wars era is possibly the best setting for epic military roleplaying. While the Terran armed forces have a technological advantage, they are usually faced with stubborn Imperial resistance. Every world presents its own set of problems to Terran officers and enlisted men, who must deal with each situation with little guidance or backup from distant Terra.

The sheer pace of the Terran advance makes the situation very fluid. In every new region of Imperial space, Terran forces must move from "exploration and contact" operations, to military reconnaissance, to full-scale naval warfare, to ground campaigning, and finally to occupation and integration – all within the space of a few years.

To build this kind of backdrop, the GM can use the world-design system in Chapter 5 to set up an area of Imperial space. At the beginning of the campaign, the area is wholly under Imperial control and Terrans are only beginning to come onto the stage. During the campaign, adventurers work to push the Terran advance forward, eventually subduing Imperial resistance and keeping the peace afterward.

If the adventuring party is composed mostly of Navy characters, the campaign should use a play area of up to a subsector in size. Space battles can be interspersed with shore leave or other "dirtside" activities on various worlds. A party composed of ground-forces characters can use a similar approach – or the entire campaign can be set *on a single world*, covering the initial ground war and the subsequent occupation.

The problem became obvious to the Confederation as a whole after the publication of a book, *The Great Schism*, written by Hasan Ardakani of Iilike. Published in 2280, the book was a sober analysis of the growing cultural divergence between homeworld and colonies. Although Ardakani made no political recommendations, his book did more than any other work to raise the political awareness of the colonial population. As the 2280s wore on, the colonials became increasingly aware of their common identity, as a community with its own needs and aspirations different from those of the homeworld.

Unfortunately, *The Great Schism* also made the Confederation's leaders aware of the potential divisions between homeworld and colonies – perhaps a little *too* aware. During the 2280s, the Confederation's civilian government became concerned with the "political reliability" of colonists. Government agents began to observe the colonial population, looking for signs of disaffection or disloyalty toward the central government back on Terra. This concern focused specifically on the Terran Navy, believed to be the most serious potential threat to civilian government.

This political observation was quiet and unintrusive, for the most part. For years, no one was placed under close surveillance, and no one was arrested for sedition or disloyalty. Still, it could not be concealed that the Confederation no longer completely trusted all of its citizens. This only served to spark open resentment among the colonials toward the homeworld, exacerbating the potential problem.

The Imperial Collapse

With the Terran Confederation committed to continued war, the Imperium found itself fighting for its very survival. The last stage of the Interstellar Wars saw fierce fighting on a grand scale, as Imperial authorities desperately tried to hold their ground across a front over 100 parsecs long.

The Last Offensive (A.D. 2288-2398)

In 2288, the last man to hold the title of *Apkallu Kibrat Arban Kushamii* died, an honored guest of the Terran Confederation Navy. By that year, the Terran Confederation had conquered the *apkallu kibrat arban*'s old domain. About 1,000 inhabited worlds fell into this region; most of these had not yet been formally integrated into the Terran Confederation, but there had been no significant armed resistance for several years.

The Terran Navy had just come under the overall command of a new Grand Admiral, Arpad Kovacs (p. 46). Unlike his last three predecessors, Admiral Kovacs preferred to command from the front lines rather than from safety on Terra. After arriving in the war zone and gaining control of the situation, he devised a plan for a new offensive – one that he hoped would bring the Imperium to its knees.

In the course of the wars, the Terrans had "liberated" and allied with several former Imperial subject races. Unfortunately, only one of these (the Vegans) had been able to make a significant contribution to the Terran cause. The others were too backward, too small in number, or both.

However, within about 30 parsecs of the current military border were the home regions of *three* subject races: the Darmine (Zarushagar sector), the Geonee (Masilaa sector), and the Suerrat (Ilelish sector). All three of these races were unusually important to the structure of Imperial power – but Terran advance agents had learned that all three were restive under Imperial rule, and would be likely to rebel once the Terran Navy was in a position to support them. Admiral Kovacs was determined to give them that support.

Late in 2288, four Terran battle fleets jumped off from the current border, striking deep into Imperial territory. The main axis of the attack was spinward into the Zarushagar sector, with a secondary offensive pushing coreward into Masilaa sector. Meanwhile, a series of deep-penetration raids pushed over 40 parsecs into Imperial space in order to keep the enemy off-balance.

The offensive moved quickly at first, but within two years Imperial commanders had deduced the Terran objectives, and were mounting stiff resistance. The next few years saw some of the hardest fighting of the entire Interstellar Wars era. Imperial fleets were technologically outclassed, and were usually outgunned as well, but they fought tenaciously. Imperial ground forces did the same, forcing the Terrans to pay for every new world captured.

Imperial resistance failed to keep the Terrans back. The Geonee were slow to respond, unable or unwilling to rebel until they could be sure of Terran support, but their uprising began in 2294. The Darmine revolt began the following year, and was much more enthusiastic. Finally, after a hard-fought campaign ending in the Battle of Three Suns (2298), the Suerrat declared their independence and allied with the Terran Confederation.

After 10 years of hard fighting, Grand Admiral Kovacs could see the success of his strategic plan. With support from the new allied races, the Navy continued to press hard. Imperial resistance was appreciably crumbling, and whole subsectors were beginning to defect to the Terrans without a fight.

The Imperial Surrender (2298-2303)

The Suerrat revolt proved to be the last blow to Imperial power, although the final moves took several years to play out. When word of the revolt reached the Imperial core, the last significant Imperial fleet had just been ordered into the Masilaa sector to face the Terrans. Rather than obey, the fleet commanders mutinied, turning against Vland itself and bringing down the Imperial government. The *Ishimkarun* himself became a well-treated prisoner aboard the fleet's flagship.

After some debate, the mutinous fleet commanders and leaders of the Imperial bureaucracy formed a delegation to meet the Terrans. In 2303 the meeting took place, and the Vilani leaders offered the complete surrender of the Vilani Imperium and all of its subject worlds. On behalf of the Terran Confederation and its allies, Grand Admiral Kovacs accepted.

The Interstellar Wars were over.

The Challenge of Victory (A.D. 2303 and onward)

When word of the Imperial surrender reached Terra, it provoked a great deal of celebration, but also a great deal of soul-searching. A political cartoon of the time portrayed a Terran soldier, armed to the teeth, stepping away from a heap of corpses into a vast empty plain, peering about as if looking for someone else to fight. The caption: "Now what?"

The cartoon was apt. The Terran Confederation was now the sole effective political authority in all of Imperial space – but Terra was in no condition to *govern* that space. In 2303, three sectors (about 1,300 worlds) were under direct Terran rule, and even that territory was proving difficult for the central government to manage. The shattered Imperium was *eight times* that size, its most distant worlds over two years from Terra even for a fast jump-3 courier. Much of the Imperium was still out of reach of Terran authority; indeed, many Imperial worlds had never seen a Terran.

Meanwhile, the newly surrendered territories posed problems that had never been seen in sectors closer to Terra. The Imperial bureaucracy was largely intact, but it lacked direction now that the *Igsiirdi* had been deposed. Some of the Imperial subject races and dissident subcultures were

Terrans and Colonists

The so-called "Great Schism" was a vast social movement, driven by demographic changes on the colony worlds. Although it first received widespread notice in the 2280s, its origins were much earlier than that.

Beginning with the Third Interstellar War, Terran forces conquered and occupied many Vilani worlds. As these occupied worlds grew in number, Terran citizens began to migrate to them in droves. This migration grew rapidly, from about 1 million per year in 2220, to 15-20 million per year in the 2280s.

One result of the Terran migration was the "Terranizing" of Vilani populations. Many Vilani on the occupied worlds began to imitate Terrans. They learned to speak Terran languages, took Terran names, married into Terran families, absorbed Terran political and economic theories, and adopted Terran customs. Even the billions of "unassimilated" Vilani, people who tried to hold onto as many ancient traditions as possible, tended to adopt some Terran customs simply to get along under the new regime.

This mix produced a new society, a culture which was no longer Vilani, but which was also *no longer strictly Terran* in attitudes or ideals. The new culture was based on Terran political and economic concepts (individualism, human rights, democracy, and entrepreneurial capitalism) but it placed its own interpretation on those ideas, and it also accepted a wide variety of Vilani and other non-Terran notions.

There was one exception to the trend toward an independent colonial society. There were colony worlds to rimward and trailing of Terra, founded as wilderness settlements on worlds that were formerly uninhabited. Most of these "Terran-only" worlds played little part in the Great Schism, growing more slowly in population, remaining culturally and politically dependent on the homeworld. This was because most emigrants preferred to move to former Imperial planets. It was much more attractive to settle on a world that was already thoroughly tamed, especially since a Terran migrant could almost depend on becoming a member of the colonial upper class.

in open revolt, even without Terran support, and might prove hostile to Terran rule. The *urbarrani* and other barbarians were tearing chunks out of the Imperial frontier.

While the Confederation's central government began to debate what to do, the Terran Navy acted. Grand Admiral Kovacs sent thousands of naval officers to the worlds of the Imperium. Their task was not to set up a wholly new government, as Kovacs realized such an attempt would be futile. Instead, the military governors were charged with providing a new source of *legitimate authority* for the existing Imperial government. They were to maintain peace and order, permitting the local bureaucracies to keep the machinery of government in operation.

Even that limited task was tremendous. Kovacs stripped his fleets and support staff almost to the bone. In some cases, Terran ensigns were required to govern whole worlds. Commanders who had previously been entrusted with no more than a light cruiser were now administering whole subsectors. The situation improved as new personnel arrived from regions closer to Terra, but even so the Navy's authority was stretched almost vanishingly thin. That the Terran officers could succeed at all was due to the devotion of billions of local Vilani bureaucrats, who continued to execute their duties despite the fall of the Imperium.

Biographies

The Interstellar Wars era gave rise to many remarkable individuals, on both sides of the centuries-long conflict. Here are some of the most prominent – admirals, aristocrats, corporate executives, politicians, and others who shaped the history of the time. These historical figures might serve as background figures for an ***Interstellar Wars*** campaign, or might act as patrons for well-connected adventurers.

The Sharrukin Clan

Descended from ancient nobility of the Imperial core, the Sharrukin clan was for centuries one of the foremost families in charge of the Sharurshid organization. Late in the Consolidation Wars era, the clan established itself in the rimward provinces of the Imperium. By A.D. 1500, a Sharrukin had taken over the position of *Apkallu Kibrat Arban Kushamii* ("Minister of the Four Quarters of the Rim Marches"), the ultimate supervisor of all Sharurshid activities across six of the Imperium's rimward sectors.

During much of the Interstellar Wars era, the Sharrukin clan was a distant yet crucial authority, its actions (or inaction) setting the tone for the confrontation between Terrans and the Imperium. A provincial governor who had Sharrukin favor could ask for aid against the Terran barbarians. One who was out of favor was forced to contend with the Terrans while drawing only on his own limited resources. This situation lasted until 2266, when the last Sharrukin *apkallu kibrat arban* surrendered to Terran naval forces. Although fighting continued for over a generation, the fall of the Sharrukin clan marked the real end of Vilani authority over the Imperium – from that point on, Terran dominance was inevitable.

Usham Sharrukin

Usham Sharrukin (1954-2129) was the 11th of his line to hold the position of *apkallu kibrat arban*, beginning in 2056. His influence was profoundly conservative, concerned only with the stability and prosperity of the sectors of his domain. No Terran ever visited his court, and he took almost no notice of their existence. During his lifetime, he took no steps to intervene in the situation on the Imperium's rim frontier.

Usham Sharrukin was unusually long-lived even for a Vilani, succumbing only to assassination at the age of 175. The assassination was carried out by the detonation of a small nuclear device in his palace; his immediate heirs were also killed in the blast, leaving the succession uncertain. Since the assassins were vaporized in the same explosion, their identities and motives were never fully made clear, but it seems likely that they were backed by one of several rival noble clans. The Sharrukin clan was forced to contend for power, fighting an open civil war that went on for several years before their claim to the position of *apkallu kibrat arban* was again unchallenged.

Eneri Sharrukin

Usham Sharrukin had five children, the fifth being a daughter named Inanna. This daughter married a nobleman of *iishakku* rank from the Erasharshi clan, bearing him several children. Eneri Erasharshi (2046-2192) was the third of these, born in 2046. Eneri displayed uncommon brilliance, becoming widely respected even in his youthful 40s as an advocate of Vilani tradition, as a business manager, and as a politician. However, he never expected to inherit anything but the rule of a minor world in the Nakulakak sector.

The assassination of Usham Sharrukin changed all that. The Sharrukin clan's leadership had been almost obliterated – all of the *apkallu kibrat arban*'s clear heirs were dead, leaving only secondary descendants alive. As Usham Sharrukin's fifth child, Inanna Sharrukin was now in line to inherit the *apkallu kibrat arban*'s office. In fact she felt unprepared for the responsibility, and was unwilling to fight for the position. On the very day that she heard of her father's death, she formally abdicated her claim in favor of her son Eneri.

Eneri took the name Sharrukin and stepped forward, claiming leadership of the clan. His quick action prevented the remaining members of the clan from falling out among themselves, and unified them against their rivals. Eneri led the clan to victory in the civil war of 2129-2135, and claimed the position of *apkallu kibrat arban* after defeating his last foe.

Eneri Sharrukin took little direct role in the Interstellar Wars during his reign, although he was responsible for the appointment of his youngest brother (Kadur Erasharshi) to the position of *Saarpuhii Kushuggi* in 2136. Kadur's later fall brought that part of the family into some disrepute, and apparently encouraged Eneri to ignore events on the rimward frontier for the rest of his time in office.

Arashir Sharrukin

Arashir Sharrukin (2150-2246) was Eneri Sharrukin's third child and primary heir. He was born only after Eneri had risen to the office of *apkallu kibrat arban* – and since Eneri had delayed having children at all, Arashir was over a century younger than his father. He was raised in an indulgent manner, and had not entirely matured when he suddenly inherited his father's office in 2192.

Arashir Sharrukin was the youngest *Apkallu Kibrat Arban Kushamii* to hold office in over 1,000 years. He was undeniably competent, with a talent for business management and military logistics. On the other hand, he was autocratic and cruel, taking pleasure in "breaking" or even executing subordinates who displeased him. He was often too erratic and indecisive to provide his domain with sound leadership. Finally, he was uninterested in maintaining his family line, and failed to marry or adopt heirs. In all, he was an uncomfortable ruler for the rim sectors, and was widely hated.

Arashir intervened indirectly in the Seventh Interstellar War, sending a kinsman to the Rim in command of a detachment of battleships. The venture ended in ignominious failure. Worse, a dispute between the Sharrukin and Dumushir clans ended in the murder of the Dumushir clan head, causing the entire Kushuggi sector to lean toward open revolt. In the early 2220s, Arashir decided to intervene personally.

For the next 20 years, Arashir spent most of his time on the Rim. His leadership was crucial to Vilani fortunes in the Eighth and Ninth Interstellar Wars. Despite his unpleasant and autocratic nature, he did manage to keep the Rim Province unified, and he launched two major campaigns against Terra. Unfortunately, those two offensives both ended in crushing defeats for the Imperium.

Arashir Sharrukin died in 2246, still commanding a fragment of the Vilani armada as it tried to fight its way out of a Terran ambush. Oddly, his reputation among Vilani traditionalists improved considerably in the years after his death. Eventually he came to be seen as a Vilani patriot, committed to defending against the Terran onslaught even against hopeless odds.

Khugi Sharrukin

Khugi Sharrukin (2152-2288) was a descendant of Usham Sharrukin, by way of Usham's second child. He entered the Imperial Navy as a young man. Although he was only barely competent as a naval officer, he rose rapidly through the ranks due to his exalted family connections.

In 2204, Khugi Sharrukin commanded the Imperial battleship squadron sent to the Rim by his second cousin Arashir Sharrukin. His involvement in the Seventh Interstellar War ended in dismal failure, and he was recalled in disgrace. Although he remained in the Navy, he was never again sent near the front lines, and his career seemed to be at an end.

The disaster of the Ninth Interstellar War changed Khugi's fortunes. The *apkallu kibrat arban* was decisively defeated in battle against the Terrans, and then killed in an ambush in 2246. This left the Sharrukin clan in desperate straits. Arashir Sharrukin had no direct heir; the only legitimate heirs descended from the disgraced Kadur Erasharshi, and were extremely young at that. With the Terrans pressing close, the domain's most influential citizens looked for a Sharrukin – *any* Sharrukin – to take command. Although Khugi had no claim to the title under Vilani inheritance law, he was the only possible candidate with any military experience.

Khugi Sharrukin was named *apkallu kibrat arban* during a conclave of the regional aristocracy in 2248. To the surprise of many, he proved to be a competent ruler. He kept the domain's aristocrats from panicking, and organized defenses against the Terran advance. Twice he took the field himself against the Terrans, managing through dogged determination to avoid a decisive defeat.

Despite his efforts, Khugi Sharrukin realized that any possibility of victory over Terra was long since gone. His primary goal as *apkallu kibrat arban* was to win an honorable peace. In 2266, after two years of negotiation with Terran authorities, he surrendered to the Terran Confederation Navy. He spent the rest of his life in semi-retirement on his estates, acting as a figurehead and occasional advisor for the new Terran-Vilani government of the Nakulakak sector.

Ironically, Khugi's surrender may have assured the survival and continued prominence of the Sharrukin clan. Although the office of *Apkallu Kibrat Arban Kushamii* was abolished upon his death in 2288, several of Khugi's grandchildren married Terrans and entered the growing Terran-Vilani ruling class. A great-grandson, William Adkhar Sargon, became an officer in the Terran Navy; in 2303, he commanded a ship in the expedition that accepted the surrender of the last Vilani Emperor.

Shana Likushan

Shana Likushan (2033-2145) was originally from the Imperial core, born and raised on a world almost 200 parsecs from Terra. She was from a minor aristocratic family, but did not inherit a noble title, and entered the Sharurshid organization as a commoner. Despite this, she displayed considerable gifts for business management and intrigue. By the age of 70 she had worked her way into the upper ranks of Sharurshid management, and was ready to make her bid for a position of real power and influence.

Unfortunately, at this point Likushan's faction *lost* a power struggle within Sharurshid's upper ranks. As a result, Likushan was given aristocratic standing, but the "promotion" involved a transfer to the distant rimward frontier. There she was named *Saarpuhii Kushuggi* of the Imperial province closest to Terra – and farthest from Vland.

The position of *Saarpuhii Kushuggi* had been held for centuries by the Ereshkinar clan, which had recently become extinct. Likushan might have regarded her appointment as an opportunity to raise her own family to very exalted status. Unfortunately, she instead viewed her new position as an exile. When she arrived on Shulgiasu in 2112, she immediately demonstrated her contempt even for the Vilani of the Rim. The recent discovery of barbarians beyond the Imperial frontier was entirely beneath her notice.

Shana Likushan was an inept military commander, but this made little difference, as she never took the field against the Terrans. She did prove quite adept at negotiating in such a way as to save the appearance of Imperial power. Her usual pattern in wartime was to inflict casualties on the Terran Navy, withdraw without doing real damage to Terran interests, negotiate a settlement, and then present the result to her superiors as a decisive victory. As a result, during her tenure as *Saarpuhii Kushuggi* the Terrans were able to consolidate their position and prepare for the more serious conflicts to come.

Likushan was constantly on the lookout for an opportunity to abandon her "exile" on the Rim. In 2129 she saw her chance, with the assassination of Usham Sharrukin and the civil war that followed. She intervened in the civil war, supporting the claim of Eneri Sharrukin with ships and economic assistance. After the Sharrukin victory, Likushan was rewarded with a recommendation for a new posting back to the Imperial core. In 2136 she left the Rim, never to return.

Shana Likushan ended her days on Vland, working as one of Sharurshid's highest managers and intriguing for a seat on the *Igsiirdi*. Had she lived longer, she might well have attained that ambition – but she apparently contracted a terminal disease in the early 2140s and died prematurely. She did manage to complete her memoirs, which were widely read on Vland and elsewhere. These memoirs described the Terran "savages" in a very unflattering light, and may have played a role in preventing the Imperium as a whole from taking the Terran threat seriously.

Lorette Strider

Lorette Kathryn Strider (2053-2114) was born in Kansas City, United States. At the age of 8 she avidly followed NASA's Comet Halley Intercept Mission, forming an ambition to become an astronaut that never left her. After attending the University of Arizona, she joined the United States Space Force. She worked on the construction of the Oceanus Procellarium facility on Luna, and was the first commander of Phobos Station.

The greatest turning point in Strider's career came in 2095, when she was named the commander of *StarLeaper One*, the first Terran interstellar mission to use the new jump drive. Although the mission was international in character and was overseen by the UNSCA, it was primarily funded by the United States, so an American commander was a political necessity. Fortunately, Strider was not only politically useful but thoroughly competent.

While at Barnard's Star, Strider oversaw first contact with the Vilani. She managed to establish clear communications, set up good relations with the *kimashargur* prospectors, and laid the groundwork for future trade and political negotiations. In so doing she became the first Terran considered an ally by any Vilani faction.

Strider left the USSF in 2099, accepting a position with the United Nations as one of the first envoys into Imperial space. Her natural linguistic ability permitted her to learn aristocratic Vilani with unusual speed. On several occasions, she traveled as far as Dingir in order to establish contacts with the Vilani and learn more about them. Strider worked hard to promote understanding between the two civilizations, and was a leading advocate for peace even as the threat of war loomed.

In 2114, Strider left for the Barnard system aboard the American frigate *Thomas Jefferson*, carrying a last-ditch proposal to avoid conflict. She was too late. The *Thomas Jefferson* was attacked by a Vilani warship and destroyed, the first major Terran casualty of the First Interstellar War.

After her death, Strider's fame declined; her pacifism and unabashed appreciation of Vilani culture made her less popular as Terran attitudes hardened. Still, Strider's reputation as an explorer and diplomat was safe, and her autobiography is required reading at many of the Confederation's elite universities to this day.

Yukio Hasegawa

Yukio Hasegawa (2056-2142) was a Japanese industrialist who rose through the ranks of one of that nation's most conservative *keiretsu*. He was a quiet but canny businessman, with a deceptively gentle demeanor that often fooled business rivals into fatally underestimating him. He was also one of the first Terran industrialists to foresee the importance of the Vilani Imperium to Terran business.

Upon becoming CEO of his firm in 2117, Hasegawa began heavy investment in space industries. His corporation eventually spun off an orbital-industry subsidiary under Hasegawa's direct leadership. This subsidiary grew so quickly that it soon provided a significant share of the firm's overall profits. Hasegawa also pursued influence within the national government, eventually becoming one of the prime movers behind the Japanese interstellar program.

Hasegawa was a tireless promoter of open markets and interstellar trade. In 2123 he established the Free Traders Foundation, a non-profit organization devoted to supporting the growing free-trade movement. For the remainder of his life, Hasegawa pushed for interstellar colonization, commerce, and trade with the Vilani Imperium – often against the disfavor of both Terran and Imperial governments. Under his leadership, the Free Traders grew to sponsor dozens of commercial ventures into Vilani space.

Much of the later acceptance of Terran goods by Vilani populations can be attributed to Hasegawa's work. So can the trade disputes that eventually led to the Second and Fourth Interstellar Wars.

Kadur Erasharshi

Kadur Erasharshi (2066-2160) was the youngest child of Inanna Sharrukin and her husband Mazun Erasharshi. As the fifth child, young Kadur never expected to inherit significant wealth or status. His career was unremarkable until the outbreak of civil war in 2129, in which Kadur's elder brother Eneri Sharrukin was one of the claimants to the office of *Apkallu Kibrat Arban Kushamii*. Trying to shore up his support in the Kushuggi sector, Eneri sent Kadur to serve on the staff of *saarpuhii* Shana Likushan.

While serving on Likushan's staff, Kadur Erasharshi did much to bring the *saarpuhii* solidly into the Sharrukin faction. He also served in a critical diplomatic role – he was appointed as a leading envoy to Terra immediately after the First Interstellar War. This position taught him a great deal about the "barbarians." More than any other influential figure in the Rim Province, he came to understand the Terrans and the threat they posed to the Imperium.

After his brother's victory in the civil war, Kadur Erasharshi turned down a position in the *apkallu kibrat arban*'s court. Instead, he accepted appointment as Shana Likushan's successor, taking the office of *Saarpuhii Kushuggi* in 2136. He quickly proved himself to be that rare entity, a *bold* Vilani, a throwback to the time when the Imperium had conquered worlds by the thousands.

Erasharshi was an effective military commander, with superb tactical skills and a reasonable grasp of grand strategy. Unfortunately for him, he was not an effective diplomat. During his rapid rise to power he made many enemies, especially among some of the most influential Vilani clans of the province. These families had spent decades maneuvering for the *saarpuhii*'s position, and resented its award to yet another outsider.

The story of Kadur Erasharshi's campaign against Terra is told elsewhere (p. 27). At its end, he was a broken man, disgraced and helpless to defend himself against his political rivals. He left the Rim Worlds in 2160 and apparently vanished from history. His fate is unknown, and indeed even his date of death is often disputed.

Strangely, Erasharshi's very existence was apparently expunged from Imperial records, as sometimes happened to those judged traitors to the Imperium. As a result, he eventually became known only through Terran histories – which uniformly blackened his name as a dreadful war criminal. Only the most fair-minded of historians, either Terran or Vilani, eventually were willing to concede that Erasharshi was a competent and honorable man.

Many Terrans tend to think of the profit motive as a Western invention, or perhaps as a Western aberration, to be disdained rather than imitated. This is nonsense. Every society expresses the profit motive in some manner. This is particularly true of my own people. We have never forgotten that the Prophet, peace be upon Him, was Himself a successful merchant.

– Umar bin-Abdallah al-Ghazali, remarks to the annual meeting of the Free Traders Association, 2168

Umar bin-Abdallah al-Ghazali

After the Third Interstellar War, Terran commercial interests worked hard to penetrate Vilani markets, sensing the vast potential for profit. The Free Traders Foundation, established by Yukio Hasegawa (p. 43), was the backbone of this mercantile effort. Working with the Foundation, a number of "merchant princes" found fortunes and shaped the course of the Interstellar Wars era. One of the most prominent of these merchant princes was Umar bin-Abdallah al-Ghazali (2084-2182).

From 2157, al-Ghazali was the CEO of the High Frontier Development Consortium, a moderate-sized multinational corporation specializing in asteroid mining and orbital manufacturing. He was a devoted Muslim, but he was very cosmopolitan in outlook and superb at the game of international business.

After the Third Interstellar War, al-Ghazali caused High Frontier to join the Free Traders Foundation, quickly becoming one of the organization's major underwriters. He invested heavily in the reconstruction and expansion of shipyard facilities on Nusku, and directed the construction of a fleet of small, fast trading vessels intended for ventures into Imperial space. Before long, High Frontier was making vast profits selling Terran communications and computer equipment to certain Vilani factions.

High Frontier's trading ships were all equipped for exploration and

survey work, and did much to increase Terran knowledge about the galaxy. They were capable of turning privateer in wartime, switching from trade to commerce raiding and back again as needed. Finally, it was widely suspected (but never proved) that High Frontier's merchant fleet was acting as an espionage force in cooperation with Confederation intelligence agencies. All of these facets of High Frontier's operation were at the direct insistence of Umar al-Ghazali, who often spoke publicly about the need for Terran commerce to serve the long-term interests of Terran civilization.

After the *Saarpuhii Kushuggi* imposed border controls and trade sanctions against Terran ships, al-Ghazali ordered his fleet to continue operating, avoiding Imperial customs patrols by any means necessary. This action made him an instant celebrity, labeled "Prince of the Smugglers" by the international media because of his distant relationship to the Omani royal family. Once the Fourth Interstellar War broke out, High Frontier went on a war footing in support of the Terran Navy.

Umar al-Ghazali survived three assassination attempts, and lived to the age of 98. To the day of his death, he continued to capably lead the High Frontier commercial empire from his headquarters in the Lagrange-5 orbital settlement.

Sharik Yangila

Sharik Yangila (2112-2190) was an oddity in the Imperium, a non-Vilani who achieved high rank within the Vilani hierarchy. She was an Anakundu (p. 80), member of a Human minor race native to the Mikadira sector. The Anakundu had been subject to Vilani rule for almost 2,000 years, and had accepted many aspects of Vilani culture. Individual Anakundu sometimes reached prominent positions within Imperial society.

Sharik Yangila joined Sharurshid as a minor bureaucrat in 2129. Despite her non-Vilani birth, her talent and meticulous attention to detail were quickly recognized. In 2135 she was assigned to the *Ishimdagashii*, Sharurshid's intelligence and covert-operations service. Here, her ruthless ambition was allowed to flourish as she clawed her way from a lowly field agent's billet into positions of increasing responsibility.

In 2144 Yangila was dispatched to the Kushuggi sector as a senior agent. Assigned to the *saarpuhii*'s staff, she spent years studying the Terran problem, even visiting Terra on several occasions. She quickly came to understand the Terrans, as perhaps no Vilani ever could. With this understanding, coupled with her brutal efficiency in disposing of rivals within the *Ishimdagashii*, she soon became indispensable to Kadur Erasharshi. She became his leading retainer, the woman he trusted to protect his political position while he embarked on expeditions of conquest beyond the frontier.

In 2151 Yangila was appointed head of the *Ishimdagashii* in the Rim Province. This was an unprecedented achievement for such a young woman and for a member of her minor race – but she was far from finished. Whether Yangila actively helped to undermine Kadur Erasharshi is unknown. What is clear is that she maneuvered herself into position to be named his successor. This work paid off in 2157, when Erasharshi was deposed and Yangila was named the new *Saarpuhii Kushuggi*.

Yangila was no military genius, but she understood how to find and motivate such people. Her meticulous attention to detail was applied to preparations for a glorious war against Terra. She hoped to use such a campaign as a basis for claiming even higher position within the Imperial hierarchy. With the end of the Fourth Interstellar War in 2176, Yangila appeared to have reached her goal. She knew that the Terrans had not been crushed, but she believed that she could be gone from the Rim by the time they could present a threat once again.

Unfortunately for Yangila, the Terrans recovered more quickly from defeat than even she could anticipate. In 2179 they reopened hostilities for which she was not prepared. After the Vilani defeat in the Fifth Interstellar War, she was forced to step down as *saarpuhii*, handing the office over to her long-time adversary, Kidarneri Dumushir.

Yangila went into retirement, taking up residence in an isolated estate on Shulgiasu. Everyone who knew her wondered what new scheme she was preparing to launch – but for several years she apparently lived quietly, enjoying her retirement and rarely appearing in public.

In 2190 Yangila vanished from the capital, taking a small ship and heading for the frontier in an apparent attempt to defect to the Terran Confederation. Unfortunately, before she reached the Imperial border, her ship apparently suffered a mishap and was destroyed. A few pieces of debris were eventually recovered from the outskirts of the Zaggisi system, along with two bodies from the crew. Yangila herself was never found.

Sharik Yangila's ultimate fate remains unknown. The obvious theory – that she died in the accident that destroyed her ship – is not given much credence by those who knew her well. She may have faked her death in order to enter Terran space secretly, taking up residence as a "guest" of the Confederation or with an anonymous identity. In any case, rumors and sightings continued on the Rim for many years.

Manuel Albadawi

Manuel Albadawi (2183-2256) was born in Cairo, Egypt. His father was an Arab civil engineer from an old Palestinians family, while his mother was a Spanish biotechnician. In the 2170s and 2180s, Albadawi's parents worked as an independent consulting team, specializing in large-scale desert reclamation projects. As a result, Albadawi spent most of his formative years moving from place to place in the Middle East and North Africa, wherever his parents traveled on assignment.

In 2201, the elder Albadawis received a lucrative contract to perform environmental studies on the Vilani worlds conquered during the war. For a few months young Manuel remained behind on Earth, but once he reached the age of 18 he followed his parents and entered the new Terran University on Iilike. That once-Vilani world remained his home for the rest of his life.

Albadawi had originally intended to follow in his father's footsteps and become an engineer. However, the experience of interstellar travel and contact with the Vilani population of Iilike changed his plans. Although he liked the individual Vilani he met, he came to despise their Imperium, considering Terran civilization to be manifestly superior. At the outbreak of the Seventh Interstellar War, he accepted a commission in the Terran Confederation Navy. Intelligent, hard-working, and loyal, he was promoted quickly, reaching the rank of Lieutenant Commander by war's end.

He supervised the construction of the first line-of-battle squadrons ever to take advantage of jump-3 drives and meson weaponry. Once the Ninth Interstellar War began, it was Albadawi's strategic planning that led to a second decisive Terran victory.

After the critical battles were won, Albadawi retired in 2250. His last years were spent at home on Iilike. He turned down several offers to run for high political office, preferring instead to remain home and compose his memoirs. He remained a civilian advisor to the Navy, and continued to exercise some influence over strategic planning.

If an admiral wants to defeat the Vilani, he has to approach his campaign like a matador in the ancient sport of bullfighting. At first glance, the matador seems to have no chance; all the advantages of strength, speed, and ferocity seem to be on the side of the bull. But somehow, whenever the bull charges, his horns never touch anything but the red cape. Eventually, the matador's sword slips in on the unprotected flank.

– Manuel Albadawi, ***Campaigns*** *(2254)*

During peacetime, Albadawi remained on the promotion "fast track," reaching the rank of Rear Admiral just before the beginning of the Eighth Interstellar War. It was from that position that he first attained galactic prominence. His Dingir campaign, ending with the siege of the Vilani subsector capital, was competently executed – but it was his brilliant campaign down the Rim Main into the Apishlun subsector that secured his reputation. More than any other commander, Albadawi was responsible for the great Terran conquests of the war.

Albadawi was a natural choice to serve as Grand Admiral of the Terran Confederation Navy, a position he accepted in 2242. He applied his logistical talents to the restructuring of the Navy that took place in the mid-2240s.

Upon his death, Albadawi was given a magnificent state funeral, but in accordance with his will his body was cremated and his ashes were scattered. No grand monument was ever built to the greatest Terran military hero of the age.

Arpad Kovacs

Although later events threw him into eclipse, Arpad Kovacs (2236-2318) gained a permanent place in history during his tenure as Grand Admiral of the Terran Navy. Not only did he hold that office longer than any other officer in history, he was also the officer who presided over the final conquest of the Vilani Imperium.

Born on the colony world Lagash, Kovacs was of purely Terran descent, but his extended family included many members of Vilani or mixed ancestry. Like many colonials, young Kovacs was a fierce supporter of the war against the Imperium. He joined the Terran Navy in 2254 as a common enlisted man, and was soon assigned to a new jump-3 raiding squadron destined for the front lines in the Ninth Interstellar War. He saw considerable action over the next few years, and was twice decorated for heroism in battle.

During his time on the front lines, Kovacs was also recognized for his leadership ability and technical aptitude, traits that made him a good prospect for an officer's commission. In 2259 Kovacs was accepted into Officer Candidate School. His captain, realizing that time on the homeworld would be useful to a young colonial officer's career, arranged for him to attend OCS on Terra itself.

Kovacs did well at OCS, and earned his commission as an ensign in 2261. He spent most of the 2260s on and around Terra, holding a series of staff positions in Navy Intelligence. In private, he disliked these assignments – but they did help his later career considerably, giving him contacts in the High Command and the civilian bureaucracy that would be very useful in later years. His time on Terra also gave him considerable experience with civilian politics and with covert Intelligence operations.

Eventually Kovacs was able to win an assignment back on the military frontier, becoming first officer of the *Churchill*-class battleship *U Thant* in 2271. Once in the combat zone, Kovacs enjoyed one command assignment after another. He soon had a reputation for brisk competence, if not for brilliance – his ships and squadrons usually came home in good condition and with the mission accomplished. He also made efficient use of intelligence assets, and proved adept at dealing with local populations. All of this made him a natural candidate for admiral's rank, which he attained in 2281.

At this point, Kovacs' extensive homeworld background proved an unexpected advantage. During the 2280s, the Confederation's central

government was becoming concerned about the political reliability of senior naval officers. Most of the captains and admirals leading Terra's front-line fleets were of colonial origin, and many of them had never spent significant time on Terra. Quietly, some of Terra's civilian leaders were beginning to worry that the Navy's goals might one day diverge from those of the civilian government.

Arpad Kovacs was colonial in origin, but he had spent years on Terra. He was politically sophisticated, but was not known to hold any political ambitions of his own. He was personally known to a number of Confederation civilian leaders. All of this made him a relatively "safe" candidate for the Admiralty, at least until someone equally talented but more reliable came along. His promotion to high rank was assured, especially after Lawrence de Marco (Secretary of the Navy, 2284-2290) became his patron. In 2287 he was named Grand Admiral of the Terran Navy.

Terran officials expected Kovacs to return to Terra to take up his supreme command, as several of his immediate predecessors had done. Instead, he transferred his flag to the frontier and began to plan a great offensive against the Imperium. Communication times being what they were, the Secretariat took several years to become concerned at the new Grand Admiral's independence – but by then, news of the Navy's victories was reaching Terra and Kovacs was politically untouchable. So long as Kovacs kept winning wars, he could retain his position, and he kept winning for well over a decade.

Finally, the Imperial government collapsed and various Vilani leaders approached the Terrans with an offer of surrender. Years of communication time away from Terra, Admiral Kovacs chose to act without waiting for instructions. He supervised the negotiation of a final settlement, signed the treaty that ended the Interstellar Wars, and took the Vilani *Ishimkarun* under his personal protection. He then proceeded to send Terran naval officers out to govern the Imperium's thousands of worlds. In all of this, he hoped to stabilize the interstellar situation, giving the Terran Confederation a chance to grow into the mantle of galactic leadership.

Kovacs knew that all these actions were likely to be controversial back on Terra, but he chose to accept the risk in hope that the centuries-long conflict could be brought to an end at last. With the wars over, Kovacs was at the height of his career and could count on a place in the history books. Still, there was much work to be done, and no guarantee that the Secretariat would leave him alone to do it . . .

Hiroshi Estigarribia

One of the most flamboyant military leaders of the late Interstellar Wars period, Hiroshi Estigarribia (2262-2340) was born on Terra itself. He was native to Peru, born to a family that had no military tradition; his father was a robotics specialist of mixed Basque-Quechua ancestry, while his mother was an expert in ancient history from an old Peruvian Japanese family.

When young Hiroshi was a small child his parents moved to Ecuador, where his father had accepted a position at the Confederation Naval Research Facility at Quito. Estigarribia grew up hearing stories about battles against the Vilani and adventures under distant suns. By this time, native-born Terrans almost never joined the Navy. Estigarribia was determined, however, and rejected his family's pleas to pursue a planetbound career. He entered the Naval Academy, graduated with high honors, and won a rare assignment to the war zone – arriving there just in time to join the grand offensive of 2288.

Estigarribia proved to be a superb commander. He earned the respect of his subordinates by being an aggressive leader, willing to throw himself into the hottest part of any situation and do or die. He served with great distinction during several campaigns, earning rapid promotion to the rank of captain. If he had a weakness, it was a love for publicity. He often "played to the press" when the opportunity arose, a habit his superiors tolerated since he was very good at presenting the Navy in a positive light.

In 2298, Estigarribia was in command of the battleship *Temujin*, flagship of the 16th Fleet under Fleet Admiral Leon Gerasimov. During the Battle of Three Suns, the *Temujin* was badly damaged by Imperial missile fire, ending with a lucky hit on the flag bridge that killed the admiral and threatened to wreck the fleet's command structure. Captain Estigarribia saved the flagship, and took temporary command of the fleet until a senior officer could re-establish the chain of command. A later inquiry found that Estigarribia's actions had almost certainly saved the 16th Fleet and won the battle for the Terrans.

Estigarribia's heroic action made him a Rear Admiral, one of the youngest in the history of the Terran Navy. It also earned him widespread adulation. News media on 1,000 worlds dubbed him the "Terran Alexander," an appellation which flattered him greatly. He was an admirer of the ancient Macedonian warlord, and saw many parallels between his hero's career and the Terran conquests.

Estigarribia did not take part in the last act of the Interstellar Wars; by 2303 he was embroiled in the task of setting up Terran administration across the non-Suerrat portions of the Ilelish sector. Still, most observers believed that he was due for even higher positions of responsibility. As a famous war leader, he had the trust and admiration of most Terran colonials. As a native-born Terran, he was regarded as politically loyal to the Confederation's central government. Already he was being named as a potential future Grand Admiral, a possible successor to Arpad Kovacs when that officer chose to retire.

In fact, Estigarribia's destiny was considerably *higher* than the office of Grand Admiral – but that story no longer belongs to the Interstellar Wars era, and is beyond the scope of this book.

Chapter Three
Terra

One world. One world set against an empire of thousands. One lone world set against trillions of Human and alien beings who do not share our history, any of our cultures, or any of our values.

Victory seems impossible. Perhaps the best we can expect is survival. Yet to achieve even that, we must be . . . one world.

– Kanshi Bannerjee, first Secretary-General of the Terran Confederation (2127)

The Home Front

In many ways, the situation in which Terra finds itself in 2170 is similar to the situation the United States, Great Britain, and other countries found themselves in during the Second World War (1939-1945). During that conflict, propaganda spoke of "the Home Front" as if it was another theater of the war.

Although an uneasy peace exists at the moment, war could soon break out again. Terran independence, culture, and society are in constant danger. To survive, the Terran Confederation says, everyone must pull together and do his part to prepare for what may come. Citizens must waste no resource, however small, and they must use every talent to its fullest. This is a constant theme in state-sponsored literature, television, and education.

State of the World

The state of the world in 2170 depends on where one lives and one's position in society. Most Terran citizens are at least comfortable – but human nature being what it is, almost no one is wholly satisfied with his current status. There are still broad differences between the highest and lowest levels of Terran society, and although great strides have been made to eliminate real poverty, a good deal remains to be done.

Environment

The condition of the planetary environment has improved since the middle of the 21st century, but that isn't really saying much.

Atmospheric and environmental pollution has been brought under control, especially as the growing use of fusion power has reduced pollution from coal and fission power plants. Carbon dioxide and carbon monoxide levels have dropped in major cities the world over, and smog has become an increasingly rare occurrence. Heavy metal pollution is practically a thing of the past.

As fusion power has become more widespread, cheaper electricity has made many materials more economical to recycle. Combined with access to raw materials from the Sol system and the removal of many industries to space, this has reduced the need to mine Terra's mineral deposits and mitigated the environmental impact of industry.

On the other hand, global climate continues to undergo a definite warming trend. Ocean levels have risen steadily for over a century. Coastal cities worldwide have had to take measures, not all of them successful, to hold back the rising water. A more serious consequence is that growing seasons have changed, and the traditional grain-producing regions are now drier and warmer than in previous years.

To compensate for the shift in climate, new varieties of food crops have been increasingly "tuned" to grow in specific areas. Terra is more than capable of producing a food surplus. That there is still starvation in some places from time to time is due to inequities of transportation and inadequate planning. The Confederation is working to eliminate both.

Standards of Living

Ask almost any American, and he'll tell you that standards of living have dropped since the mid-21st century. Much of the rest of the world has never had it so good. Today almost every Terran has adequate shelter, clean running water, reliable electricity, and access to the global communication network.

Malnutrition is still a problem in some remote regions and a few urban areas, but deadly famines covering entire nation-states are very rare. Transportation difficulties sometimes prevent enough food getting to where it is needed; the Confederation sees this as a problem of infrastructure, and is working to extend its distribution networks in remote areas. This has the added benefit of increasing employment in underdeveloped regions.

Health care is more of a problem. Improved sanitation has effectively eliminated diseases like dysentery and typhus, and vaccination programs have done wonders for infant survival. Long-term preventative care is more expensive, and is not always available for the segment of the population with the lowest income. The Terran Health Administration tries to make cutting-edge medicine available everywhere, but has only mixed success.

Unemployment remains a problem, but few people are consistently out of work for very long. The Draft (p. 51) was instituted to make sure that each person is able to serve Terra to the best of his ability.

Crime continues, despite the Confederation's best efforts to eradicate it. The unification of world law enforcement has made it more difficult for criminals to flee across jurisdictional boundaries. Most public spaces are covered by surveillance cameras linked to computers with facial-recognition and other biometric systems. Even with such measures, there remain areas where the law is ineffective.

Social Unrest

Not everyone supports the Terran Confederation government. Most people have reservations, and almost no one feels that it is perfect, but the majority of people feel that the current system at least *works*.

Why "Terrans?"

One odd feature of social development during the 21st century was the rise of the word "Terra" to describe the Human homeworld.

The word itself comes from the ancient Latin language, where it meant "land" or "soil." The Latin phrase for the entire world was *orbis terrarum*. Derivatives became the name for the entire planet in a number of the Romance languages.

In English it was rarely used as a name for the whole planet, aside from a fad for the name in science fiction literature of the mid-20th century. It did have one stylistic advantage: it easily formed the adjective "Terran," whereas "Earth" could be made an adjective only with awkward constructions like "Earthman," "Earthling," "Earther," and so on. Although English became the leading language of the United Nations in the course of the 21st century, the growing number of supporters for planetary unification settled on the name "Terra" for the world.

This choice was popular among speakers of Romance languages – a very large segment of the Terran population. It also helped to downplay the prominence of English-speaking leaders in the movement, a bit of necessary linguistic camouflage. Many people feared that the progress toward unification was a new expression of American or British imperialism. The choice of a non-English name as a rallying point helped dispel such fears.

International Affairs

Laws promulgated by the Terran Confederation now govern relations among the nation states of Terra. All states in the Confederation are theoretically equal members, but in practice some are more powerful than others, and the top few nations are more powerful than all the rest combined. The external threat of the Imperium moderates tensions related to this power differential, but they are always present under the surface.

The nations in control of the Secretariat try to maintain a working relationship with each other and with the second-tier powers that dominate the ineffectual General Assembly. As Terra has become increasingly interconnected, even the larger nations have discovered that they need the support of others – no nation can "go it alone."

However, even with the Imperium presenting a common enemy, some Terrans feel that the world government is too oppressive and that personal freedoms are being sacrificed. These feelings often lead to civil strife, and in some extreme cases even violence. Violent protest is most common in the developing world, but some major nation-states (notably the United States) experience anti-Confederation unrest at times as well. Most of the Terran Confederation's armed forces are actually deployed on Terra – not only as a last-ditch defense against Imperial attack, but also to put down rioting or revolt when necessary.

There are several worldwide opposition movements on Terra; some of them have contacts with the colonies and off-world nations. The Confederation's greatest fear is that the Imperium will discover these movements and give them financial and technological support. This may already have happened to some extent – a surge of nationalist opposition during the 2160s may be attributable to external subversion coordinated by the Vilani provincial governor.

Terra and the Colonies

The Terran Confederation's relationship with its colonies is generally good. New colonies are governed by the Colonial Bureau, which provides administrative support while encouraging the growth of healthy democratic institutions. Independent colony worlds can create their own governments and laws, provided they operate within the legal framework established by the Confederation. Naturally, as confrontation with the Imperium continues, Terra is reluctant to allow its colonies too much independence.

There is a growing feeling among the colonies that Terra is simply one world among many, and should have no more rights and privileges than any other member of the Confederation. Compounding this is the fact that Terran nation-states dominate the Secretariat and the General Assembly while the off-world nations are under-represented.

Terrans see their predominant position as theirs by right, and are unwilling to make changes that might displace them from it. A few extremists are beginning to suggest that Terrans have a manifest destiny to rule the galaxy.

The Citizen's Life

In later years I discovered that there was no shortage of iridium, and the campaign for schoolchildren to collect used ballpoint pens and turn them in for recycling was nothing more than a program to let us feel we were contributing to the war effort. I felt betrayed at first, since I had been punished for taking all the pens from our home and turning them in, but now I can look back on all of that with nostalgia.

– Jerzy Kalinowski, colonial administrator on Nusku (2168)

Depending on one's cultural viewpoint, life on Terra in 2170 is either increasingly restrictive and totalitarian or better than it has ever been before. An American from the early 21st century would find it oppressive; a Western European from the same era would find nothing unusual; most Africans would consider it a paradise.

Cities in the most economically advanced areas are usually safe, comfortable, and efficient. Crime is under control, largely because unemployment is low and youths from 12-20 (the age when most crimes are committed) have little free time in which to make trouble.

The rural districts of the first world are less densely populated, but contain many suburban areas in addition to their agricultural concerns. This has been made easier by the transportation net, which was originally designed to haul produce to market but is now also used for passenger travel. It is not uncommon for people to commute hundreds of miles every day to and from their work.

In the developing world, things are improving because employment is high and wages are better than ever before. Only in the most remote districts can severe, intractable poverty still be found. The conflict with the Vilani Imperium has made *labor* one of the world's most valued resources, and improved education has made even poor nations capable of providing skilled labor to the war effort.

Birth and Childhood

The population of Terra has been stable since late in the 21st century. Far from being concerned about overpopulation, the Confederation and most of the national governments try to *encourage* citizens to marry and produce children. Even nations that were once overcrowded now have difficulty raising birthrates above the "replacement rate" – a serious problem on a world with chronic labor shortages.

Citizens who do have children can call on a variety of resources to help raise them. Good prenatal care, nutrition, and pediatric medicine are available almost everywhere on Terra. Most employers and national governments offer generous benefit packages to parents, including extended maternity leave and subsidized child-care services.

Education

The primary function of the Confederation's educational system is to prepare citizens for public service later in life. Everywhere on Terra, early education focuses on basic literacy and socialization. Later on, students are guided toward studies that will reinforce their individual talents. This may eventually mean university if the student shows ability, but it may very well mean a vocational school, or no advanced training at all.

Schools are directly funded and governed by a variety of national and private organizations. However, the Confederation has imposed an extensive body of "education law" that overrides any national or local policy. Any educational institution, from a child's first preschool to the most elite university, must be legally accredited in order to operate. Students who attend a non-accredited school will find that their credentials are not accepted by the Confederation or any other legal employer.

Accreditation governs how schools may be funded and how students may be selected. It also defines minimum standards of competence for students at each level of development. In particular, it requires students to learn a panoply of cultural information: they must learn at least one language other than their own; they must be exposed

to the truthful details of foreign cultures; and they must become familiar with the Confederation's human-rights law.

The Confederation's emphasis on education is not an accident – it has roots in United Nations policy stretching back to the 20th century. The Confederation's founders saw themselves as establishing a true "world community" for the first time, and they realized that most Terrans would have to *learn* how to be citizens of such a community. That meant instilling cosmopolitanism and Terran patriotism in addition to technical skill.

Naturally, this approach to education is a point of fierce contention between the Confederation and various national governments. Many cultural purists continue to resent the imposition of "foreign values" on their children, even after decades of living under Confederation rule. There is a thriving "black market" in unaccredited education and falsified credentials.

Public Service

After completing one's formal education, every Terran citizen is subject to a period of "public service" (i.e., government work). This can take many forms: teaching, social work, public works projects, environmental cleanup and monitoring, scientific research, and so on. The most common assignments, of course, are in the military.

There is almost no way to avoid this service – only the most profoundly disabled citizens are considered completely unfit. It is possible to *volunteer* for a government job as one approaches the end of formal education; such service counts toward the legal obligation, and may help avoid an undesirable assignment. The normal term of public service is four years, but one can choose to "go career" during the initial term, remaining in government service indefinitely.

Careers

After a Terran citizen finishes his time in public service (and possibly attends university), he is free to pursue his private interests. Most people hold a number of different jobs during the course of their lives. The standard model is much as it has been for centuries – a citizen takes an "entry-level" job with the skills he learned in school and during his time with the government, then takes on positions of increasing responsibility as he gains experience.

We all go where Terra needs us to be.
– Public service slogan (c. 2150)

Governments and large corporations employ most of the working population. Even so, private enterprise is alive and well on Terra. Many citizens go into business for themselves; most such ventures fail, but enough succeed to make the option a popular one for ambitious workers.

Another attractive area for skilled and unskilled workers alike is off-world employment. Space-based industries (asteroid mining, shipyard engineering, and colonial construction) have been growing rapidly for decades. The colony worlds also have booming economies and are always short of skilled labor. Military veterans in particular are likely to accept off-world jobs – in fact, most employers who can offer such work prefer to hire ex-military personnel.

Retirement

To most Terrans, "retirement age" is the point at which one leaves government service, and that can be anywhere from 20-90 years old. The concept of a period of life when one can kick back and take it easy – the "golden years" – has become a nostalgic dream. As people age, they take jobs that are less and less strenuous, but most citizens choose to remain employed until they are physically incapable. It is not at all uncommon to find a spry octogenarian working at a sedentary job, such as clerk or receptionist.

The Draft

Every citizen of the world must make a contribution to the common defense of humanity. We dare not depend on the promptings of individual conscience to bring citizens to volunteer. Every one of us must be assessed and placed where he can do the most good for the greatest number.
– Jiang Bangguo,
delegate to the Secretariat from the Republic of China (2116)

The single most pervasive influence in the lives of Terra's inhabitants is *The Draft*, a phrase always capitalized in the Terran news media. The Draft was instituted during the First Interstellar War, and has remained in force ever since.

The Terran Confederation tracks every citizen from birth to the end of his life. As he approaches the end of his formal education, the Public Service Bureau administers a battery of tests to determine where he can be best put to use. When he finishes his education, he is subject to the Draft, which determines where he will be assigned for his four (or more) years of government work.

Even after completing his required term of public service, every Terran citizen remains subject to the Draft until he reaches the age of 40. Should war or some other emergency break out, citizens may be "reactivated," pulled out of their private-sector jobs and placed under government orders once again.

Leisure and Entertainment

Terran artists are in the midst of what some have labeled "high post-modern cosmopolitanism." They strive to mix cultures in their work, often at the cost of real depth.

Visual Arts

Conventional "flat" photography is still very popular. In fact, the production of two-dimensional cinema has become a cottage industry; advances in computer-assisted production have made it possible for even amateurs to produce movies as rich and detailed as the best of the 20th century. Filmmakers rarely bother with actors, large numbers of extras, or on-location filming any longer – computer software can produce almost any desired effect on the screen.

Holograms and holographic projections have been a valid artistic medium for years, but full-round three-dimensional movies are still in their infancy.

Painting is still accomplished using the same materials that have been used for centuries, although modern chemistry has regularized the colors and media available. Computer-assisted painting is very popular because the finished work can be stored electronically, and the range of effects is almost unlimited.

Architecture

Materials science and gravitic support have made it possible for architects to achieve what previous generations could only dream of. Buildings can be taller, tunnels and bridges longer; undersea installations are feasible, and everything is generally safer and more durable. Designs for public buildings have come to reflect the austerity of the governments that commission them, and are devoid of "showy" features beyond the minimum decoration to make the structure pleasing to the eye. Any decorative features of a design must also be useful.

Modern architects make increasing use of prefabricated components, such as wall modules with utility connections pre-installed. This permits buildings to go up faster and more efficiently, and means that specialist construction workers find most of their employment on an assembly line rather than in the field.

Music and the Performing Arts

Live music remains popular in a variety of styles, but most people listen to satellite broadcast radio or one of the numerous digital channels. The Confederation's Ministry of Culture maintains an enormous catalog of music available to all citizens, and this is supplemented by private commercial networks.

Live theater is relatively expensive to produce, but is still popular with those who seek the possibility of a unique experience.

Literature

There is great pleasure to be had in the physical act of reading, of turning the pages, touching, feeling, smelling the paper and the ink, and communing with the spirit of the author. One could read *The Hound of the Baskervilles* on electronic paper, I suppose. One could also drink fine oolong from a plastic cup, but it loses something. The best teas deserve bone china, and the best literature deserves paper and ink.

– Alyson Graves, literary critic (2144)

Literature has been changed more by the media through which it is presented than by any stylistic factors. While there is still a considerable nostalgia market for traditional paper books, most people make use of

The Uplift Projects

Doctor Moreau would be so proud . . .

– Lynn Jackson, animal-rights activist (2155)

Genetic engineering is a controversial subject on Terra. Early in the 21st century, experiments were begun to "uplift" or improve the intelligence of certain non-Human species. The earliest of these involved simple selective breeding and special training programs, but with advances in gene-splicing technology, more fundamental changes have been undertaken.

The earliest work was governed by the United States Navy, which tried to enhance the intelligence and tractability of the porpoise for use as an underwater scout. There is evidence that some animals were tested in the detection of mines and enemy divers as early as the 1990s, but the projects were dropped when technological solutions proved cheaper.

More recent experiments with animals have concentrated on their use in off-world colonization efforts. The most extensive work has been done with chimpanzees, dolphins, and gorillas. These three have all given rise to uplifted species, nearly as intelligent and versatile as Humans, and quite able to work as junior partners in colonization projects. Another success created the "neodog," a variant canine with improved (but sub-sentient) intelligence and language ability, useful in a variety of jobs. Finally, one of the more unusual projects has created the "miniphant," a smaller but very intelligent elephant that has already seen service as a riding and draft animal on the colony worlds.

As of 2170, most of the engineered animal species are still *animals*, more intelligent and cooperative than their wild brethren, but not yet capable of acting as Terran citizens. In later decades, this situation will change. Engineered dolphins in particular will become an intelligent partner-species, with full citizenship rights on most Terran-controlled worlds.

Experiments with food crops have been less publicized, but are vastly more important to Terra. Food crops are now increasingly "tuned" for optimal growth under special conditions, to tolerate a wider variety of rainfall conditions, and to resist pests and disease.

portable readers for "ephemeral" literature that includes newspapers, magazines, short stories and light novels.

Popular magazines and newspapers proliferate, but are different for each reader. A subscriber can choose from a menu of topics and levels of detail, and get daily (or even hourly) updates customized to his interests and comprehension level.

This sort of content control extends to novels and short stories as well. Popular authors often build multiple plot threads into their creations, so that readers can follow the character of their choice through the storyline or pick alternate endings.

Athletics

Sports have changed little since the 20th century. The most popular sport on Terra is football (known to Americans as soccer). Baseball and American-rules football also have large followings. The Olympic Games continue, now overseen by the Confederation's Ministry of Culture and held in a different location every four years.

Sports fans remain obsessed with statistics, and computers have only enabled them to keep track of increasingly esoteric minutiae. They will argue over anything connected with their favorite team, and sometimes come to blows over it.

The Terran Confederation

The Terran Confederation is the name assumed by the United Nations in 2124, at the conclusion of the First Interstellar War. It has undergone several reorganizations over the years, and has expanded its control from the nations of Terra to the stars.

The Terran Confederation still occupies the old UN grounds in New York City in the United States, but the building itself was expanded in 2098. The Secretariat and General Assembly meet there, and the Secretary-General of the Terran Confederation has his offices there, but many of the subdivisions of the government are headquartered elsewhere on Terra.

Political Organization

In rough order of strength and influence, the main powers of Terra in 2170 are the United States of America, the European Union, the Republic of China, the Republic of India, and Japan. Together, these five nations provide the economic and political muscle to keep the Terran Confederation in power. No single nation is so powerful as to dominate world politics, but so long as the "Big Five" partners cooperate, they can exercise absolute control over the Confederation.

Over the years, individual members of the Big Five have sometimes tried to gain a dominant position, or to assert their independence from Confederation control. Such attempts have always failed – no nation on Terra can oppose the combined strength of the rest of the Five. For reasons of national pride and history, this is especially irritating to politicians in China and the United States, even several generations after the formation of the Confederation.

Secretary-General

The Secretary-General is the leading official of the Terran Confederation. He is appointed by the Advisory Board of the Secretariat (p. 54), serves a five-year term, and can selected for any number of subsequent terms. He can be deposed by a vote of no confidence in the Advisory Board, if the vote passes by at least a two-thirds majority; the Board must then appoint a new Secretary-General to finish out the current term.

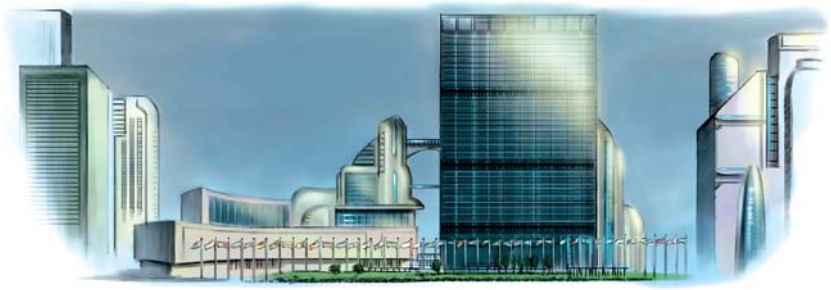
The Secretary-General has a variety of executive powers. He is the administrative head of the Confederation, and all of the government's ministers and department heads report to him. He is the Commander-in-Chief of the Confederation's armed forces during wartime. He also holds a very good "bully pulpit" position, and (if he is personally persuasive) can effectively sway world opinion. The Secretary-General is often considered a mere puppet of the Advisory Board, but in fact a capable holder of the office has tremendous power of his own.

A World Under Siege

Since the Third Interstellar War, Terrans have developed a "siege mentality" even though the world is no longer under direct military threat. Although peace has permitted the Confederation to dial back its rhetoric about the threat of enemy invasion, it continues to emphasize that all citizens must work together. "Do your part" is a common slogan.

This has led to a mild xenophobia among the Terrans who have never left the world. In many places on Terra, visitors who look "alien" are subject to suspicion, especially if they resemble the movie stereotype of a Vilani: short, dark-skinned, delicate-featured, and always wearing highly ornate and impractical garments. Vilani spies, of course, are said to carefully blend in – so *anyone* can be an Imperial agent . . .

Of course, citizens who have traveled to other worlds quickly become sophisticated enough to recognize how ludicrous all of this is – yet another way in which Terran and colonial culture are beginning to diverge.



One power that is not granted to the Secretary-General is the role of Commander-in-Chief of the Confederation's armed forces during peacetime. When no active hostilities are under way, command of the military is held by the Minister of War.

Secretariat

Together, the various agencies of the Terran Confederation government form the *Secretariat*. The original Secretariat of the United Nations was simply the Secretary-General's administrative staff. Much of the work of the UN was done by various outside offices and commissions. Some of those organizations still exist, although most have been absorbed into the Secretariat, which has grown dramatically. Today, the Secretariat is the core of the Terran Confederation, and it dwarfs the rest of the original United Nations structure in size and influence.

The Advisory Board

The Secretary-General commands the Secretariat on a day-to-day basis. However, ultimate control of it rests with the *Advisory Board*, a council of national representatives.

The Advisory Board consists of 12 voting members. Ten of these are appointed, two each by the national governments of China, the European Union, India, Japan, and the United States. A member of the Advisory Board serves until replaced; the length of his term is determined by his home government, with the only restriction being that it must be no less than two years and no more than 10. The last two members of the Advisory Board are chosen at random from among the members of the General Assembly. These two "rotating seats" are occupied for one calendar year at a time, cannot be held by the Big Five nations, and cannot be granted to the same nation twice in a row. The Secretary-General presides over meetings of the Advisory Board, but does not vote except to break ties.

The Secretariat not only implements Confederation policy, it has a leading role in making it. The Advisory Board is the body that most often writes new Confederation laws for the consideration of the General Assembly. If the Board musters a two-thirds majority, it can pass new laws without needing a General Assembly vote. The Board must also approve any new law passed by the General Assembly before it can go into effect. Of course, Confederation laws are enforced by the agencies of the Secretariat, which have considerable influence over how those laws are interpreted on a daily basis.

General Assembly

The General Assembly is the main deliberative body of the Terran Confederation. It consists of one voting delegate from each nation of Terra, and one from each independent off-world state (as of 2170 there are four of these, representing Luna, Mars, Nusku, and Prometheus). Delegates to the General Assembly are selected by their home governments – some are elected by popular vote, but most are appointed. Terms are set at the pleasure of each nation. Terran colony worlds that do not yet have home rule are represented by non-voting members appointed by the Colonial Bureau; these are sometimes appointed from the colony's population, sometimes not. Occupied Vilani worlds are not represented.

The General Assembly is not continually in session. It routinely meets for about six months out of each calendar year, and can also be called into session by the Secretary-General if an emergency requires it.

A President manages meetings of the General Assembly. This official also serves as the "head of state" for the Terran Confederation. A President is elected at the beginning of each session, and serves until the beginning of the next. If there is more than one session in a given calendar year, it is traditional for the same person to be elected President, but this has not always happened.

The General Assembly has the power to pass Confederation laws, although any such law must also be approved by the Advisory Board of the Secretariat before it can be implemented. It also has limited authority over the Secretariat's budget, and has sometimes used that power to starve Confederation programs that are unpopular in the minor Terran nations. Aside from these specific powers, the General Assembly has almost no way to influence events,

Civilian Control

Civilian control of the military has been a guiding principle of the Terran Confederation charter from the beginning. Serving members of the Confederation military are forbidden from holding civilian office, and general officers are discouraged from expressing political opinions while on active duty.

The Commander-in-Chief of the Terran armed forces during wartime is the Secretary-General of the Terran Confederation. Under him is the Minister of War, who, assisted by the Secretaries of the Navy and Army, controls the armed forces in peacetime. The Minister of War supervises the combined Chiefs of Staff of the Army and the Navy. The most senior military officers in the Confederation are therefore *third* in the chain of command for the armed services.

unless the Big Five powers are in disagreement. At most times, the General Assembly only serves as a toothless forum for international debate.

The fact that minor Terran nations have almost no representation except in the General Assembly causes some tension between them and the Big Five states. Meanwhile, the vast overrepresentation of Terra causes some bad feeling among the off-world states. The colonists feel that they are entitled to more equitable representation, since the brunt of any military action would fall on them first.

National Governments

In theory, any nation in the Terran Confederation may choose any government it pleases, provided its citizens approve. In practice, the Confederation will intervene if the local government becomes too oppressive – and the Confederation defines what it considers "too oppressive." This may take the form of political or economic sanctions, or occasionally even military action.

Republics and Democracies: The vast majority of Terran nation-states are republics or representative democracies. The Confederation explicitly prefers this form of government for its member states.

Limited Monarchies: There are very few hereditary monarchies left on Terra. The European Union nations of the United Kingdom and Spain are typical examples – each is a *constitutional* monarchy, in which the monarch is head of state but the head of government and most lesser officials are elected.

Principalities: These are small nations ruled by a prince or other minor noble, usually with some form of democratic input from the populace. Examples include the European Union nations of Monaco and Liechtenstein, or the Sultanate of Brunei.

Dictatorships: As of 2170, no Terran nation-state is ruled by an overt dictatorship. Governments of this type usually run afoul of the Confederation's human-rights laws, and are quickly deposed. Some people wrongly consider the military governments imposed on occupied Vilani worlds to be dictatorial, although such governments are only intended to be transitional in nature.

Important Terran Confederation Agencies

The major agencies of the Secretariat are listed below, along with the locations of each one's headquarters. During much of the 21st century, these agencies were located together at UN Headquarters in New York City, United States. As the Secretariat grew in numbers and influence, it was increasingly inconvenient to find office facilities in the same city. When the Interstellar Wars began, the new Terran Confederation decided to disperse the major agencies; this helped with the office-space problem and also helped ensure that no one city would be too tempting a political target for Imperial attack.

Ministry of Justice: Geneva, Switzerland
Ministry of War: New York City, United States
Ministry of Trade: Brussels, Belgium
Ministry of Production: Chicago, United States
Ministry of Education: London, United Kingdom
Ministry of Health: Beijing, China
Ministry of Culture: Kyoto, Japan
Colonial Bureau: Paris, France
Public Service Bureau: Mumbai, India
Terran Starport Authority: Phoenix, United States

Political Parties

There are hundreds of political parties on Terra, sometimes more than a dozen in a single country. In the last few decades, several parties (or alliances of parties) have become global in scope, and a few now span several worlds.

Imperialists: This party calls for an aggressive program of interstellar expansion, with new worlds to be ruled directly from Terra. Naturally, this means an even greater military commitment against the Vilani Imperium. Some members are overt racists, promoting an ideology that claims natural Terran superiority over the Vilani. Although the Imperialist Party is well organized and unified, it is rather small and has little real influence. It is most popular in the Big Five nations, notably China and the United States.

Nationalists: Nationalist parties are found everywhere on Terra. They are most common in the developing nations, but even the Big Five nations occasionally give rise to these movements. Although they have many supporters, they have difficulty cooperating and have little actual power in the Confederation government. Nationalists resent the existence of the Terran Confederation, and call for a return to the days of nation-state supremacy. Their position on interstellar politics is mixed – most call for a militant policy toward the Vilani, but a few actually regard the Imperium as a potential ally against the "tyrannical" Confederation regime.

Conservatives: The conservative bloc spans a wide but loosely organized group of national and supernational parties. Most conservative parties prefer minimal government and government spending (except for defense) and a *laissez-faire* approach to business and general economic policy. Conservatives tend to work within the Confederation system, and are often very influential.

Socialists: Dozens of socialist and liberal-democrat parties exist around the world, dominating the government of many nation-states. These parties often cooperate in a loose "socialist bloc" within the Confederation government. Socialists generally favor an activist Confederation government, controls on business, an interventionist economic policy, and a conciliatory approach toward the Vilani Imperium. As of 2170, socialists form a majority of both the Advisory Board and the General Assembly.

Major Nation-States

United States of America: The United States has a large and relatively young population, an advanced technological base, and a sound economy. As a result it remains the most powerful single nation on Terra, although it no longer holds a dominant position in world affairs. It has an extensive space program, providing the largest share of Marine and Naval personnel, as well as a substantial portion of the Navy's shipbuilding budget. American entrepreneurs are very prominent among the Free Traders, and are heavily involved in colonial development.

The United States was a stumbling block to world unification for decades. Until the First Interstellar War, it opposed any attempt to create a world government in which it would not play a leading role. Even today, the United States still has one of the most vocal nationalist movements on Terra.

European Union: Technically, the European Union is an *alliance* of nation-states, but after almost 200 years of cooperation the alliance is so close as to almost constitute unification. The three leading nations of the Union remain France, Germany, and the United Kingdom. The Union stresses "soft power" in world affairs, concentrating on economic and moral influence rather than direct political or military control. The Union is the second largest economic power on Terra, trailing the United States by the smallest of margins. It has a very extensive space program, and is the largest single contributor of ships for the Terran Navy.

Republic of China: In the course of the 21st century, the Communist government of China gradually faded into a more moderate state, still authoritarian but with trappings of Western democracy and capitalism. China has a very large population, and has done a great deal to catch up with the most advanced nations over the last century. As a result it has a powerful voice in Terran politics. China encourages its population to migrate to the colonies, by subsidizing transportation costs for families willing to relocate. China also financed and equipped one of the early Phoenix Expeditions (p. 57).

Republic of India: India is the most populous nation on the planet, a lively democracy and a major center of Terran culture. Although it is technologically backward, it can provide a great deal of manpower for projects all over the Terran Confederation. In particular, it is one of the largest sources of recruits for the Terran Army.

Japan: Japan is one of the wealthiest nations on Terra. It experiences constant severe labor shortages, and so provides relatively little manpower for the Terran armed forces and colonial ventures. Instead it provides financial backing for commercial and government projects. It is also a technological leader in several fields, notably computers, robotics, spacecraft design, and advanced physical research.

Republic of Korea: After the reunification of the Korean peninsula in the mid-21st century, Korea spent almost half a century integrating the devastated society of the north. Korea has been slowly recovering ever since. While its economy is not on a level with the United States or European Union, it is respectable and growing stronger with each passing decade. Korean entrepreneurs are very active in the Free Traders.

Russia: After the breakup of the old Soviet Union, many of its smaller republics eventually joined the European Union. Russia's nationalistic tendencies led it to chart an independent course. Its vast natural resources and enormous land area have made it a power to be reckoned with on Terra, although development has been stubbornly slow. Although Russia is not a first-tier nation, it had a space program of its own before Vilani contact, and so its presence in space is still larger than its rank on Terra would indicate.

Greens: The "Greens" form a fairly well organized bloc of local environmentalist parties, with members worldwide. They feel that the greatest threat to the continued existence of humanity is environmental rather then military or political. They favor very strict economic controls and a less belligerent policy towards the Imperium. They have little direct influence in the Confederation government, although they usually control a consistent block of votes in the General Assembly and can sometimes push their proposals to center stage.

Colonial Administration

Terran civilian colonies that have not been granted their independence are administered by the Confederation's Colonial Bureau. The Confederation Navy and Army control all military outposts and installations, as well as all occupied worlds.

Terran Colonies

Terran policy is to place at least a military outpost in every system within the Confederation's sphere of influence. Where the population of a world is composed solely of military personnel (including military dependents and civilian employees of the military), the world is under military government. Where both Navy and Army personnel are present, a joint-force command is established, with the Navy tending to dominate.

Garden worlds, and worlds that might yield useful resources, are targets for civilian colonization. The actual work of colonization is left up to national governments, corporations, and even small private organizations. The Colonial Bureau oversees the process – it declares worlds open for colonization, allocates land or resource claims, and provides the initial framework of planetary government.

A colony world is usually granted "home rule" (political independence) as soon as its stable population is around a million, and as soon as a local government is ready to take over for the Colonial Bureau administration. Once home rule is granted, the world gets its own seat in the General Assembly and begins to take part in Confederation government.

Occupied Worlds

Occupied Vilani worlds are placed under martial law, with the specifics depending on the individual situation. Joint military commands are the most common, with the Army tending to predominate since it usually has the largest number of personnel on an occupied world. Rarely, a governor from the Colonial Bureau will be placed in charge of military occupation forces.

As of 2170, the Terran Confederation's policy is to treat occupied worlds as humanely as possible, with an ultimate goal of integrating them into the Confederation as member nation-states. This policy has been tested once – on Nusku – with considerable success; it remains to be seen whether other Vilani worlds will be as easy to integrate into the Terran system.

The Phoenix Expeditions

The Phoenix Expeditions were a series of dozens of long-range colonial ventures, started even before the First Interstellar War and continuing throughout the 22nd century.

The original idea behind the Phoenix Expeditions was to send self-contained colony ships into areas far beyond Vilani space. Named after a mythical bird that was reborn from the ashes of its own destruction, each ship carried the tools and supplies to establish a new Terra, and also the records and history of the old.

The earliest Phoenix ships did not make use of jump drives, and incorporated primitive suspended animation technologies. Various systems of constant acceleration were used on many of these vessels, and the ships were targeted at systems thought likely to have habitable worlds. Later ships incorporated jump drive, which obviated the necessity for suspended animation and increased the chances of success.

Each expedition was to find a suitable world as far from Imperial influence as possible, and to start a settlement there. Some expeditions headed to rimward, searching for worlds that the Imperium would never find. Others moved *through* Imperial space, hoping to establish new colonies in the Imperial flank or rear. They were expected to be out of contact with Terra for generations, and for security reasons were ordered to be cautious about re-establishing contact with Terra.

Different theories of what constituted a viable colony startup influenced the ships' size, payload, and layout. Numerous designs and variants existed; practically every expedition had its unique features. An early Phoenix expedition was usually built into a single hollowed-out asteroid, fitted with reactionless drives and carrying tens of thousands of colonists in suspended animation. After the jump-2 drive became available, a Phoenix expedition usually consisted of four to six superfreighters (about 10,000 dtons in size), escorted by eight to 10 smaller ships equipped for exploration work and armed for self-defense.

The Terran Navy

The Terran Confederation Navy was officially established in 2125, just before the outbreak of the Second Interstellar War. The new force combined a number of national flotillas that been built by the spacefaring nations and were operating under joint UN command. In its earliest years the Navy was still dominated by China, the European Union, Russia, and the United States, with minor contributions from Australia, Canada, Japan, and Korea. Since then it has become more broadly based, with ships and manpower coming from dozens of Terran nations.

The Navy Life

The Navy is the most prestigious military organization in the Terran Confederation. It receives a substantial portion of the military budget, the best personnel from The Draft, and the public relations benefit of numerous victories in previous wars. The Navy claims, with some justification, to be the main defense between Terra and absorption by the Vilani Imperium.

Recruitment and Training

Most naval personnel are drafted, but a certain number are volunteers who hope to enlist before a less desirable service claims them. The Navy tries to "cherry pick" its candidates from among the Draft pool, and advertises to persuade the best and brightest to come in on their own.

Every recruit receives eight weeks of basic training, which includes indoctrination to the Navy life, basic military courtesy, and physical training. If the recruit does not speak or read English, he is given a crash "total-immersion" course in that language; modern teaching methods mean that a bright student can gain a working knowledge of the language in a few weeks. Basic training turns the civilian into a spacehand, and prepares him mentally, physically, and emotionally for military service. Basic training also identifies those who are constitutionally unfit for naval service, and enables them to move into other fields better suited to their personality.

After completing Basic, the recruits receive six to 12 weeks of advanced training in some technical specialty. There are dozens of specialties, each representing a specific job to be done in the Navy. Not all of these are performed on spaceships, since the Navy runs ground installations in support of their fleet elements.

Many naval officers are "mustangs," who rise from the ranks after distinguishing themselves in some way. However, the Navy also recruits new personnel directly into its officer corps. New officers sometimes join through the Naval Officer's Training Corps (NOTC), which is sponsored at various Terran universities. The Navy's elite officer-training institution is the Confederation Naval Academy, which is based on Luna.

On Duty

Life on a ship in space can be cramped, boring, and dangerous. While the Navy tries to make as much living space as possible available to sailors, every bit of a military spaceship must be used to the maximum, and this often means that crew comforts are minimal. Of course, comfort is a relative thing . . . for some spacehands, their current assignment is paradise compared to their civilian life on Terra.

Procurement

The two largest military shipyard complexes are in the Terra and Nusku systems. Civilian shipyards are also important, since the Navy can commandeer civilian vessels in time of war. The Navy's Bureau of Ships reviews all designs manufactured in the Confederation, with a view towards their possible use in wartime. Every civilian shipyard in the Confederation has a Naval Liaison detachment to carry out inspections as ships are built, and to track what vessels are being produced, so the Navy knows what's available in the event of a crisis.

A significant portion of the Terran Navy's ships are of Imperial design. Some of them are even of Imperial manufacture, adapted in Terran shipyards for Confederation service. For decades, Terrans have been deliberately capturing Imperial ships and shipyards, making use of the ships, the technology, and facilities to fill out the Navy. Terran naval architects have a tradition of adapting Imperial technology into their designs.

In addition to Imperial ships and Imperial designs, the Navy has a number of former Imperial personnel in its ranks. These are deserters from the Imperial Navy who have chosen to enlist and been accepted into the Confederation Navy because of their expertise and skills. Naturally, concerns about espionage and sabotage mean that Naval Security keeps a careful eye on them at all times.

Organization

Terran Navy organizations are normally simple *ad hoc* groupings of ships. All formations are adapted to their individual mission, and although there is a "typical" organization on the books for each type of squadrons, this is often modified for various reasons.

Unit Hierarchy

Theater of Operations: A theater of operations ("theater" for short) is a grouping of star systems in which a fleet or fleets are assigned to operate. The commander of a theater is normally the most senior admiral among the fleets of those assigned. Theaters are given unique names according to the most important star system that they contain. As of 2170, the Navy maintains three theaters: the Terran Theater, the Nusku Theater, and the Procyon Theater.

Fleet: A fleet is a grouping of several squadrons under a single admiral. Fleets are numbered, theoretically in

The Language of the Navy

When the Terran Confederation Navy was established, its leaders faced the problem of establishing a unified command over starship flotillas originally built by a dozen different nations. English was the only language that most of the new Navy's personnel had in common. It had long been the common language of international aviation, and a great many people learned it as a second tongue in civilian life. Although the imposition of a single language was not politically popular, it proved the only way to proceed in the press of events during the First and Second Interstellar Wars.

After the Second Interstellar War, the immediate threat of Vilani attack subsided, and the Terran Navy had grown considerably. The use of English had become ingrained, and was recognized as a permanent official policy in 2143. In the following years, the other Confederation armed forces began to follow suit, as did the Confederation civilian government. As of 2170, the Confederation still uses several languages for official business, but English is by far the most frequent.

the sequence in which they were created, but this convention is not always followed. In particular, some fleets are *named*, the main example being the Home Fleet based at Terra. A fleet will have support elements, such as transport and tanker squadrons, as well as combat elements.

Squadron: Squadrons are made up of similar ships when operating as part of a fleet or larger organization, but will have support and logistical elements attached when they are serving on their own. Squadrons are numbered and identified by their type: the 19th Destroyer Squadron, the 5th Tanker Squadron, the 21st Transport Squadron, and so on. The names are often abbreviated: DesRon 19, TankRon 5, TranRon 21, and so on.

Individual Ship: Ships are commanded by officers given the courtesy title of "Captain" regardless of their actual rank. Small craft, such as ship's boats or landing vessels, generally do not follow this rule. A ship of a given type will have a standard crew laid down in regulations, but will often vary from that organization due to casualties or specific mission requirements.

Departments and Sections: Below the individual ship level, crews are divided into smaller units called *departments*. A department handles a major system aboard a ship, such as engineering, gunnery, life support, electronics, communications, command, and so on. A *section* is a subdivision of a department, usually handling a specific subsidiary system. Power generation is a section under the engineering department, for example.

Ground installations consist of departments and sections, with an overall commander and a staff if necessary. Extremely large ones, such as major naval bases, will be commanded by an admiral.

Support and Logistics

Amateurs study tactics, professionals study logistics.

– Ancient military axiom

Any complex system eventually breaks down, but preventative maintenance can keep this from happening. Fleets of ships and the men aboard them need fuel, food, air, water, spare parts, and thousands of other items to keep operating. Warships consume ammunition and energy at a fantastic rate, and need repairs after almost every battle.

Keeping a fleet of fighting starships functioning requires transport ships, tankers, and other support vessels in large numbers. The Terran Navy maintains an extensive support arm, and in wartime supplements this fleet by commandeering civilian shipping. Even so, it is almost impossible to keep all needs satisfied during actual combat operations. This is one reason why open war against the Vilani tends to develop a years-long cycle of advance and consolidation (see *The Pace of Operations*, p. 26).

Naval Bases

A naval base is a facility for the repair and maintenance of naval starships. Most have yards for the construction of small, non-jump-capable craft. A few are Navy-owned shipyards, used for putting together the largest naval vessels. Some bases also contain depots – stockpiles of the myriad other things needed to keep a fleet operating.

The Terran Confederation has so few naval bases that there is no standard layout or table of organization and equipment. Some are partly land-based and partly orbital, while others are deep-space installations and completely space-based.

Operations

The Navy's overall purpose is to defend the Terran Confederation, and to project the Confederation's power into enemy territory in pursuit of Terran political goals. In pursuit of this purpose, the Navy undertakes a variety of operations.

Power Projection

One of the overriding principles of Terran Naval doctrine is the idea that a winning force must maintain the momentum, continuing to push its "center of mass" through the initial areas of resistance and into the enemy's rear areas. In this, the Confederation Navy follows one of the principles of the 18th century Prussian king Frederick the Great: "always fight your battles on someone else's territory."

Naturally, it isn't always possible for the Terran Navy to stay on the offensive. So far, the Imperium has always taken the initiative at the beginning of each conflict, and in fact Terran strategic planning assumes that war will start with an Imperial attack. Terran doctrine still calls for the Navy to carry the war to the enemy as soon as possible.

The Terran Marine Corps

Like most of the Terran Confederation's armed services, the Terran Marine Corps was first assembled out of units from several nations; in this case, not all of them were conventional marines. In general, the components were elite infantry units, chosen for their traditional high standards of training and their ability to operate independently for extended periods.

Terran Marine units tend to be battalion-sized and smaller, since interstellar transport is often at a premium. They are among the most highly trained and well-equipped of the Terran forces, although they lack heavy armor and support artillery that would take up too much scarce transport space. They are designed to be the first combatants onto the battlefield, and to hit the enemy hard enough to enable follow-up forces to land and continue the offensive. Terran Marine detachments also serve as ship's troops aboard Terran Navy vessels.

System Defense

Kill everyone they send. Eventually, they'll stop coming.

– Ancient military axiom

Protecting a world can be as complicated as the defenders care to make it. The guiding principle is to do as much damage to invading ships as possible, as far from the defended world as possible, and keep hitting them until they stop coming.

The Terran Navy often fights defensively in order to keep Imperial forces away from a critical world. Sometimes this defense is carried out by squadrons specifically designed for the purpose, including non-jump-capable fighters and "system defense boats." The Navy also operates *monitors*, large orbital stations that mount very heavy weapons. Of course, the very last-ditch defense of any world is in the hands of the Terran Army.

Marine Line Battalions

Marine combat battalions have several different tables of organization and equipment, depending on the original nationality of the unit and its mission. Despite efforts to standardize, and many decades after the first national units were converted to Terran Confederation Marines, many Marines (and the nations who supply them) resist any attempt to change their "unit traditions." For example, the American Marines insist on a squad consisting of a squad leader and two four-man fireteams, built around a man-portable ETC-GPMG (Electro-Thermal/Chemical General Purpose Machinegun), resisting the gauss GPMG in use by practically every other Marine unit. British Marines use a section organization, with a section leader and three fireteams, two built around a Gauss GPMP team and one around a sniper team.

Current Terran doctrine only labels one world as absolutely critical to the Confederation's survival – Terra itself. Any defense of Terra itself is likely to be fought to the last man and ship. Other worlds are less important, and can be sacrificed if necessary. Naval strategists must weigh the cost of any defense against the damage that can be done to the Imperial offensive.

The Navy sometimes "defends" the Confederation with a strategy of ambush and commerce raiding. It's relatively easy for a small Terran squadron to move behind the "front lines," waiting to ambush a thinly guarded Imperial convoy. This tactic is particularly useful given the arrangement of stars around Terra. Any Imperial attack has to move through the Nusku or Procyon star systems; even after an offensive moves on, any Vilani supply convoys must move through the same vulnerable choke points. Indeed, the Navy has hidden caches of supplies and spare parts on many small moons and asteroids in those systems, and in others that might prove to be useful ambush points. These caches can help commerce raiders to continue operating long after their direct supply lines back to Terra are cut.

The Terran Strategy

As of 2170, there have been three Interstellar Wars between Terra and the Imperium. Each was begun by an Imperial attack against Terra, and each ended with Terra in control of more territory than before. The Vilani didn't even attempt to conquer Terra during the first two wars; during the third, they were forced by their own internal politics to stand down before completing the conquest. Since the end of the Third Interstellar War, Terran planners have come to suspect that the Imperium is simply not structured to permit lengthy campaigns of conquest. Terra has developed a strategy that *depends* on this inherent limitation on the Imperial system.

The Terran strategy is one of *aggressive defense*. The Terran Navy is deployed to meet any Imperial attack as far from Terra as possible. If an invasion force advances toward Terra, it is to be harassed and delayed. The Terran Navy will try to inflict as much damage as possible, but will avoid being trapped into any pitched battle in which the Imperium has the advantage. Meanwhile, commerce raiders will attack Imperial support squadrons and commercial traffic.

Eventually the Vilani attack will bog down, hopefully still at a distance from Terra itself. At that point, if the Terran Navy has avoided suffering critical damage, it can go on the offensive. The counterattack will be driven by political objectives – the goal will be to win concessions from the Imperial government, whether these are territorial or simply commercial in nature. As soon as such concessions are won, the Confederation will ask for or accept a peace.

This strategy is one of limited objectives, and isn't designed to overthrow the Imperium. Terran planners recognize that the Confederation doesn't have sufficient resources for such a conquest, and won't have such resources for decades or centuries to come. Instead, the Terran strategy is designed to *buy time* – permitting the Confederation to survive and grow until it *does* have the strength to challenge the Imperium on equal terms.

Convoy Escort

Of course, the Confederation is vulnerable to a commerce-raiding strategy too. While the Vilani don't deliberately use raids to the same degree, they are not above attacking a defenseless merchant convoy if the opportunity presents itself. Thus, in wartime every civilian or military transport convoy needs an escort.

The primary problem with escorting a convoy during a jump is the difficulty of coordinating when a

group of vessels exits jump space. With preparation and care, a portion of the escorting vessels can arrange to arrive in advance of the main convoy, securing the region of emergence for the incoming vessels.

Expeditionary Forces

The marines are the point of the arrowhead – they make the opening. The Army forms the two edges of the arrowhead – it widens the hole the Marines make, and carries the rest of the arrow through to the heart of the target. The Navy is the shaft of the arrow, the part that gets the head where it's going. All the parts work together to accomplish the job. None of them can do it alone.

– Admiral Roger Marbury St. John, Terran Confederation Navy (2164)

When the Navy does go on the offensive, the goal is to convince the Vilani Imperium (or rather, the provincial government) that peace would be less disruptive than continued warfare. The fastest way to accomplish this is with a full-blown assault against a Vilani outpost or colony world. An *expeditionary force* is the organization formed to carry out such an assault.

Expeditionary forces are always joint operations, involving both the Terran Navy (along with the Marines) and the Army. The initial planetary assault is the task of the Confederation Marines, while follow-up forces normally belong to the Army. The Navy provides transportation and support for the assault and ground campaign.

An expeditionary force intended to take a world consists of four parts: the security group, the bombardment group, the assault group, and the transport group.

The security group is composed entirely of Navy ships, and opens the assault by clearing the system of enemy space forces and securing the vicinity of the world to be attacked. This includes neutralizing any satellites in orbit over the target world. The security group also protects the other groups from counterattacks, whether by raiding forces left behind in the target star system, or by Imperial task forces jumping in from elsewhere.

The bombardment group, also completely naval, conducts the preparatory bombardment of the target areas on the world, focusing on anti-starship defense installations and defenses in the landing zones. Its job is to "suppress" planetary defenses so that the Marine and Army units can land and do their work. Even after the ground forces are well established on the planet's surface, the bombardment group continues to provide fire support from orbit.

The assault group consists of the Marine assault teams, the landing craft that carry them to the world's surface, and squadrons of small attack ships that provide direct fire support. The assault group's task is to secure a safe landing zone, in which the bulk of the Army troops and support equipment can be brought to the target world's surface.

Terran Naval Tactics

No captain can go far wrong who lays his ship alongside an enemy.
– Admiral Horatio Nelson

Terran naval technology emphasizes beam weapons, which can do horrendous damage to enemy ships, but which cannot attack effectively at very long ranges. Imperial warships, on the other hand, emphasize fast, stealthy, long-range missiles that can be launched from outside the Terran "engagement envelope." As a result, Imperial warships can often hold the range open, avoiding the solid punch of Terran beam weapons, wearing down the Terran defense with wave after wave of missiles. Avoiding this situation is the primary consideration of Terran tactical doctrine.

In main-fleet engagements, the Terrans have little choice but to close with the enemy, absorbing the punishment of missile attacks until the main beam weapons can be brought to bear.

Terran ships use stealth, electronic countermeasures, and lots of point-defense fire in order to prevent missiles from locking onto or reaching their targets.

The Terran Navy has also deployed several classes of "missile boats" – small, cheap ships that are not expected to survive any major engagement, but which can fire substantial volleys in a short time. Imperial commanders who don't expect such attacks from the Terrans are often taken by surprise.

Whenever possible, the Terrans use stealth and misdirection to lure the Vilani close. If a battle is to be fought close to a planet or other body, Terran warships will lurk on the surface or in close orbit, waiting to "pop up" and fire beam weapons at any enemy that wanders too near. Terra has also experimented with "Q-ships," armed warships that mimic the shapes and energy signatures of unarmed freighters, in order to bait commerce raiders.

Terran tacticians also recognize that Imperial naval engagements proceed according to a very strict doctrine. While individual Imperial commanders might be capable of departing from the preset plan, they are strongly discouraged from doing so. Once their initial plan begins to come apart, lower-level Imperial officers become unsure what to do, and tend to fall back on a few standardized maneuvers. Terran commanders who can anticipate these can often win battles, even against superior odds, if only the Imperials can be denied the initiative.

Terran naval tactics are constantly being rewritten in the face of battle experience, training maneuvers, and technological advancement. Any flag officer with combat experience, as soon as he can be spared, is sent on a tour of the training facilities to teach others what he knows before he is returned to the front.

The transport group is usually a combination of Navy warships and civilian ships pressed into wartime service. Once a landing zone is secured, the transport group brings in the remainder of the ground forces, and it continues to land supplies as necessary until the campaign is concluded. Returning transport ships carry wounded troops to hospital ships with the transport group.

System Survey

One duty of the Navy is to perform detailed surveys of every system it can get a ship to. This is usually accomplished by fitting out ex-merchant vessels with astrographic survey gear. Such ships carry a mixture of regular and retired Navy personnel on long-term missions designed to last three to five years. Private concerns have produced several designs for purpose-built survey vessels, and the Navy has begun hiring private companies for this work on an experimental basis.

Long-Range Exploration

Survey and exploration of worlds outside of the Terran sphere of influence are performed by two groups, both of which are connected with the Confederation Navy.

Exploration outside the Imperium is the responsibility of the regular Navy, and is carried out by survey cruisers of between 400 and 1,000 dtons. Crews of these vessels number about 25-100, and are specially selected for their experience in biology, planetography, meteorology, and first-contact methodology.

Exploration within the Imperium is forbidden to the Confederation Navy, according to the treaty that ended the Third Interstellar War. Naturally, the Navy circumvents this restriction any way it can. The most frequent tactics is to officially discharge naval officers, and send them out with civilian crews (many of whom are also retired Navy personnel) in civilian vessels supplied by a cooperative Terran mercantile concern. These "merchant" ships cross the frontier and make their way as deep into the Imperium as possible, visiting worlds that the Navy doesn't expect to fight over for centuries.

In recent days there has been a tightening of restrictions on Terran traders within the Imperium. The Navy has responded by making use of "Terrani," Terran citizens of Vilani ancestry, who speak the language and know the customs. Ships carrying such crews are often given falsified Imperial registration. In particular, many Terran ships inside Imperial space have Nusku registration, issued by sympathetic Nuskan officials before the planet officially changed hands at the end of the Third Interstellar War. Some Imperial officials know about this ruse, but they cannot issue an Imperium-wide cancellation of Nuskan ships' papers without risking loss of face and removal from office.

Terran Ground Forces

The Terran Confederation Army is designed to deal with enemy forces within bombardment range of a given world – usually about 40,000 miles. Anything beyond that is the Navy's job. The Army therefore includes things not traditionally assigned to an army – "wet" naval vessels both surface and subsurface, and aircraft capable of operating both in atmospheres and (to a limited extent) in space.

The Army Life

Many Terrans view the Army as a means to an end, a way to get technical training and to see the world without spending a fortune. A lucky soldier can even earn an offworld assignment; many such soldiers end up settling in the colonies rather than returning home.

This "military emigration" is encouraged by the Terran Confederation, which provides land grants and other incentives to soldiers who want to participate. Since most habitable worlds are underpopulated by Terran standards, this is a very attractive option to citizens of a densely populated area such as China or the Indian subcontinent. The call "To the Stars!" has been sounded in Chinese, Hindi, Urdu, Malay, and a dozen other languages of the developing world.

Recruitment and Training

Army recruits are drafted, but (as with the Navy) many citizens volunteer. Soldiers go through an eight-week period of basic training, and from eight to 16 weeks of advanced training. Basic training consists of physical and mental conditioning to the military life, along with basic weapons familiarization. Advanced training adds the knowledge required by the recruit's military specialty (infantryman, grav mechanic, tanker, and so on). The Army differs from the Navy in not sharing a single common language – but most soldiers do learn English early in their careers if they didn't already speak it on enlistment.

Basic and advanced training takes place at one of more than a dozen training bases throughout Terra. The Army also maintains bases on Mars and in the asteroid belt, for low gravity and vacuum-conditions training.

As with the Navy, the Army promotes many of its officers from the ranks. The Army also maintains three military academies to train new officers coming directly from the civilian population: Fengshan (China), Hamburg (Germany), and West Point (United States).

On Duty

After training is completed, a recruit is sent to his duty station.

As of 2170, most of the Terran Army is still stationed on Terra itself. As a matter of policy, new soldiers are usually posted away from their home countries, to ensure that they remain loyal to the Confederation and avoid

Army Slang

Like most soldiers, Terran Army troops sprinkle their conversation with a level of casual profanity that is not dealt with here. The following is a sample of their tamer slang.

Basha: From the Nepalese (Ghurka), an improvised shelter in the field. Also a verb, as to "basha up" is to rig a shelter and go to sleep.

Blat: To fire small arms, from the sound made by them.

Blue Helmets: Garrison forces, especially those deployed on Terra. The term is normally derogatory.

Flying Coffin: Any grav vehicle, but especially a grav tank.

Gropo: Any infantry, contraction of "ground pounder."

Impy: Plural "Impies." Derogatory epithet for Imperials.

Lanni: Plural "Lannies." Derogatory epithet for Imperials, a shortening of "Vilani."

Oslo: Outer Space Liaison Officer. This term has replaced "Space Cadet" as a derogatory term for an incompetent officer.

POL: Verb, to refuel, from the acronym POL ("Petrol, Oil, Lubricants").

Provo: Short for Provost Marshal, a nickname for Military Police.

Redcap: Nickname for military police of British origin, who wear red caps. Sometimes applied to all military police.

Rupert: Derogatory epithet, a talentless or incompetent junior officer.

Sapper: An engineer, especially a combat engineer.

Squaddie: Any enlisted soldier.

Stonk: To hit an area with artillery fire.

Stonking: Excellent, good, large.

Tactical: To "go tactical" is to check equipment, discard unnecessary items (especially if they rattle) and generally prepare for action.

Terrani: A person of mixed Vilani and Terran ancestry, or a person born on Terra of Vilani parents.

Yomp: To march cross-country with full pack, without transport.

involvement in local politics. Some soldiers earn an assignment off world, usually to an occupation force on Nusku or some other former Imperial colony.

Conditions of deployment can vary widely. Soldiers may be quartered in comfortable barrack blocks safe in the middle of a friendly Terran population, or in portable shelters on a polar icecap. Their duty may simply be to stand ready to defend their position against Imperial attack. It may be to help a newly conquered world integrate itself into the Confederation. It may be to help keep the peace, in a restive region of Terra or on a rough-and-tumble colony world

Organization

The largest Army unit for which a standard table of organization exists is the division. Divisions can be components of larger formations (primarily corps and armies), but these do not have formal tables of organization, and are assembled on a case-by-case basis.

Individual national preferences are still reflected in many of the lower-level organizations – this is especially true of the Terran Marines. For example, units of French origin often use the binom rather than the fireteam as the smallest tactical unit.

Unit Hierarchy

Troops are classified according to several different criteria. First, there is the broad distinction between combat troops and support troops. Combat troops are those intended to directly participate in combat, such as infantry, cavalry, artillery, tanks, and so on. Support troops are intended to provide support for combat troops. Quartermaster, transport, signal, intelligence, maintenance, administration, and medical units, among others, fall under this classification. Some troops exist in a kind of twilight between these two states. Engineers perform both combat and support operations, as do military police.

Troops are also classified by arm of service, and there are dozens of these. The major service arms are infantry, cavalry, artillery, armor, aviation, and engineers.

Theater: The Confederation Army and Navy share the same theater designations (see p. 58).

Field Army: A field army (in the sense of a specific unit) consists of two to five corps and a number of supporting units. At the army level, supporting units typically outnumber the combat units: an army will have transport, signal, intelligence, military police, quartermaster, ordnance, maintenance/repair, and administrative units, plus whatever other attachments are needed to accomplish its mission.

Corps: A typical corps has from three to five divisions, along with brigade or battalion-sized artillery, recon, air defense, and other combat units, plus combat support of the same type found at army level but smaller. Units assigned to a corps are sometimes split up and assigned to individual divisions for special purposes – a division might have additional artillery attached for an assault, or engineers if demolition is required.

Heavy Division: Sometimes called a tank division or an armored division, this unit consists of two armored brigades and a mechanized infantry brigade, along with an artillery brigade and other supporting arms and assets. The assorted support units normally assigned to a division can total one or two brigades' worth of personnel and equipment. It is used where concentrated firepower is needed.

Mechanized Division: This unit consists of two mechanized infantry brigades, an armored brigade, and an artillery brigade plus other supporting arms and assets. Mechanized divisions offer a mix of troop types, and are used where flexibility and adaptability are needed.

Mobile Division: Sometimes called an airmobile division, this unit consists of two airmobile infantry brigades and a cavalry brigade, plus other supporting arms and assets. Mobile divisions are used in situations where speed and flexibility are important.

The Two Terran Armies

In practice, there are *two* Terran Confederation Armies: the *field* Army, and the *planetary defense* Army. While the distinction is not part of the official Army organization, in practice most Army units can be classified into one or the other category.

Field Army units land on a world after the Marines have opened a beachhead, defeat any Imperial troops remaining on the world, and occupy the world for the first few months after it has been secured. Planetary-defense Army units operate behind the front lines, holding key worlds and acting as their final line of defense.

Troops of the field Army are equipped and trained to a standard just beneath that of the Terran Marines. They specialize in mobile warfare – striking hard, crippling the opposition with precise application of locally overwhelming force, and neutralizing the logistical and command-and-control infrastructure of the enemy. Their officers and technical staff come from the richest nations on Terra, and their rank-and-file soldiers tend to be from nations of the second tier.

Planetary-defense Army troops are recruited primarily from the developing world. Their training and equipment, while rarely inadequate, are at a standard lower than those of the field Army. They are trained in police and constabulary duties, and place emphasis on defensive rather then offensive tactics. Their logistical requirement is larger, since many of the officers and enlisted men bring spouses and families along on deployment.

It is an open secret that planetary defense units are often deployed to areas where loyalty to the Terran Confederation is shaky. They are much more likely to see action against internal rebels than against the Imperium.

Infantry Division: An infantry division consists of two infantry brigades and a mechanized infantry brigade, plus supporting troops. They are used in rear areas where security and short-range patrols are more important than pure firepower.

Garrison Division: Garrison divisions consist of a cavalry brigade, two garrison infantry brigades, and a civil affairs brigade, plus other supporting arms and assets. Garrison divisions serve in Terran "hot spots" and on occupied worlds, and are intended to help move a region or world toward reliable self-government under the Terran Confederation. A civil affairs division is organized identically to a garrison division, but with two civil affairs brigades and one garrison infantry brigade.

Brigade: A brigade consists of three to six battalions, along with supporting units, under a headquarters. Supporting units that are smaller than battalions are often attached directly to the brigade headquarters.

Regiment: A regiment is usually three or more battalions, and is usually an administrative unit with its own military traditions rather than a unit likely to be deployed in the field.

Battalion: Battalions contain three to five companies, almost always a mixture of types, under a headquarters company. Lower-echelon units usually depend on the troops in the battalion headquarters for administrative support and preventative maintenance. Major repairs are undertaken at higher echelons.

Company/Squadron/Battery: Infantry companies contain three or more infantry platoons accompanied by a weapons platoon and a company headquarters, which contains command as well as administrative and combat support elements. Among cavalry and reconnaissance units of some nationalities, a company is called a *squadron*. In artillery units, a company is called a *battery*, and consists of several gun sections under a battery headquarters with a fire direction center.

Platoon/Troop: In Confederation service, a platoon contains about 40 soldiers, although the number varies with different types. Infantry platoons consist of three to five sections or squads, under a platoon leader (typically a junior lieutenant) and his assistant (typically an NCO). A Confederation mechanized infantry platoon contains a machinegun section and an anti-armor section as additional support. Weapons platoons contain crew-served weapons sections; armor and cavalry platoons contain three to five vehicles of the appropriate type. Among cavalry and reconnaissance units of some nationalities, a platoon is called a *troop*.

Military Police and Civil Affairs

The Terran Provost Marshal's office is in charge of training and support of the various MP (military police) units in Terran service. Military police provide area security, maneuver and mobility support, police intelligence operations, internment of prisoners of war, resettlement or relocation of displaced civilians, and law and order in the area of operations.

Military police are not the same as Civil Affairs units, although some of the duties overlap. Civil Affairs units are designed to impose military government on a region whose loyalties to the Confederation are uncertain, but where active combat is not taking place. They sometimes fight insurgents, but more often they are intended to *prevent* rebellion by guiding the civilian population into the Terran fold. Civil affairs units build infrastructure, train local civilian officials, provide security support, and perform intelligence gathering against potential rebels.

Section or Squad: Some nationalities use these terms interchangeably, but a section is usually larger than a squad. Terran Army regulations have recently settled on the section as three fireteams and a section leader, and the squad as two fireteams and a squad leader, and have also defined a weapon or vehicle crew as a section if it contains three or more soldiers. Mechanized or mobile infantry squads contain transport vehicles sufficient to carry the unit.

Fireteam: A fireteam is three to five soldiers, normally four. One is designated the team leader, usually a senior private or a corporal.

Binom: A binom is two soldiers, and is used by some nationalities (primarily the French) under the fireteam. In cases where both soldiers in a binom are the same rank, one will have seniority. Binoms seldom contain officers. When a vehicle crew is a binom, it usually consists of a driver and a vehicle commander/gunner.

Operations

Terran Army units are assigned a variety of missions, and are trained and equipped for several specific duties.

Planetary Defense

A properly conducted planetary defense requires both space and ground assets. A well-garrisoned and supplied world can hold out for months or even years, and can inflict casualties on an invading force far out of proportion to its own numbers. On the other hand, a poorly trained, inadequately equipped, and improperly led defense force can collapse within days.

Military Occupation

Forces on an occupied world will initially consist of the invasion troops. These will gradually be replaced by garrison and civil-affairs divisions as resistance to the occupation declines. Gradually, the military occupation will be lifted as local forces can be trained and equipped to take over ordinary police and constabulary tasks.

Planetary Invasion

One of the most difficult operations faced by the Army is an opposed landing on a fully defended world. Such operations require a assault force at least three times larger than the defending force, with more being preferred. Once the Navy has cleared the system of spaceborne opposition, and has dealt with the ground-based air defense forces, assault landings can begin. Speed and overwhelming force are necessary, and the invaders must retain the initiative throughout the entire operation.

Terran Ground Tactics

Terran small-unit tactics have undergone considerable change in the last few decades. In the 21st century, the most advanced Terran armies depended on satellite navigation and communications systems that were extremely vulnerable to high-tech jamming. An overdependence on "smart bombs and snake eaters" – precision-guided munitions and highly-trained advance spotters with laser designators – meant that Terran armies were at a disadvantage when operating outside their satellite network.

New equipment and new techniques had to be developed if the Terrans were to defeat the Imperials. Today, Terran units are much less dependent on the high-technology infrastructure that they once used on Terra. Of course, their techniques still benefit if the enemy can be denied the high ground of space and close orbit, even if only temporarily.

The Terran Merchant Marine

Through Terra's past, there have always been men who made history while seeking personal fortune: the Greek merchant-adventurers in Persia in the decades before the Macedonian conquest, the British East India Company on the Indian subcontinent in the 18th and 19th centuries, the fur trappers of North America during the same era, and countless others. Few of these men were consciously trying to found an empire, but that is precisely what they did.

The merchant princes of 2170 occupy a similar niche, and will make history – and their fortune – or die trying.

Merchant Types

There are almost as many merchant ship designs as there are ship owners, since each one is customized to suit the tastes and requirements of its captain. Sizes range from 100 to 800 dtons or more, and almost all are equipped with jump-2 drives. Smaller ships, owned by small corporations or even individuals, usually have crews of 8-30 men. The largest freighters, up to 10,000 dtons in size, may have crews numbering over 100.

Armed Merchant Marine

Shortly after the formation of the Terran Confederation Navy, the Confederation decided to encourage the construction of armed merchant vessels. The purpose was twofold: to enable Terran merchant shipping to defend itself against pirates and other hostiles during time of peace, and to provide a backup force that the Navy could requisition during wartime.

The program was backed by a number of Terran corporations, and accelerated dramatically after the capture of the Nusku shipyards in the Third Interstellar War. Today the Terran merchant marine includes dozens of privately owned armed freighters, many of them operating inside Imperial space.

The Free Traders

Founded in 2123, the Free Traders Foundation was a nonprofit organization intended to promote open markets and interstellar trade. The brainchild of Japanese industrial magnate Yukio Hasegawa, the Foundation helped Terran entrepreneurs acquire ships and begin carrying Terran goods into the Imperium, at first without the knowledge or approval of the Terran government or Imperial administrators.

Although it occasionally continues to act at cross-purposes with the Terran government, the Foundation is now a very powerful organization. It is particularly influential in the new Nusku Republic, where its member corporations have invested heavily.

Naturally, the Foundation is even less popular with Imperial officials than with the Confederation government. Many observers fear that Free Traders' activities within the Imperium may be provoking a new outbreak of war.

Bureau of Colonization

Established in an attempt to bring organization to extraterrestrial colonization efforts, the Terran Bureau of Colonization is responsible for regulating all new settlement efforts. The Bureau operates out of administrative offices in Paris, France, and oversees the appointment of local governments for all Terran colonies. Before its establishment, colonial government was a hodgepodge of national regulations and local groups; the Bureau brought consistency to the operation.

Although the Colonial Bureau appoints a Terran governor for each colony, the actual work of building and operating a colony is usually delegated to a corporation or other private group, under the governor's supervision and control. As a result, private companies or consortia operate most colonies. A few companies even specialize in colonial administration, providing police, infrastructure, and government services under contract.

The first such efforts involved mining or industrial firms that opened operating facilities on remote worlds. Workers do better when their families are nearby, so "company towns" soon grew up near the facilities. Later, these settlements became cities in their own right, and industrial firms found it cost-effective to "farm out" civic affairs to specialist companies under long-term contracts.

Corporate Merchant Fleets

Merchant companies find it convenient to organize themselves into regional territories, rather like the Navy's theaters of operation, although they are usually called something else. A ship will be assigned to operate out of a particular district, using a particular starport as a home base, returning there after trade missions, some of which can last years.

Merchant Organization

Merchant corporations are business ventures, not military commands (although some are run as if they were). Each is organized differently, according to the wishes of its governing body.

Each nation-state on Terra has its own law code concerning business operations – some loose, some highly restrictive, some in between. The Confederation has made some progress in coordinating and condensing the plethora of national regulations, but this is not an enormous priority. In general, however, merchant corporations are divided into departments that report to a single controlling body, usually a board of directors.

The Terran Confederation is still small enough that it is only a few weeks journey from one end to the other, so most Terran corporations are still operated from a central headquarters on or near Terra. Outlying operations have some independence of action, but they are constantly subject to orders from the home office.

Departments

Like a single vessel in the Navy, a merchant ship is divided into departments: engineering, piloting and navigation, supercargo, and so on. On larger vessels, each department has an officer in charge; on smaller ones, a department may consist of a single person.

Enlisted and Officer Ranks

Each jump-capable merchant starship is commanded by a captain, regardless of the size of the ship or its crew. If necessary, a ship will have subsidiary command staff, usually led the first officer (or executive officer) who is given the rank of lieutenant. Some companies call their division heads "commanders" and others call them "chiefs," often applying the former usage on large vessels and the latter on smaller ones.

Shipboard Operations

All ships have engineering, navigation, and command departments. On small ships, these consist of an engineer, a navigator, and a pilot/captain. On larger vessels, there will be department heads and subsidiary crewmen. Larger passenger ships have steward divisions, while smaller ones have a single steward devoted to passenger comfort.

Crewmen are always assigned to monitor certain vital ship systems, on a rotating watch system that varies with the size of the ship and crew. On smaller ships, the entire crew often rotates "bridge watch" and monitors all systems from a central location.

Life aboard a Terran merchant ship is usually quite spartan. Crew quarters are crowded and only marginally comfortable. Most merchant ships, especially the smaller ones, work their crews very hard – 16-hour shifts are not unheard of when a ship is in the midst of arrival or departure operations.

Major Corporations

As of 2170, the following Terran corporations are the most prominent ones involved in deep-space industries and interstellar trade.

Asteroidenbergwerke GmbH

Asteroidenbergwerke is, by a substantial margin, the Terran Confederation's leading operator in deep-space mining and heavy industry. The company was established in the 2030s, and was one of the first private firms to engage in mining operations in the Terran planetoid belt. It was heavily involved in the European Union's generation-ship program, helping to construct and man a number of the colony ships.

Today, Asteroidenbergwerke has operations in a dozen star systems, and is the sole owner-operator of two Terran industrial outposts. In particular, it is the Confederation's leading supplier of the rare-earth metal lanthanum, critical to the production of jump-drive equipment. Although it does not operate an interstellar transport line of its own, it is a major shipper of construction equipment, heavy industrial equipment, and refined metals.

Behmer Aktiengesellschaft

Behmer AG (nicknamed "The Bag") is a consulting firm founded in the early 21st century, working with small Terran nation-states to solve local economic and social problems. During the 2050s the company became a major contractor to the European Union's generation-ship program. Behmer personnel left Terra as some of the earliest interstellar colonists, prepared to set up new governments when the generation ships reached their destinations. The first colony to be established, at Prometheus, began with a Behmer-staffed administration that was quite successful.

Today, Behmer AG has become the Confederation's leading provider of administrative services for low-population colony worlds. Industrial firms that establish offworld colonies often call on Behmer to help set up and maintain local government. The Terran Confederation has also contracted with Behmer for civilian administration on occupied Vilani worlds; the company is given some credit for the successful integration of Nusku into the Terran Confederation.

FarStar Association

The FarStar Association is a loose organization of independent trade brokers rather than a real corporation, but its service is still valuable. If an independent merchant captain is willing to commit to a regular route, FarStar will see to it that he always has the best cargo available when he arrives. On the other hand, woe betides the captain who is consistently late, or who misses a pickup. Getting on the FarStar blacklist can be *very* bad for business . . .

Hasegawa Limited

This firm operates no starships of its own, but it builds ships in the Terran shipyards. It is an important supplier of parts and systems for other major shipbuilders in the Terran system. It is also a major military contractor. Finally, it is an important financial backer for a variety of deep-space ventures.

Named after its most famous CEO, Yukio Hasegawa (p. 43), Hasegawa Limited has gone through a number of name changes and other reorganizations since its foundation in 2092. Most recently (2168), the firm's headquarters were moved to London, and it was reincorporated under British law to take advantage of favorable European regulations concerning deep-space industry.

The current CEO is Yoshira Ehara, the grandson of Yukio Hasegawa. Although Hasegawa established the Free Traders Foundation, he always kept his firm separate so that the independence of the Foundation would not be compromised; that tradition continues to the present day.

Hellenic Industries Limited

Founded in 2134 by a consortium of Greek and British investors, Hellenic Industries specializes in the manufacture of small spacecraft. It has shipyard facilities in the Terran asteroid belt, in orbit around Luna, in the Prometheus system, and elsewhere.

High Frontier Development Consortium

Terran industrialist Umar bin-Abdallah al-Ghazali (p. 44) used his personal fortune to acquire the assets of this near-defunct trading corporation in 2157. This move made al-Ghazali the Chief Executive Officer, majority stockholder, and Chairman of the Board of Directors. With the new infusion of capital he provided, the Consortium invested heavily in shipyard facilities on Nusku, and began construction of a series of small, fast merchant ships designed to penetrate Imperial space without attracting undue attention.

It is rumored that the Consortium is in an unofficial partnership with the Terran Confederation Navy, and that al-Ghazali's ships are engaged in covert scouting and espionage missions while they travel within the Imperium.

Hill and Masterson

Hill and Masterson (often called "H&M") is a large American manufacturing concern, with installations on Terra and several of the colony worlds. The firm specializes in heavy vehicles, and is the primary supplier of gravitic vehicles under contract for the Confederation Army. It also produces one of the most popular civilian grav vehicles, the Hill and Masterson "Phoenix Air/Raft."

Kaufmann Sternenschiffbau AG

This corporation operates one of the largest private shipyards on Terra, located in the L-5 position. Kaufmann builds a variety of civilian ships, and has a long-term contract with the Navy to build warships.

Octave Kaufmann was a graduate student assistant on the UNSCA team that developed the first reactionless thruster in 2064. By the time of his death in 2104, he was the holder of 18 patents related to gravitic and thruster technologies. He retired from UNSCA in 2087 to found Kaufmann Sternenschiffbau, and headed the company's research division for the remainder of his life.

Terran Starport Authority

In 2160, the Terran Confederation created the Terran Starport Authority to regularize the operation of starports and civilian shipyards. The Authority oversees tower and traffic operations, and controls the day-to-day operations of every starport in the Confederation. The Authority is operated by a Director, who is appointed by the Secretary-General and reports directly to him. The headquarters and main offices of the Authority are located in the largest Terran "downport," near Phoenix, Arizona.

Novotny Factoring

David Novotny was a British citizen of Czech ancestry. Just before the First Interstellar War, he founded one of the earliest firms to carry on regular trade with the Prometheus colony. His firm grew rapidly after the war was over, especially once demobilization placed a large number of jump-capable ships onto the civilian market.

Today, Novotny Factoring is one of the largest firms managing trade between Terra and the colonies. It normally specializes in "there-and-back" trades rather than long trade routes – it arranges for shipping of colonists and manufactured equipment out to the colonies, followed by immediate shipping of exotic colonial goods back to Terra. The exception is the route between Terra and Nusku, where Novotny Factoring has become a major player in industrial trade between the Confederation's two major worlds. The firm operates a small merchant fleet of its own, and also leases space on other carriers.

Redwing Express, Incorporated

Redwing Express is a recent addition to the ranks of Terran space industries, established in 2158. It may be a new company, but it has a reputation as a hard worker, and has expanded very rapidly. It specializes in private courier service to every world in the Terran Confederation, carrying data, small cargoes, or important passengers. Redwing's distinctive paint jobs, guaranteed service, and "can do" attitude take the customer's mind off its high fees.

Smutny Associates

Pavel Smutny was a Croatian geological engineer who was one of the first scientists to travel to Prometheus using the newly invented jump drive. He spent several years performing resource surveys for the Prometheus colony, and was the first to discover the unusual "Prometheus amber" produced by certain woody plants on that planet. In 2108 he established a planetary-survey company, which took part in the initial surveys of several worlds in the "Outback" region to rimward and trailing of Terra.

Today, Smutny Associates remains a small but very influential firm, with unmatched expertise in planetary survey and early exploration. Although it operates no ships of its own, the firm often provides scientific teams for Terran exploratory ships traveling into uncharted space.

Topornin/Rostovtzeff

Topornin/Rostovtzeff T.O.O. (*Tovarichestvo c Ogrannichnuu Otvetstvenuu* or "limited liability partnership") is the largest Russian company engaged in offworld trade. Within the Terran Confederation itself it is a relatively minor player, but it is investing heavily in potential trade into the Vilani Imperium. It has been quite successful in opening markets on the *kimashargur* worlds closest to Terra, sometimes using innovative techniques (i.e. smuggling) to avoid Imperial restrictions on Terran trade.

Topornin/Rostovtzeff is the second-largest participant in the Free Traders Association (after the High Frontier Development Consortium, and operates several exploratory-trade ships of its own.

Chapter Four
The Imperium

Never forget that the Vilani are Human.

We aren't up against out-and-out E.T.s, with wavy tentacles and retractable eyes. The Vilani may not be exactly like us, but at bottom they have the same wants and needs. Their culture is unusual by our standards, but our ancestors from Cortez to MacArthur all managed to deal with divergent cultures.

None of this is new. We've been here before, and we've won before.

– Lt. Colonel Jing Xue, opening lecture on Vilani Psychology, Copernicus Naval College (2165)

Imperial Society

The initial thing that any Terran notices about Imperial society is its stable, monolithic nature. Like many first impressions, this one is only a partial truth. The Vilani have developed a culture that spans thousands of star systems, and they specifically discourage other folkways, but it's still Human nature to differentiate if given half a chance. As remarkable as the *Ziru Sirka* may be for its homogeneity, it only got that way, and only stays that way, thanks to numerous processes that actively work to keep it so.

Vilani Psychology

The Imperium is built on four primary psychological principles, which are drilled into Vilani from birth. All four are designed to maintain the status quo, and to keep Vilani society vibrant.

Conservatism

Not long after Terrans encountered the Vilani, one wit observed that "they make the ancient Egyptians look like wild-eyed revolutionaries." The Vilani made their last major technological innovation at about the time Terrans were figuring out how to smelt iron.

This is not due to a flaw in Vilani psychology. The Vilani once had a technologically advancing society much like that of Terra. They are not incapable of learning new things, or even of inventing them. They simply choose not to.

Terrans sometimes compare Vilani conservatism to that of ancient Egypt or the Inca. This misses a critical fact: Imperial society was developed by a rational, scientific people with a worthy goal in mind – to transform society into a tool for giving people a place, and making them *happy* with that place. A more exact Terran analogy might be to pre-industrial China, where Confucian ideology was developed along similar lines and for similar purposes.

To the Imperial viewpoint, change brings dislocation and unhappiness. It can also create new wealth and opportunities, but once one reaches a certain reasonable quality of life, is continuing forward worth the cost? More than 3,000 years ago, some Vilani came to the conclusion that it wasn't, and over time they convinced everyone else. Vilani conservatism is a conscious choice, designed to maximize happiness in Imperial society, and it was deliberately imposed a long time ago.

The average Vilani citizen may not be aware of the history of this change, but he believes whole-heartedly that his happiness – and that of others – depends on life carrying on in its unchanging way. So long as temptation can be avoided, most Vilani will stick to traditional ways even if it means minor inconvenience. Every day of their lives, they are reminded that what might be convenient or expedient could also be the start of a slippery slope to social breakdown.

Of course, in many cases the Vilani citizen doesn't have to choose inconvenience by following tradition. For example, a common Terran joke claims that there's an easy way to tell a Vilani: he's the one standing at an intersection at two in the morning, rain pouring down on him and not a car in sight, waiting for the light to change so he can cross the street. As with many jokes, there's some truth to this one. The average Vilani citizen, finding himself in such a situation, never dreams of jaywalking – although he might at least think about the idea long enough to reject it. What really prevents this humorous situation from happening is that the Vilani have already considered it. Their crosswalks go *under* the road, and have for millennia, so no pedestrian is ever forced to wait in the rain.

That's typical of the Vilani way. In every field of endeavor, *someone already thought it through thousands of years ago*. The Vilani believe that their ancestors came up with a solution to most problems, and in many cases they're right. Theirs is not a blind conservatism, but one that makes sense, given the work their ancestors did to ensure that the traditions would be worthy of respect.

Collectivism

Terrans sometimes compare Imperial society to the Communist nation-states of 20th-century Terra. This comparison is understandable, especially given the command-driven nature of the Imperial economy, but there are several major points of difference.

The most important difference is that the Vilani do *not* believe in the historical inevitability of their system. They see the *Ziru Sirka* as an achievement, the product of their race's proudest moment. They believe that it needs constant maintenance, or else things will eventually fall back into the bad, chaotic old ways.

Another difference is that the Vilani are not "utopians" – they don't assume that Human nature will change to match the requirements of their ideal civilization. Instead, they assume that people will still be people, primarily interested in their own personal welfare. Imperial society makes room for those selfish impulses, and deals with them by channeling them, not by hoping that they will cease to exist.

Within these boundaries, the Vilani have come up with their own peculiar form of collectivism. Under the Imperial system, there is a basic standard of living to which everyone is entitled; while not lavish, it is more than adequate to support life. As in Terran society, there are rewards for hard work and success. But these rewards are usually not monetary, but directly material. Housing is handed out by one's employer, as are food, clothing, entertainment devices, and other "perks." The higher one is on the social ladder, the better one's standard of living.

Of course, this concession to Human acquisitiveness has been placed within boundaries that keep it from getting out of hand. For example, the only way to get better perks or a higher standard of living is through promotion. In other words, there is no impersonal way of acquiring them – one's superiors decide when they are deserved. In Terran society, no matter how you get the money, you can buy the goods. In the Imperium, if you've produced like no one else, but at the expense of others, you're more likely to be *demoted* than promoted.

This is not to say that Imperial society has no money; it's just that money exists entirely for accounting purposes. It's associated with a person as one of several metrics used to evaluate him, but he has no control over it. Money in Vilani space has long since evolved to become a virtual representation of production, with no other social or legal role.

Another check on Vilani greed is a kind of "potlatch" custom. When a Vilani citizen is promoted to higher professional or social status, he is expected to be generous with gifts to his colleagues, subordinates, neighbors, and family members. It's considered a point of honor to give more back to the community than one takes from it. Following this tradition gives the successful citizen prestige, and also engenders good relations within the social circle.

Advertising

The Vilani have been exposed to no advertising since the founding of the *Ziru Sirka* and the creation of its command economy. There are very few competing products, and items mostly differentiate themselves according to status. For example, there are different types of shoes, but who has the right to draw each type from the store varies according to class. Since product and consumer are already matched, there is simply no point to taking up time or space in the media to tout a product; at most, a factual report will be broadcast on the news channels to inform citizens that a new item is available.

When Terrans first burst on the scene, they brought their competing products and the concept of advertising with them. At first, many Vilani believed the loud, colorful, 30-second "news programs" that promised amazing things. The common Vilani soon learned the truth of the matter and rapidly swung to the opposite view; many decided to mistrust *anything* a Terran merchant said.

Since then, Terran trade concerns have adapted their advertising to Vilani viewpoints, and won back some of the customers they alienated during the first burst of commerce. A few unscrupulous merchants still try to take advantage of Vilani gullibility, but Terran companies and government try to police this for their own future benefit.

Efficiency

In Vilani society, "perks" are assigned according to personal and group production. Greater production means more perks: more and better personal goods, more luxuries, more status. However, in their quest for increased production, Vilani citizens are constrained in two notable ways.

In places where business can move forward only on a zero-sum basis, for example by putting a competitor out of business, a Vilani has no room to maneuver. It's unacceptable to ruin someone else for your own benefit. (Naturally, there are some who do not follow this principle, especially the most powerful nobles, who are usually quite willing to destroy their rivals to get ahead.)

Technological innovation is also extremely slow, so increases in productivity aren't likely in that arena either.

Within these constraints, the best way to prove one's worth is with *efficiency*. One of the few areas in which the Imperium does permit innovation is in business processes – the question of how one gets work done. A successful innovator in this area can earn rapid promotion and lifelong respect. There is, therefore, an incentive to think of *better ways to work*.

Of course, the Vilani are extremely conservative when it comes to changing how they do things. Their industrial civilization is more than 8,000 years old, and most processes have undergone generations of refinement. A bright manager is up against the collective brainpower of millions, if not billions, of his ancestors when trying to improve the way things are done.

If a Terran dreams up a potentially more efficient way of organizing the factory floor, he will likely think to himself, "Let's give it a try and see how it works." A Vilani will assume that someone has already shown that it is not as good as the way things are done now. If his idea appears promising, he assumes it's because he hasn't seen the hidden flaws yet. He will spend a great deal of time in the historical archives researching the idea; he will only proceed if he can't find a previous example. Even then, it is assumed that the way to proceed is to bring it up with his superiors *and* his employees, and gain consensus from both. If consensus can't be reached, the innovator might publicize his idea until some other factory can be found willing to give it a try.

In theory, this means that Vilani industry is extremely efficient. However, the organizational resistance to change caused by the need to reach consensus means that radical ideas rarely find a test bed. Most changes are merely incremental tweaks to a pre-existing process. Even those are hard to implement, and many potential innovators are content to let things lie.

Note that Terran technological superiority in some fields is a two-edged sword because of this Vilani emphasis on efficiency. If Terrans have a genuinely better way of doing something – for example, in computer technology or medicine – the Vilani are nearly helpless to counter it. The necessary dip in production caused by new capital investment is not supportable, unless the investment is going towards the "tried and true."

On the other hand, when the Vilani do come to understand a Terran process or technology well enough to have confidence in its implementation, the rewards are great. Some forward-looking Vilani rapidly moves up the chain of command due to his success, and Terra loses a bit more of its advantage in flexibility.

The Vilani Hero

Vilani stories are Human stories, with protagonists and villains, action, mysteries, and all the usual things Humans find interesting. However, certain classes of hero typical of Terran mythology never appear in its Vilani counterpart. There are no "lone wolves," and no people who seek personal revenge after being failed by society. Vilani heroes are also not quixotic; there's always a point to their actions. George Leigh Mallory's excuse for adventure ("Because it's there!") is incomprehensible. The Vilani hero works within the system. For example, while many Vilani dramas hinge on crimes, they are always recognizable "police procedurals," with an emphasis on "procedure." Holovids that get into the nitty-gritty details of investigation and the hunting down of a perpetrator are endlessly popular. So is a more unusual kind of story that follows the criminal as the system brings him to justice.

"Disaster movies" are also popular. The Vilani are perfectly aware that the universe itself is not under their control, and they get a visceral thrill out of seeing their heroes fight back against what an unfeeling galaxy can hurl against them. Again, the emphasis is on how the Vilani way of life can help people through difficult times. If a hero has to deal with the consequences of, say, an asteroid strike, there is always a contrast between how desperate things are when he is by himself, and how things start to look up when society begins to piece itself together again. Unlike the conventions of Terran "post-apocalyptic" stories, other Humans are never *villains* in Vilani disaster fiction. Instead, the hero provides the seed of inspiration around which fearful or misguided Vilani can gather to rebuild a proper society.

One common Vilani hero is the protagonist who goes "from rags to riches," in the style of a Horatio Alger story. Vilani society promotes the notion that anyone can go far, if he works within the system and shows talents that the *Ziru Sirka* needs. Such social mobility is less common than it was long ago, but the ideal still holds strong, and the common Vilani citizen loves this kind of story. A weirder version of this genre is about the hero who starts humbly and *stays* poor, but who sets things up so that his descendants can gain wealth. In a way, this tale is an anodyne for the vast majority who never get to riches themselves; it assures them that their efforts are going to pay off down the line even if there's no sign of it now.

Chauvinism

As with most peoples, the Vilani believe that their civilization is the best of all possible societies. In their particular case, they have some grounds for making that judgment. Most Human cultures are as they are by historical accident. In contrast, the *Ziru Sirka* was designed quite deliberately to reflect Vilani values. Where the Vilani's legitimate pride oversteps its bounds is in its exclusivity – the need to judge other cultures as inferior.

Vilani cultural exclusivity derives from the ancient era of the Consolidation Wars, when the proto-Imperium brought every known star-faring society under its own control. In fact, the Consolidation Wars were fought in order to ensure the stability of Imperial civilization. The wars were a solution for an *economic* problem (that of unregulated innovation and competition), not a cultural one.

Thus, the imposition of Vilani traditions on non-Vilani was never their primary intention. Indeed, the early Imperial Vilani considered other cultures to have plenty of merit, at least for the non-Vilani who created them. However, in the centuries since the end of the wars, the Vilani have come to see the imposition of their traditions as an active blessing to the subjected peoples. In effect, they have moved from the rational notion that the *Ziru Sirka* is the best social form for Vilani to the irrational belief that it's the best social form for everyone.

Fortunately for Terra, the Vilani no longer have the will they once had to impose their culture on others. If they still exhibited the same sense of focus that their ancestors had, the Confederation would not last long against the might of the Imperium. However, Vilani complacency has left only a few economists aware of the threat presented to the Imperial way of life by the existence of a powerful star-faring culture – such as that of Terra – that is outside Imperial control.

At present, most of the men and women in charge of Imperial military equipment truly believe that, thanks to their non-Vilani ways, the Terrans can't present a threat. However, the notion that the existence of independent Terra strikes at one of the pillars of society is slowly starting to filter into the proper channels, with potentially explosive results.

The Vilani Way of Life

Vilani are much like Terrans in the broad outlines of their lives – they are born, they are educated, they choose a career, they grow old and die, they give way to their descendants. The details, however, are significantly different.

Human? I don't know. I mean, they look Human enough, but I've seen a bunch of Vilani three-year-olds in class. They pay attention for hours on end. That's not Human.

– Bill Rodriguez, Nusku colonist (2163)

Birth and Childhood

For most of Vilani history, it was safer to give birth than it was in a corresponding period on Terra. Vland's native disease organisms find it difficult to attack Humans, so Vilani women didn't have to worry about many of the postpartum infections and illnesses that attacked their Terran sisters until the 20th century. Similarly, children were much better off, as scourges like measles and scarlet fever simply didn't exist. Some Terran observers have suggested that Vilani collectivism grew out of the fact that they could become emotionally attached to children with less fear of their dying young. In any case, in the modern day a Terran would find the birth process quite familiar: pre-natal care, a trip to the hospital, and then a brief period of time off work for the parents.

Life diverges when the child starts socializing. Even Terrans recognize this as a critical period in life, when the child learns that other people have their own thoughts and their own needs. Children are gradually drawn into group interaction, and begin to learn how to work with others. It's at this point that Vilani society begins teaching its distinctive ways to its newest members.

Education

On Terra, the education system is geared toward the acquisition of knowledge, the socialization of children, and the development of problem-solving skills. The Imperium's schools are much the same, with the notable exception of *not* teaching their children how to solve problems themselves.

To a Vilani, "problem-solving" is equivalent to "finding out what others have done." They learn how to resolve difficulties by relying on the development of group consensus and investigation of historical databases for previously successful procedures.

To a Terran observer, Vilani classes look like throwbacks to an earlier age. Students of similar age gather physically in the same room, as opposed to using computer-aided tele-education and proceeding at their own pace. From the earliest age, children are taught to work together, the stronger students assisting the weaker ones so that the group as a whole attains its goals. Children are also exposed to a wide variety of tasks, so that everyone has the experience of being a leader as well as needing help from others.

Classes mix students from different social classes; the goal is to get children used to working with people who are not their friends or social equals. Once students have mastered the basic skills (the Vilani equivalent of elementary school), they are segregated somewhat in order to give members of each social stratum training specific to their expected position in life. However, even in the final years of school, all students, highborn and low alike, will share a few courses. After graduation, it's expected that a Vilani will be able to work with his equals, take instruction from his superiors, and give instruction to his subordinates – all smoothly and without resentment.

The Class System

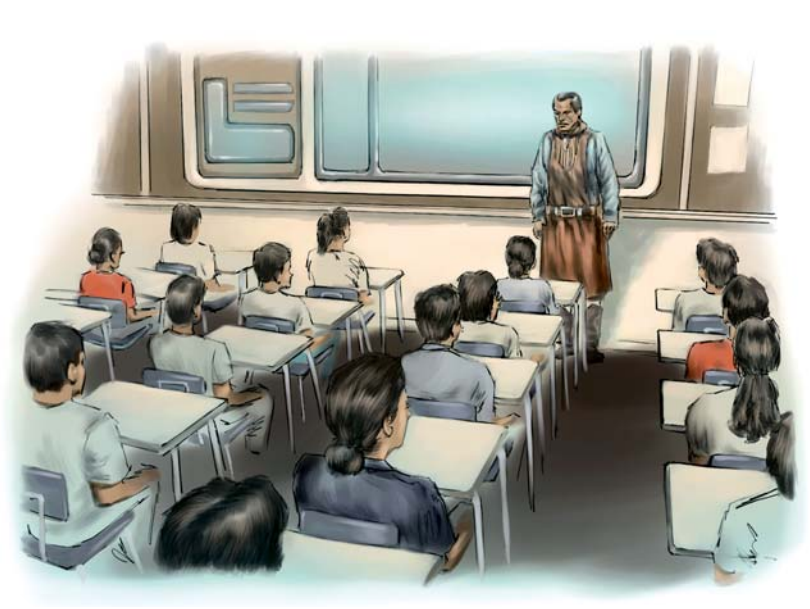
Every Vilani citizen falls into one of three social classes: *engarii*, *damgarii*, and *enshii*. These very old Vilani words are usually translated as "commoners," "merchants," and "nobles." Of course, any translation from Vilani to English is difficult, and this one is looser than most. It gives the sense of a feudal society, which the Imperium most certainly is not. Another way to translate the three names of the social groups might be "employees," "managers," and "executives." These translations, while not exact, better reflect the way Vilani interact in a technologically advanced, industrial society.

All three classes are hereditary. Children are assumed to be worthy of the same status as their parents unless they clearly show they aren't. No stigma attaches to mixed marriage, but in such cases, children are assigned the status of the lower-class parent at birth.

It's important to note that even in this late and somewhat ossified period, there is still mobility between the classes. Most Vilani start out their careers in the class to which they are born, but promotion is always a possibility, and the most promising children may be raised a class immediately after completing school. Vilani society depends on this mobility as its primary way of channeling natural Human acquisitiveness and competitiveness. It's also an important tool for preventing people from acting badly – as well as promotions, there are demotions.

Engarii, commoners, or "employees" are by far the most numerous group of Vilani. They make up the workaday people who go to their jobs, do what they're told, then go home at night with few large thoughts in their heads. *Engarii* form the bulk of the so-called "Low Vilani" culture (p. 15). Enlisted men and NCOs in the military are usually *engarii*.

Members of the *damgarii,* or "manager," class are almost entirely the industrial "petty nobility" – allied with the great industrialists of the distant past, but not as rich or successful in the present. Managers fill the positions of junior and mid-level officers in the military, and virtually all scientists are manager-class, too. *Damgarii* run the day-to-day operations of the *shangarim*.



The modern ruling class is an amalgam of three different groups. The first group is the original *enshii* class, derived from the aristocratic rulers of Vland's earliest agricultural towns.

The second group is the *shugilii*. Native life on Vland is almost incompatible with Human biochemistry; without careful preparation most foods are toxic. Beginning in prehistoric times, the *shugilii* caste developed (and hoarded) safe methods for food preparation, on which society came to depend. With advanced technology and interstellar trade the need for these secret techniques declined, but the *shugilii* retained a role as the guardians of tradition, the closest thing Vilani society had to a priestly caste.

Finally, there is a group of wealthy industrialist clans, who derive both wealth and status from times prior to the Consolidation Wars. Over the last 3,000 years, these three groups have melded, though there are still minor differences between them.

Early in Vilani history, each subgroup of the *enshii* class established one of the three great *shangarim,* or "bureaus." To this day, each portion of the ruling class tends to gravitate into certain sections of the Imperial government. Descendants of the original *enshii* tend toward the officer class of the Army and Navy, and control the *shangarim* Makhidkarun. The *shugilii* caste controls Naasirka. The industrialists run Sharurshid (p. 14).

The ruling class contributes its best members to the *Igsiirdi*, the actual ruling council of the Imperium, which provides the closest thing the Vilani have to a career in pure politics. The *Igsiirdi* in turn selects the *Ishimkarun* or "Shadow Emperor."

Careers

In Vilani society, there are few career changes. It is assumed that a person will pick a career at age 14 (18 Terran years), use the last few years of his schooling to prepare for that profession, and then stick with it until the end of his working life. This lack of movement has led to the common translation of the Vilani word *ii* as "caste." This is something of a misnomer, since there's no requirement for any citizen to have the same career as his parents. Indeed, youngsters are actively encouraged to look for work outside their parents' professions, as a check against nepotism.

Social class most often dictates career choice. Careers are assigned to each social class based on the amount of leadership required, so a young citizen needs to pick something appropriate to his class unless he is specifically chosen as promising (or hopeless) during school. Of course, any profession that is normally organized in a hierarchical manner will need the participation of people from different social classes.

Classes and Careers

In many cases, a Terran with only a vague idea of Vilani social structure can guess at an occupation's class. There are cases where historical accident or confusion with the *Terran* status of a career can be confusing. Several common professions and their associated social classes:

Artist or entertainer: Commoner
Doctor or surgeon: Executive (the medical profession derives from the ancient *shugilii* caste)
Engineer or technician: Commoner
Factory worker: Commoner
Merchant captain: Manager
Merchant deck hand: Commoner (even including highly trained technicians)
Military enlisted man: Commoner
Military junior officer: Manager
Military senior or "flag" officer: Executive
Police officer: Commoner
Scientist: Commoner

Once ready to begin work, a new adult is seconded to an older person in the same profession. He remains under this mentor's tutelage until that person dies, is promoted, or specifically resigns in favor of his charge. This last option often occurs when it becomes obvious that the apprentice is a prodigy; it normally takes no more than 20 years to discover this fact.

The Vilani have no strict concept of seniority. When it becomes necessary to reorganize a group of workers, it is the responsibility of the group's leader to design the new organization and recommend his design to his own superiors. Even sudden death is no excuse, as a leader is supposed to have instructions at the ready for this event (leading to Terran jokes about "Last Will and Departmental Restructuring" documents). It is assumed that the reorganization will take place solely on the basis of competence, not on "time in grade" or any other measure of seniority.

Retirement

A Vilani's working life starts to come to an end on his 85th birthday (about 110 Terran years). On that day he starts working three days in six rather than the usual four. The next year, this drops to two, and so on. From age 88 to 90 (about the age of 115 to 118 Terran years), he is merely an irregular consultant to his successor. After his 91st birthday (about 119 Terran years), he is out of the workforce entirely, and is supported by a basic stipend made available to all retired citizens, the luxury of which depends on his position while younger.

Of course, while they may stop working, older Vilani aren't lacking for responsibilities to fulfill. In particular, they are the caretakers of their extended family's youngest children, yet another piece of social engineering designed to instill young Vilani with trust in authority.

Vilani Culture

Trading is about value, and value (once you get past the basics of life) depends very much on culture. Terrans who intend to work in Imperial society need to understand what drives the Vilani when they're not working.

Visual Arts

Vilani art is at the same time very abstract and very literal. Their visual art and decoration bears some resemblance to the classical Muslim art of Terra, with an emphasis on repeating geometric figures. The difference is that despite the similarity in form, there is no *metaphor* in modern Vilani art. Medieval Muslims used abstraction in order to get around a religious stricture against representative images; the figures were intended to "be" something despite not literally looking like that thing. In Vilani painting and sculpture, a square is just a square.

In fact, the current style developed just before the Consolidation Wars, at a time when the symbols of Vilani art were as complex and meaningful as anything produced by a Terran culture. In the intervening 3,000 years, however, the "symbols" have become independent of their original meanings; artists keep using them because that's what is done, not because they have something to say with them.

Paradoxically, this makes art very accessible to the Vilani masses.

The Vilani are crazy for geometric figures. I remember one I had to chaperone in Paris; we spent two hours in the Louvre and she didn't like a single thing. Eventually we ended up at an old amusement park on the outskirts of the city – and she declared this rundown hedge maze we went through to be the finest piece of Terran art she'd seen.

– Vincent Royce,
Ministry of Commerce official (2150)

Museums and galleries are popular entertainments for even the lowest-class employee – there's nothing to understand, you just look and enjoy. This makes *objets d'art* a favorite trade good, though it's difficult to predict in advance what will appeal to a Vilani. For example, they don't see the point of painting real-world objects: "Why not just use a photograph or hologram?"

Conversely, Terran abstract art is considered either interesting or so horribly "wrong" that it provokes laughter. For example, most Vilani find Jackson Pollock merely amusing, while geometric artists like Piet Mondrian are accepted as fine art.

Vilani Longevity

The Vilani are much longer lived than Terran Humans. Barring illness or injury, a Vilani citizen can expect to reach an age of 130 Terran years, and some Vilani live for more than another half century past that.

This is yet one more factor that lends stability to the Imperium. Despite working for nearly 100 Terran years, a citizen will still draw goods from the economy for several more decades after that. This has the effect of slowing economic growth, as so much production is siphoned off for the elderly. Of course, as is typical for the Imperium, this is considered a point in the retirement system's favor and not a drawback.

Vilani longevity apparently breeds true. People of mixed Vilani-Terran parentage already show signs of extended vigor and health. The few people of mixed heritage who were born prior to 2070 are routinely clearing their century mark.

Athletics

Like Terrans, Vilani enjoy testing their physical limits, but a quick examination of Vilani sports shows that they choose their adversaries carefully. Competing as an individual is distasteful; while such sports existed in the past, no one plays them any more. Instead, the Vilani stick to team sports, or individual sports where the competition is impersonal.

As an example of the latter, the Vilani play *uskamsii*, a game with a remarkable resemblance to golf – one uses a club outdoors to drive a small ball towards a distant target in a minimal number of shots. Vilani view the *uskamsii* course itself as the opponent, with the odd side effect that they prefer to stick to the same course for every game rather than trying different challenges. When they play in groups, they invariably play "best ball," with the group scoring according to the best performance among the players. Construction of an *uskamsii* course is expensive, and access to one is restricted to manager-class or better. One trade item that is very popular among Vilani commoners is a dedicated handheld computer game that simulates Terran golf.

Team games are deliberately cooperative, possibly as an attempt to obscure the fact that one team is deliberately trying to defeat the other. The most popular such game in the Imperium is *duriir*, which is played on a field shaped like two wedges pointing at one another. The wedges are divided into five zones, each containing a player. The object is to make the ball (hit with rackets) fall in the opposing team's wedge – the further in, the more points. The twist is that only the player in the wedge's "point" is allowed to knock the ball into the other side. The other players defend against the lobs of the opposing team's "point man," and work to knock the ball back to their own point player. In a way, the game resembles Terran volleyball, with the distant players working the ball forward a step at a time until the player at the front can smash it towards the territory of the other team.

Vilani Architecture

Vilani architecture is much like the other Vilani art forms – oddly familiar to a Terran visitor, but different enough to seem alien.

The buildings themselves are massive, blocky, and monumental. Terrans often describe the prevalent style as a mix between Babylonian ziggurats and mid-20th century Russian concrete triumphalism. There is not much adornment or ostentation. What decoration there is serves to remind the observer of the sober ideals of the Imperium: collectivism, efficiency, and respect for the past.

Most cities are built on a radial plan, with long boulevards down which gravitic vehicles travel. The boulevards are also very wide, with grass (or at least an unused area) down the center to give vehicles a place to put down in case of an emergency. Pedestrian sidewalks (or slidewalks in richer or larger cities) run along both edges of the street.

Vilani cities are planned under the assumption that most transport traffic will be communal rather than private. Only high-ranking manager or executive-class citizens will own their own ground cars or air/rafts. Depending on the distance to be traveled, a Vilani commoner will take a "people carrier" or use the slidewalk until he gets near his destination, at which point he hops off and walks along a side road to his goal.

Vilani buildings are almost always square or rectangular, which means that when combined with a city's radial layout, there are innumerable triangular bits of land left over. This is deliberate; the leftover space is used for parks and other public facilities. From the air, Vilani cities are checkered with green or whatever other color the local flora favors, despite the massive, boxy buildings.

The Vilani Imperium

The Imperium is so vast that it's difficult to conceive just how big it really is. The very fastest Imperial courier services require about *two years* to carry a message from the rimward frontier to Vland. A more typical traveler would take over *five years* to make the same journey – and to reach the Imperium's coreward frontier, even more time would be needed.

During Terran history, empires have always been limited by the time it took for instructions to go from the center to the edge. Terran empires that were more than six months "across" have never lasted very long. The Vilani have therefore come up with something completely unfamiliar to Terran observers – a political system that can hold itself together despite huge problems with communication.

Political Organization

The Imperium is organized as a star, with the Shadow Emperor at the center. The three *shangarim* and two military services are linked to him and him alone. There is no official channel permitting the five power groups to negotiate directly with one another, and indeed any such negotiation is considered treasonable. This has peculiar effects on the day-to-day operations of the empire, as always reinforcing its stability and changelessness.

The Shadow Emperor

There are many things impeding change in the Imperium, but if one is most important it's this: the *Ishimkarun* or "Shadow Emperor" is the sole source of law.

At first sight this seems contradictory. The Terran experience indicates that a dictatorship can change more quickly than a democracy, as there's no need to "play politics" when it comes time to make a decision. However, even on Terra there have been cases of absolutism in which things were almost unmanageable, because *every* decision had to go through one person. There's a fine balance between centralization and delegating when it comes to getting things done, and as always the *Ziru Sirka* was specifically designed to slow things down.

The key to this is that the Shadow Emperor's day only has 32 hours, the same as even the poorest subject on Vland. With the events of thousands of worlds swirling around him, it is far beyond the realm of possibility that he could affect more than the tiniest fraction of them.

The Vilani solution to this problem is not delegation, but *precedent*. Every *Ishimkarun* has over 3,000 years of rulings from his predecessors to fall back on. Until he specifically authorizes a change to a previous decision, that precedent rules. Procedure is followed because, once upon a time, it was the law laid down by some near-forgotten Emperor to deal with a similar situation. Fortunately, the system of precedents is highly refined, and since the *Ziru Sirka* has been so static, it can cover almost everything. However, when something novel happens, it can take a long time for the message to get to the Imperium's "head" and for the response to return.

When a new situation arises, or if an old law needs revising, it is the duty of the *shangarim* and the military services to bring it to the Emperor's attention. More to the point, they must *try* to bring it to his attention.

Even with the vast majority of matters handled by following precedent, there are still far too many things for the Emperor to examine. The five points of the "star" surrounding him have to compete for his time, struggling to gain the minutes needed to outline the problem, advise the Emperor on the solution, possibly wait for him to consult with outside experts, and then make a change to the established procedure. Only the most critical matters are raised, and on everything else the affected persons have to make do.

Naturally, in such a system the ultimate sign of Imperial disapproval is the loss of the Emperor's attention. For example, if one of the *shangarim* begins to act up, the Emperor only has to make his displeasure known for the other four groups to have a field day. They divide the disapproved *shangarim*'s "face time" among themselves, thereby getting more of their own agendas advanced. They can

Vilani Dissidents and Secret Societies

There are no dissidents in Vilani space. Ask any Vilani – he'll tell you so, loudly and emphatically.

The primary purpose of the Imperium is to get everyone to toe the line, reducing strife and so maximizing happiness. Unfortunately this purpose contains a fundamental flaw: it assumes that everyone will be happy with the same thing. Despite the best efforts of Vilani society to instill love for the way things are, mistakes will be made, and sometimes sheer Human contrariness will leave someone dissatisfied. If only one person feels this way, he usually stays very quiet. If two of them get together, they form a secret society.

In the Imperium's core, the police are well-funded, and are very good at finding and dealing with the "socially ill." Out on the Rim, the level of control is much lower. Secret societies of all sorts have popped up and maintain a precarious existence. While they are difficult to find by definition, a Terran who can plug into one and cater to its needs can turn a tidy profit – and crack open the Imperium just a little bit more for the next trader to come along.

also start to cheat the outcast group with impunity. Shipments arrive with defective parts, if they arrive at all; prices are raised; promising recruits are poached. The only recourse is to get the Emperor to stop it, and the Emperor won't even listen to the black sheep until it comes back into line.

The only remaining danger to the Emperor's authority is the creation of *ad hoc* connections between the points of the star. For the Imperial system to work, everything must go through the Emperor. As a result, communications between the *shangarim* and the military are very restricted. It is possible for a *shangarim* official to take direct command of military units in the field, but the necessary protocols are so restrictive that only the most talented bureaucrats can accomplish much. Most *shangarim* executives content themselves with outlining strategic goals for their province, letting the military figure out how to attain those goals.

The Emperor doesn't rule the Imperium. No one does. They think the ghosts of ten trillion dead Vilani will rise up out of their graves if anyone ever has an original thought.

– Juan Santiago, ***Imperial Years*** *(2168)*

Sharurshid

Of the three bureaus, the one most likely to be encountered by Terrans on a day-to-day basis is Sharurshid, the Vilani shipping and trading concern. This is not only because it is engaged in the business likeliest to get adventurers into the Imperium – buying and selling – but also because it's in control of the space closest to Terra.

It's fortunate for the Terran Confederation that Sharurshid is its neighbor. As the *shangarim* most used to commerce and transport, it was the likeliest to accept Terran overtures to trade. While relations can be frosty at times, the potential for profitable transactions always brings Sharurshid back to the table. If Terra had been next to Makhidkarun, with its more authoritarian style, things might have been very different.

The protocols controlling communication between the various agencies are very deep – once again, the benefit of 3,000 years of refinement – but they quite specifically avoid topics that could let two or more factions conspire against the throne. Communication outside the approved protocols is high treason, and the factions are always on the lookout for signs that their competitors are engaging in it. The one item that is guaranteed to draw the Emperor's attention immediately is evidence of extra-legal communication, and coming up with such evidence invariably leads him to examine more of the loyal branch's issues for a while afterwards.

The Igsiirdi

The *Igsiirdi* is composed of representatives of the branches of Imperial government, who advise the Emperor and try to get Imperial legislation passed on their behalf. Strictly speaking, the *Igsiirdi* has 300 members, but only 15 "Speakers" are authorized to talk directly to the Emperor – one each for the Army and Navy, three for each of the *shangarim*, and four "members at large" appointed by the current Emperor. The remainder of the council is the power base on which the Speakers rely to define the agenda for their presentations to the *Ishimkarun*. Members of the *Igsiirdi* tend to fall into factions behind different Speakers, making up informal political parties that push different viewpoints within their own factions.

The other major role of the *Igsiirdi* is the selection of the new Emperor upon the death of the previous one. When the Emperor dies, all *Igsiirdi* members capable of doing so are expected to report to the Imperial Palace on Vland, where the death is announced and three days of mutual consultation begin. At the end of the three days, each segment of the *Igsiirdi* (the three *shangarim*, the Army, the Navy, and the Emperor-appointed faction) puts forward a candidate. This nomination process usually produces six names, but sometimes more than one faction will put forward the same name.

Voting then begins – openly, it should be noted, not by secret ballot – in a series of rounds. After each round of voting, the candidate receiving the least votes is dropped from the ballot. The process continues until one candidate obtains a majority of the votes. At this point, one more ritualized vote is held with only that person on the ballot, so that the new Emperor is always formally elected with 100% of the vote.

The Shangarim

The *shangarim,* or "bureaus," are three huge agencies that manage the day-to-day operations of the Imperium. Taken as a bloc, they are the single largest faction in the *Igsiirdi*, though they often vote at cross-purposes.

Each of the *shangarim* stems from a specific power group in early Vilani society aristocrats, *shugilii*, and industrialists. Not long after the Vilani began expanding into space, the power of each of these groups was threatened; their response was to reorganize the government along corporate lines. Each group established one of the *shangarim* as a overarching corporate bureaucracy. Each of the bureaus was then handed a territory to run; these spheres of influence were largely distinct, although in a few regions they overlapped in complex ways. Despite the enormous dislocations of the Consolidation Wars, the three *shangarim* have hung onto power ever since.

Makhidkarun is the aristocratic agency, specializing in services often associated with government on Terran worlds. Police, media, infrastructure, and similar services are under its control, or licensed to the other *shangarim*. Its primary territory is the area around Vland.

Sharurshid is the industrialist *shangarim*. Its areas of interest are the production and distribution of goods, and the continuing development of colonies as markets. All unarmed ships in the Imperium belong to Sharurshid, so while this agency formally owns the territories near the Terran Confederation, it can be found operating anywhere the Vilani go.

Naasirka is the bureau derived from the *shugilii* caste. At first solely concerned with food production, it has branched out into other "basics," notably energy production and distribution.

Imperial Administration

With huge travel times between Vland and the Rim (or any other frontier for that matter), the Imperium depends on its hierarchy. In many ways, it's organized like a Terran corporation, with "vice-presidents" and "upper management" and "middle management" controlling successively smaller political divisions. It's important to note, in particular, that none of them *rule* a domain – they *manage* them. They are completely answerable to the people higher up in the hierarchy, and even to the Emperor (though in practice the *Ishimkarun* rarely pays attention to anyone more than a level below). Every manager has a book to follow, and is more bureaucrat than noble.

The Imperial Hierarchy

The highest rank in the Vilani ruling class is that of *Ishimkarun,* or "Shadow Emperor." He is selected by the *Igsiirdi*, and serves for life or until he chooses to abdicate (which almost never happens). The Emperor lives in extreme seclusion; he never appears in public, and aside from his own family and household staff he almost never meets with anyone other than the 15 Speakers of the *Igsiirdi*.

Beneath the Shadow Emperor stands a set of 12 *apkallu kibrat arban* ("Great Ministers of the Four Quarters"). This title is one of extreme antiquity, and appears to be from a dialect of Vilani that is now otherwise extinct. The title denotes a position of immense power, and is reserved for the leaders of the *shangarim* and their highest assistants. Each of these nobles oversees the activities of his bureau over at least 2-4 sectors. In most cases, the power of the *apkallu kibrat arban* is limited to grand strategy – the sheer size of a noble's domain at this level prevents much control over the details of government operation. Another informal name for these nobles is *karunii* ("petty emperors").

The title of *saarpuhii* ("underking") appears to derive from the various nation-states that existed on Vland before spaceflight. Today a *saarpuhii* oversees a substantial portion of a single sector, usually 80-150 worlds in all. A *saarpuhii* on the Imperial frontier is the official most likely to hold strategic control over local wars, overseeing punitive expeditions against rebels or barbarians. The *saarpuhii* whose domain is closest to Terra is the *Saarpuhii Kushuggi* ("Underking of the Rim Worlds").

Below the *Saarpuhii Kushuggi* are 10 *sarriiu* ("supreme governors"), who oversee about a dozen worlds apiece. Each subsector's capital is usually the seat of a *sarriiu* with unusually high prestige. There are normally 2-4 lesser *sarriiu* per subsector as well.

The *sarriiu* in turn are supported by *shakkanakhu* ("provincial governors"), who appear to occupy a very flexible level in the bureaucracy. A *shakkanakhu* normally governs 3-6 worlds – but in one known case, a *shakkanakhu* in the Kushuggi province clearly manages more worlds and people than the weakest *sarriiu* of the area. It's not entirely clear why this is the case, but there's reason to believe that the political subdivision of provinces can be quite fluid if something is upsetting the situation. Apparently the Terran Confederation is doing just that, and things are being reorganized in odd ways according to needs perceived by the current *saarpuhii*.

The business end of Imperial government can be found at the lowest level of the hierarchy that is routinely a week or more away from its superiors. These *iishakku* ("governors") each get a planet to manage, or sometimes part of a particularly populous or important planet. Most citizens will deal with the local *iishakku* or his staff, if they need to interact with the Imperium at all.

All of the above titles are hereditary. Vilani noble families employ a rule of inheritance that is very unusual by Terran standards: only the *third* and later children are eligible to inherit a noble's hereditary titles, and adoption for the purpose of obtaining an heir is not permitted. A noble's first and second children are still members of the executive class, but they must earn new titles for themselves. It's routine

for a noble family to lose a hereditary position for lack of any legal heir, forcing the family's superiors to choose a new clan to hold the position. This causes a certain amount of "churn" in the Imperium's upper hierarchy, preventing any one family from monopolizing power.

Below the rank of *iishakku* comes the bulk of the Imperial ruling class, the pool of potential leaders from which the *shangarim* and the military services can draw. There is a bewildering variety of non-hereditary titles at this level, indicating the degree and kind of authority held by each individual. It can be particularly difficult for Terrans to navigate the lower Imperial hierarchy, even if the titles themselves are properly translated – is a "Third Minister for Quality Control" senior to an "Undersecretary of Employee Relations," or the other way around?

One non-hereditary title that does occur frequently is that of *kiduunuuzii* ("holder of special privileges"). This title is awarded to particularly effective leaders, including "troubleshooters" who have a history of solving problems wherever they go. The title of *kiduunuuzii* is even awarded to very talented members of the manager class, often as a preliminary to granting hereditary noble status.

Colonies vs. Outposts

There are about 10,000 star systems in the area of space controlled by the Imperium. Of these, about 4,000 include planets inhabited by substantial Vilani populations, and another 4,000 contain outposts of some kind. The rest are simply empty systems contained within the Vilani sphere, but otherwise of no note at all.

The Vilani don't colonize "difficult" or inhospitable worlds unless there is something else compelling about them. Sometimes this is a resource, but most often the attractive feature is sheer location – the system is a necessary stopping point along a route from one place to another, and the Vilani had to pick *somewhere* in the system to put their facilities. These are Imperial *outposts*, and they're different from Vilani worlds in a number of important ways.

Most obviously, they are much less densely populated, and much less diverse than a proper Imperial colony. Nearly everyone living there is, at least indirectly, connected with servicing passing traffic or performing whatever other intended function the outpost may have.

You know, if we behaved ourselves, I think the Vilani are so complacent they'd let us colonize all the empty worlds in their Imperium, from one end to the other. Good thing I have no intention of being a good boy by their standards, just so I can breathe canned air for the rest of my life.

– Bill Rodriguez, Nusku colonist (2166)

This makes an outpost more cosmopolitan than a colony, as the world's citizens are used to dealing with people from outside the community. They're often more tolerant of difference too, though this is a matter of degree as compared to their colonial brethren rather than actual toleration. If nothing else, people on outposts will be more familiar with the concept of trade than your average Vilani on a more hospitable world.

The final difference is that the population mixture is often odd. Vilani colonies are just that: *Vilani* colonies. There are many other races in the Imperium, but with the exception of the Vegans (p. 88), none of them are the majority on any world within easy reach of Terra. On outposts, however, it's not unusual to see members of the more important subject races, particularly the Suerrat (p. 86).

Vilani Settlement Patterns

For the entire, glorious period leading up to the Consolidation Wars, the Vilani had their choice of worlds. With only a few exceptions, such as Geonee and Suerrat space, no one else laid any claim to a significant number of planets.

As a result, Vilani colonists were quite choosy, and the majority of Vilani colony worlds are reasonably Terran (or, rather "Vland-like"). The Vilani started substantial colonies on less hospitable planets only when a valuable resource beckoned, or a bridge was needed between two important colony areas.

Similarly, there has never been any reason to let planetary populations get out of hand: there is always more land out there somewhere, and the benevolent Imperial government is willing to move people to new colonies in the unlikely event that they wish to. There are still empty worlds well worth living on throughout Imperial space. Even the most populous worlds, barring Vland itself, rarely have more than a few billion citizens.

Still, a merchant run down a Vilani-inhabited main is something of a hit-or-miss proposition. By sheer random chance, several "good" worlds will sometimes be lined up, with markets of hundreds of millions to tap, while a run of bad luck will turn up minor outposts and empty star systems stretching for parsecs.

Subject Races

While it's common to use the term "Vilani Imperium," it's important to remember that the Vilani are not the only intelligent species under its rule. About 10% of the Imperial population are Humans of other stock, no more Vilani than they are Terran. Another 10% are alien species, with no biological ties to Humans at all.

As far as possible, the Vilani try to integrate these races into Imperial society, but for a variety of reasons this effort isn't always successful.

First, many were brought into the Imperium by force. Thousands of years may have worn off the worst of the sting, but a few races that were once only moderately less powerful than the Vilani still remember their glory days.

In fact, the Vilani are stubborn about their crusade to bring "good government" to the rest of the galaxy. Only the really hopeless cases get blockaded or interdicted; the Imperium will keep banging its head against the wall if there's the slightest chance that a race will come around to the Vilani way of life. This means that the Imperium has to deal with uprisings every now and then – but it normally enjoys an overwhelming advantage over such rebels. Client revolts are rarely more than small hurdles in the way of the Vilani obsession with making everyone else just like them.

There are also aliens that simply can't be integrated, for reasons of psychology or physical difference. Some such aliens are actively blockaded onto their home worlds, with Imperial naval squadrons to ensure that they launch no expeditions into space. Others are still primitive, and are "interdicted" – shielded by the Navy from all outside contact.

Anakundu

The Anakundu are a minor Human race native to Nuiya, in the Mikadira sector. They were at a Neolithic level of development when the Vilani came, lifting them to modern conditions over the next 1,000 years. Since then they have been staunch allies of the Imperium, and in fact are one of the few non-Vilani races to occasionally hold high positions in the government.

History

Little is known about early Anakundu history. At some point the race was apparently reduced to a very small population, causing a genetic "bottleneck" that has left them in the throes of a serious evolutionary dead end.

The Anakundu were first contacted by the Vilani about 4,000 years ago. At that time there were only a few tens of thousands of them, living in small hunter-gatherer groups on one of their home world's continents.

Primitive and unthreatening, the Anakundu received aid from the Imperium so that they could be incorporated into galactic civilization. Among the Vilani coming to Nuiya were medical doctors, who soon noticed that the Anakundu had a short maximum lifespan, even setting aside deaths caused by their primitive state. Eventually the Vilani developed a drug that let the Anakundu live somewhat longer; out of amazement at the "magic" their benefactors possessed, they willingly became Vilani clients.

For the last 2,000 years the Anakundu have enjoyed equal status with the Vilani, though they are heavily outnumbered by their allies. They live entirely by Vilani culture, and have nothing but disdain for the primitive ways of their ancestors.

Physiology

Externally, the Anakundu look much like Vilani or Terrans. Their home continent on Nuiya was in the extreme north, so they are usually very pale. The major exception is around their eyes. Their homeworld's primary star is quite bright, and their snowy home environment made for a great deal of glare. As an adaptation, Anakundu eyes are black, surrounded by a dense spray of freckles that reduce reflection from the cheekbones.

The most unusual aspect of the Anakundu is their sleeplessness and associated short lifespan. As an

infant, an Anakundu sleeps six or seven hours per night; he will gradually lose another hour for every 10 Terran years of life. While they have adapted somewhat to this condition, there are fundamental limits reached at about two hours of sleep. Without medical intervention, at some point between 45 and 50 Terran years of age, an Anakundu will drop rapidly into mute senescence, insanity, then death.

The Imperium treats this condition with *gakinisharra*, a drug that slows the process and holds off the two-hour limit until age 75-80. While still tragically short by Vilani standards, this lifespan has been all the Anakundu could expect for thousands of years, and they do not look for more.

It is worth noting that the Anakundu sleep deficit resembles some Terran chromosome disorders. It is believed within Confederation medical circles that their condition could be cured with gene therapy. Vilani medical science has not advanced to this stage, however, and no Anakundu has ever submitted to the tests that would be needed to establish the truth.

Psychology

Fatalism and subordination are the two main prongs of Anakundu culture. They never recovered from the shock of being contacted by a vastly more advanced Human race. While they have long since caught up with the Vilani and become Imperial partners, their continuing deficit in lifespan makes them feel inferior to this day. Most Anakundu accept their "fate," and live their lives accordingly. This attitude spills over into other things, so it's virtually unheard of for an Anakundu to complain about anything. Even the normal Human desire to make things better is muted; an Anakundu must be suffering more from, say, cold or hunger before he becomes motivated to try and solve the problem.

On the other hand, Anakundu follow orders willingly. They are especially valued for their ability to stay awake for 20 consecutive hours at will, and more than twice as long with minimal difficulty. The Imperial Army is especially fond of them as ground troops, valuing their stoicism and stamina.

Anakundu in the Interstellar Wars

If it weren't for their extremely pale skin and their freckled "eye-shades," one might never realize that an Anakundu is not a Vilani. They have adopted Vilani language, and live entirely within Vilani culture. Although their short lifespans tend to limit their promotion in Vilani society, Anakundu can be found even in the Imperial executive class.

Most often, a Terran will discover the difference by bumping up against Anakundu sleeplessness. Running across a pale, black-eyed ghost in the dark of night, when everyone else is asleep, is a memorable experience. Sometimes an Anakundu will specifically use the wee hours to get away with something under the noses of dreaming Terrans.

Terran soldiers often call the Anakundu the "night-fighters" or "spooks," and hold them in considerable respect. The average Terran doesn't know about the Anakundu racial weaknesses. They just know that these slender troopers are brave, determined, and can win an engagement just by staying awake and shooting long after their Terran foes have collapsed from exhaustion.

Answerin

The Answerin are a Human race, much like Terrans or the Vilani. Unlike some Human races, they are difficult to distinguish from the two main types of Human, but they possess unusual internal changes, and a psychology to match.

History

Not much is known about the Answerin, as they live far to coreward of Terra – in fact, it is believed that they hail from near Vland itself. Most Answerin met by Terrans are soldiers, so detailed questioning is often difficult.

Still, it is known that they encountered the Vilani fairly early on, before the founding of the *Ziru Sirka*. Their civilization was primitive, so they rapidly acquired that of the Vilani at a time when that process was much less painful. When the *Ziru Sirka* began, their home world was peacefully annexed, and the Answerin have been loyal subjects ever since.

Physiology

The average Answerin is 3" taller than a Terran or Vilani, and somewhat heavier, although slimmer in proportion due to his greater height. His world's twin suns are heavy emitters of ultraviolet light, so even the lightest-skinned Answerin is dark by Terran standards, and many are black in the literal sense of the word. Their hair is invariably black too, and usually slightly wavy; a few have straight hair. Their only unusual facial feature is a pronounced epicanthic fold in the manner of Terran East Asians, an adaptation to the strong light in which they developed.

What makes the Answerin unusual among known Humans is their ability to consciously trigger adrenaline surges, which enhance their strength and speed for approximately a minute. Once the minute is over, they are debilitated for the next hour. This conscious control over an involuntary "fear" reaction has had a profound effect on their psychology and culture.

Psychology

The Answerin are very interested in self-control, particularly control of fear. They do have emotions, showing happiness, anger, love, and so on when there is no reason to suppress them. Fear, however, is viewed as a mental illness, and the Answerin have spent the last 3,000 years trying to cure it.

Answerin culture is structured around keeping fear from becoming an issue, partly through removing causes, and partly through carefully cultivating personal bravery as part of their lives. They're not insensitive to danger, but they believe that an irrational response to it is counterproductive. During their lives, they bend every effort toward learning how to stay calm and continue functioning when every other Human race would be wasting mental resources battling fear, or would have given in to the emotion entirely.

Answerin in the Interstellar Wars

Their unique psychology makes the Answerin very useful as soldiers, and many members of their race are in the Imperium's armed forces. Many Answerin are in other professions, but Terran Humans almost never encounter these members of the race.

An Answerin soldier's adrenaline surge makes him doubly dangerous. Terrans often call Answerin "berserkers," despite the fact that they are invariably quite calm while punching holes through walls, overturning cars, and otherwise doing things no Human has any right doing. They are greatly feared in wartime – although it's worth noting that this is a *respectful* fear, as most Terran soldiers also admire Answerin strengths.

Fortunately, while Answerin are grouped into their own units, they are commanded by Vilani, so they are stuck with fossilized tactics that make them vulnerable. Every time war breaks out, the Terran forces are armed with a whole new set of clever ideas for getting the Answerin to "burn off" their surges, rendering them useless for combat afterwards. It's to Answerin credit that Terrans *do* have to come up with new ideas every time; the Answerin are rarely taken in more than once by any given gambit.

Bwaps

Of all the Imperial subject races, the Bwaps (also called "Newts" by most Terrans) are the most successful. They obtained this status by having unparalleled heads for bureaucratic detail, which gives them the ability to take on fussy management jobs that even Vilani find difficult.

History

Originally hailing from the world of Marhaban, the Newts had begun their Industrial Revolution when they were first contacted by the Vilani. This was before the Consolidation Wars, and the Bwaps picked up Vilani technology with great speed, coming up to a par with their Human visitors within 100 years.

The Bwaps soon had a small interstellar state of their own, but when the *Ziru Sirka* was proclaimed they voluntarily joined the new empire. The Imperium's ideals of order and stability appealed to them greatly, and they threw themselves into the new project. Over time, they became the most useful Vilani partner in the running of the Imperium, and have spread throughout the entire state.

Physiology

The Bwaps are 4' to 5' in height and bipedal, but otherwise have a superficial resemblance to the Terran creatures that supplied their nickname. Like Terran newts, they are amphibious, and they do require high levels of humidity to protect their skins. In most Human facilities they will wear special robes and head-cloths that draw water from small attached tanks. If the humidity drops below 20%, however, even that stopgap starts to fail, and a Newt will have to wear a full environment suit in what is otherwise a perfectly hospitable place.

Bwap eyes are large and apparently pupil-less, being entirely a shiny black. Their skins, always damp, are dark green and blue. They sport complex color patterns, some of them natural, some applied with waterproof paints to act as markers of social status and position.

Females are outnumbered 10-to-1 by males, and are sequestered on Bwap colony worlds, so all Bwaps encountered by Terrans are male.

Psychology

Newts are focused on hierarchy and procedure, an attitude that sometimes makes them "more Vilani than the Vilani." The Imperium's founders acknowledged that the society that they were creating ran counter to some deep Human motivations, but that is not the case with the Newts. Of all the races ruled by the *Ziru Sirka*, they are the most psychologically suited to it.

Conceptually, the Bwaps view the world as *Wapawab*, the tree of life, with everything connected to everything else, and everyone performing a function for the good of the whole. Each tries to place himself and others in that tree and then interact in an appropriate manner. In particular, they have a fondness for being the "cogs in the machine." This means that the majority of them encountered by Terrans are bureaucrats, trying to keep things in order. Or, as some Terrans have put it: "They think the Imperium's a tree, and it's their duty to keep us saps running."

Balancing out their fetish for bureaucracy is their incorruptibility. As part of insisting that every rule be followed, they would never dream of "polluting the water" by taking a bribe or looking the other way. As the Imperium *is* designed to run smoothly if the rules are followed, a Bwap can be your best friend when dealing with the Vilani, a bulwark against the corruption that is shot through the system.

On the other hand, if you're a rule-breaker, they can make your life impossibly difficult.

Bwaps in the Interstellar Wars

As well as being common sights in the Imperial bureaucracy, Bwaps are found wherever their peculiar knack for detail can come in handy. This includes systems maintenance, from as high-profile as heading a starport traffic control system to as lowly as janitorial work. They are also common on water worlds, where not only can they help run things, they can go underwater for long periods of time to work on niggling problems.

Bwaps are also commonly encountered in criminal investigations. Despite their reputation for focusing on the small things, they are as imaginative as Humans when it comes to interpreting data, and their dogged ability to check every possibility makes them effective, if slow, forensic officers.

There are not many Bwap traders or military personnel, but the race is peripherally associated with each field. Bwaps are often the best people to approach when trying to find a particular cargo, as they can often tell you down to the last detail who has what and how much. Terrans often use Bwaps as *de facto* brokers on Vilani worlds. Similarly, while they rarely engage directly in military operations, they are excellent in support roles, or as engineers aboard starships.

Dishaan

Psychologically incapable of thinking past their own best interests, the Dishaan are in many ways the antithesis of the Vilani ideal. The Ziru Sirka has gone to heroic lengths to curb these impulses, but now that they are interacting with a non-Vilani state, the Dishaan are falling back into old habits.

History

Before the founding of the Ziru Sirka, several non-Vilani states flourished in parts of what is now Imperial space, and one of the most successful was *Ushkaq Sasutxi*, the Dishaan Hegemony.

Over the course of 1,000 years, the Dishaan built up a small empire of about 20 worlds based on Vilani technology. Moreover, they were great traders of the period, ranging far and wide across much of what is now the Imperium, looking for riches to bring home. Their fundamental dishonesty was understood, so deals were always structured to make it worth their while to stick to the contract. Give a Dishaan half a chance, though, and he'd cheat you blind.

This propensity for chaos ran against the grain of Vilani goals in the period leading up to the Consolidation Wars, so the Dishaan were one of the first races to be attacked. It took 80 years of war to finally break the Dishaan, and then the Vilani were left with the problem of what to do with their new client race. It proved virtually impossible to impose Vilani culture on the Dishaan without piling on outrageously negative consequences for straying.

For the last 4,000 years, every Dishaan has been under constant surveillance, from birth to death. The Vilani strategy is to make certain that any deviation from acceptable norms is punished to an extent far greater than the potential gain of the crime. Most Dishaan are not allowed to leave their world unless they have considerable assets under Vilani control, which can be confiscated if their owner gets out of line. Those who do travel are usually merchants, though some work for the armed forces as solitary commandos with fearsome reputations among Terrans.

I hate the Dishaan. Wrinkly, vulturous, black-hearted, love to scare you half to death. I get enough of that from my unit.

– Staff Sergeant John Sevdalian (2175)

Physiology

The Dishaan are five-foot-tall tree-dwellers with stubby legs that make them ungainly on the ground and long, powerful arms that make them masters in a forest canopy. Each arm is tipped with a large curved claw; these are intended to make grabbing the next branch easier, but they are also extremely effective in hand-to-hand combat. The claws are also used to take apart the carrion on which the Dishaan feed. Two widely set eyes on a broad, neckless head help them judge the distance to the next tree branch. Their "hands" are actually their feet – one more reason why they avoid standing on solid ground.

Psychology

The proto-Dishaan were pack animals, roaming in groups of 20 to 30 and driving predators away from their kills. Their social structure was based entirely around feeding rights, as maintained by continuous "pecking order" squabbles. Intelligence gradually developed as the Dishaan evolved ever more elaborate ways of subjugating their pack mates without resorting to physical violence.

The modern-day Dishaan is still constantly looking for angles, and has absolutely no compunction about doing anything that puts him one step ahead of someone else. He is honest exactly as long as it's to his advantage. The second he decides that cheating is better, that becomes his strategy.

Dishaan in the Interstellar Wars

Within the Imperium itself, the Dishaan are not as untrustworthy as they could be. On their home worlds they are constantly watched (by other Dishaan, in fact, as "traitors" are amply compensated). Since the Vilani harshly punish lawbreaking, the calculation to break the rules rarely works out.

In Terran space, however, anyone dealing with a Dishaan needs to watch carefully – offworld they wear portable surveillance devices, but these don't work very well outside of a Vilani infrastructure. On the other hand, this also means that once out from the ever-watching eyes of the Vilani they're willing to cheat their masters in return for Terran goods; the race has been a valuable conduit for transferring Imperial technology into Terran hands.

A few Dishaan take "cheating" to its ultimate level, and love murder and looting for their own sake. In most eras there has been no outlet for this impulse, but recently the Vilani have returned to a tactic they used in the Consolidation Wars after the Dishaan were conquered. Solitary Dishaan – even a unit as large as a platoon is hard to hold together in wartime – are introduced into the field of operations and told to run wild. In forests or cities with high buildings they can make their way around far above the heads of Terrans, wreaking havoc behind the lines. These "Wreckers" are detested by Terran troops, and few survive capture. Equally few are around to be captured in the first place, however, as the Wrecker mind-set is fortunately rare even among the Dishaan.

Geonee

The Geonee are a variant of the Human species, one encountered by the Vilani not long after they went to the stars. What was most shocking about the encounter was that the Geonee had the jump drive as well, though it eventually came out that they had reverse-engineered it from a derelict ship they discovered in their home star system.

History

The Geonee were the greatest rival of the Vilani for over 3,500 years. They were the toughest opponent during the Consolidation Wars, but they were finally defeated (about the 4th century B.C.) and have been under Vilani rule ever since. Despite the millennia of subjugation, they still live on dozens of worlds somewhere to coreward of Terra, and are sometimes encountered by travelers headed in that direction.

Physiology

Geonee are smaller than most Humans, having adapted to a hot, high-gravity world; they average about 5 feet tall and 160 pounds, both male and female. Despite their small size, they are very strong and dense, with very little fat on their bodies.

The only other notable difference between the Geonee and Terrans is in their diet. Geonee are borderline carnivores, preferring to eat meat at all times. While they can digest vegetable matter, and even use it as flavoring in some dishes, they have a hard time with more than a small amount of it in the diet.

Psychology

The Geonee possess much the same basic psychology as other Humans. Most of their psychological differences are imposed on them by their society.

Culturally, the Geonee are sexually dimorphic. Males are active and aggressive, while women are expected to be shy and retiring. In earlier times, women were actually considered chattels of their male relatives, but the Vilani ended this practice when they imposed their culture on the Geonee. Even so, to this day Geonee women are rarely encountered off a Geonee-dominated world.

Geonee men and women can only interact as relatives or, if courting, though the agency of a semi-intelligent creature called a *cerosee* that is native to the Geonee homeworld. The Geonee generally do not discuss this subject, and the *cerosee* are so shy and cautious that it is still not entirely certain that they actually exist. Some who study the Geonee believe that they may be metaphorical, a variety of "Cupid" in the Geonee courtship ritual.

The Geonee are extremely proud of their past, not only the relatively recent past when they were a space-faring power, but also a hypothetical Golden Age hundreds of thousands of years ago. During this Golden Age, the Geonee believe they had an even more advanced and widespread empire than that of the Imperium. They can be quite prickly about the subject, despite the fact that there is some evidence to suggest that they are wrong in this belief.

Anachronisms

Long-time players of ***Traveller*** probably recognize the Nugiiri as the Droyne, an enigmatic race scattered throughout Imperial space and beyond. They will know a great deal more about the Nugiiri than anyone living during the Interstellar Wars era. By the time of the Third Imperium, much of the mystery about the Nugiiri has been dispersed; GMs need to make sure that things their players might know don't leak out to the advantage of their characters. These are:

- **The Nugiiri are not native to Kilennur:** This is the one fact that Terrans have a chance to find out for themselves. If anyone with knowledge of the biological sciences can examine both the Nugiiri and Kilennur's biosphere, it will be obvious that the Nugiiri are from elsewhere.
- **The Nugiiri are part of a widely-dispersed race:** Even if they are discovered to be non-native to their "homeworld," it's still not obvious that the Nugiiri got there by colonizing the planet on their own initiative. Based on what the Terrans know, it's much likelier that the Nugiiri got their knowledge of interstellar travel from the Vilani at some forgotten point in the past. It would take a major archaeological expedition to discover evidence to the contrary (specifically, that the Nugiiri have been living on Kilennur for much longer than the Vilani have been in space).

Even the Vilani are unaware of this, despite there being multiple worlds with native Droyne colonies in the Imperium. Since the Vilani invented jump drive, the Droyne have been so secretive and unconnected with the universe as a whole that no one has realized that it's the same race on all of their worlds. In each case, they have been written off as simply another minor race, one native to the world where they were found.

In many cases, Droyne colonies are barely at the industrial level of technology. In the case of those (like Kilennur) that are more advanced, thousands of years of complete disinterest by the Droyne in the affairs of the Vilani have allayed all concerns. In the Interstellar Wars period, it's unlikely that an Imperial official will even realize that an encountered Droyne is a member of this long-neglected species; he will likely dismiss it as belonging to some minor race he's never seen before.

- **The Nugiiri are psionic:** In the Interstellar Wars period, Terrans do not know that psionic powers exist, while the Vilani have only a very limited understanding of the phenomenon. If Terrans were to make a breakthrough on this front, it would likely be from study of the Nugiiri from Kilennur. However, there is a paradox here – there's no particular reason to study the Nugiiri in the first place until it's understood that they have fantastic powers of the mind.
- **The Nugiiri are an offshoot of the Ancients:** During the 22nd and 23rd centuries, it's not even clear that there ever was an Ancient civilization, much less that the Ancients were derived from a single race, or that that race is the Droyne. While the Nugiiri of Kilennur have a high-technology society, they are somewhat behind the Vilani. Their artifacts are radically different from Vilani ones, but this can easily be explained away as the effect of alien thought processes working on technology received from the Imperium.
- **The Nugiiri and the Chirpers are related:** Between the Ancient period 300,000 years ago and 70,000 years ago, the Droyne began losing their ability to caste. As this is a critical step to their development of full intelligence and adulthood, the colonies that lost this ability completely became "Chirpers," semi-intelligent creatures apparently no more related to Droyne than chimpanzees are to Humans. Some colonies developed "coyns" – coin-like focuses for the psionic casting ritual – and recovered, but many did not. In the Imperium, only the Geonee (p. 84) are in a position to make the connection between the two, but as Chirpers are involved in the courtship rituals of this repressed race, and they have their own name for the Chirpers, the topic is never discussed.

Geonee in the Interstellar Wars

The race is particularly interesting to Terrans for two reasons. One is that there is some contradictory evidence that they are the Ancients, or at least descendants of the Ancients (p. 13). More practically, they are interesting because they are the Vilani's most restive subject race. Even before Terra appeared on the scene, they had more than once revolted unsuccessfully against the *Ziru Sirka*. Given an opportunity to ally with the Confederation, there is reason to believe that they will take the chance.

Nugiiri

One of the most unusual races known to the Terrans are the Nugiiri. Winged bipeds with an odd mixture of lizard-like and insect-like characteristics, they mostly keep to themselves and have been difficult to investigate.

History

What is known of the Nugiiri past is largely conjectural, but Terran xenologists have managed to construct the following theory.

The Nugiiri appear to be native to Kilennur, a world to spinward and trailing of the Urima subsector, about a year's travel from Terra. Their native technology varies from Vilani norms like that of no other known race; what this implies about their origins and psychology is not yet clear. They were already relatively advanced before the Vilani conquered them, and they eventually allowed themselves to be absorbed by the *Ziru Sirka* in return for a promise to be left in isolation on Kilennur's southern continent. They have kept their part of the bargain in the centuries since, and are only rarely seen off their home world.

Physiology

The Nugiiri are hexapods, with a pair each of arms, legs, and wings. Their home world has lower gravity and a higher atmospheric density than Terra, and they can fly under such circumstances. In more Terra-like conditions, they are restricted to short-distance gliding.

The average member of the species is 50% smaller than a Human, and possesses a "hunched" quality that makes them look even smaller. Their basic external appearance is scaled and leathery, with a toothless, oval-shaped head. Their eyes are multi-faceted like those of Terran insects.

The term "average member" is a bit misleading, however, as the Nugiiri possess several biologically derived castes, again similar to those of Terran insects like bees or termites. The smallest of these is barely 3' in height, while the largest averages 6'6". The exact nature of the castes is poorly understood, and it is not even known how many there are, but they seem to determine the individual's role in society. A few "pre-caste" Nugiiri have been encountered, so it is known that the caste is imposed at some point prior to adulthood, but how this occurs is also unknown.

Psychology

Each individual is shaped by its caste, and in most cases this severely limits its intellectual capabilities. Within the limits of the individual's function in society, it is quite adept, but without a community to embed itself within, it is quite helpless.

Two castes are exempt from this rule. The "leader" caste is rarely encountered away from Kilennur, but possesses Human-level intelligence and flexibility. The so-called "sport" caste is even more unusual, and even more independent. Sports appear to be the Nugiiri designed to handle the unforeseen, dealing with situations that are too quick or too distant for the leader caste to handle. As this includes trading and the rare Nugiiri diplomatic mission, sports are encountered by Humans more often than any other caste. "More often" is a relative term, though, and the Nugiiri would probably never be encountered by Terrans if their home world wasn't relatively close to Terra.

Nugiiri in the Interstellar Wars

By and large the Nugiiri keep to themselves, and actively discourage contact with outsiders. Even sports encountered away from home will avoid speaking with others, and be close-mouthed about their missions when avoidance is impossible.

Suerrat

The third of the three great Human races that inhabited the area of the Imperium prior to the Consolidation Wars, the Suerrat are now grudging subjects of the Vilani. They differ from the Human physical norm more than most, and so still retain a strong identity despite Imperial efforts to bring them to heel.

History

The ancestral Suerrat lived in their homeworld's lush equatorial forests, and were well adapted to that environment. Early Suerrat literally lived in trees, having tamed, and then moved in with, a local predator that made burrows in the largest trunks. Over time they passed through the stages of civilization recognizable to any Terran historian.

The Suerrat paralleled the Vilani in technological development, with one major exception. The two races reached space within a few hundred years of each other, but the Vilani were the only ones to go on and develop the jump drive. The Suerrat used sublight gravitic drives instead. By the time they first encountered the Vilani, they had founded a state of about two dozen worlds, knit together by vast generation ships. The two civilizations traded, and soon the Suerrat had a considerable empire comparable to that of their brethren.

Like the Geonee, Dishaan, and others, the Suerrat were conquered during the Consolidation Wars. Like some of the others, they retain strong memories of their golden age of independence. Though not as actively rebellious as the Geonee, the Suerrat are likely to take up arms against the Imperium if an opportunity presents itself.

Physiology

The Suerrat are Human, though the casual observer might be forgiven for thinking otherwise. They exhibit several genetic traits that are dormant in Terrans or Vilani, producing what many Terrans think of as "ape-like" features. They are small, averaging just over 5' for males and just under that for females. Both weigh in at 130 pounds, which is quite heavy for their size. This is because they are very broad across the chest, and quite muscular – despite the size difference, the Suerrat are about as strong as Terran Humans.

More unusually, their feet are slightly prehensile. Suerrat shoes are usually more like mittens to Terran eyes, soft and freeing the big toe/thumb from the other toes to allow its use. On the right surfaces they are likely to go barefoot.

The most remarkable superficial difference is the coat of fur the Suerrat grow over most of their bodies, missing only on their palms, soles, and from the neck up. This fur is usually red and quite long, though it's worth noting that the Suerrat don't actually have more hair than Terrans – it's just that Terran "fur" is much finer and shorter than theirs. Curiously, Suerrat cannot grow facial hair.

The race has one other adaptation of note, though it is much more subtle than the others mentioned. Their home world orbits a dim red dwarf, and so their days are much less brightly illuminated than those of Terra or Vland. As a result, their retinas are more sensitive than those of Terrans, their eyes are slightly larger, and their pupils are larger still. Some Terrans find their gaze annoying for reasons they can't place; this is probably because their eyes are subtly different from what we're used to.

Practically, this means that the Suerrat are comfortable with a much lower light level than a Terran or Vilani would be. A Suerrat room might be lit by no more than one or two bright LEDs, dim but acceptable to them, uncomfortable and dangerous to a Terran. On the other hand, Suerrat find it difficult to see in the full light of G-class or F-class stars, and have to wear sunglasses on planets orbiting them.

Psychology

The Suerrat have lived in the trees for their entire history, even in the modern period when every group of buildings is associated with a large central tree. Suerrat are more interested in nature than most Human races, but they balance this with a love of crowds and sociability. Their cities are odd mixtures of vast, empty areas needed to support the trees and their associated ecology, punctuated by densely populated "downtowns" where they can meet and interact.

Suerrat sociability extends naturally to other species; a Suerrat's first reaction on encountering a creature that isn't obviously violent is to attempt to communicate. They are very good at taming animals, and their cities are often home to an astonishing variety of domesticated creatures. While Suerrat and Terrans have not had much direct contact, there is already a growing trade in all varieties of Terran animal (and not just ones usually intended to be pets).

Suerrat in the Interstellar Wars

Outside the worlds of their former empire, the Suerrat occupy a special niche in the Imperium. Having colonized space first with sublight drives, they were in no position to be picky about the worlds they settled, and most of them were heavily flawed. Over time, they became masters of living in extreme environments.

When the Suerrat were conquered by the Vilani, their environmental technology wasn't absorbed so much as it was co-opted; to this day they are the ones best suited to run it. Vilani usually live on Vland-like worlds, but even with jump-2 drives many airless or otherwise uninhabitable planets are needed as outposts. The Suerrat make up a significant minority of the population on these worlds, helping to run the systems, and are doubly suited to work in outposts in low or zero-G environments thanks to their prehensile feet.

This puts the Suerrat in the unusual position of being able to maintain some of their own lifestyle despite the Imperial tendency for cultural assimilation. As *the* life-support technicians in Imperial space, Suerrat have managed to intermix their ecological views with Vilani technology; their outposts are considerably more pleasant than similar installations in Terran space. The adaptation of Suerrat technology in this field, and of Suerrat to run it, has been a lucrative source of technology transfer since not long after Terra invented its own jump drive.

Vegans

The first truly alien race encountered by Terrans, the Vegans occupy several worlds near the star Vega, just outside the current coreward border of the Confederation.

History

Like most other subject races, the Vegans received the jump drive from others. Vilani influence was still far away when this happened, but traders from the powerful Geonee state to coreward passed the secret on about 1500 B.C. A conservative race, the Vegans built up a small state about 10 parsecs in diameter around their home world Muan Gwi, then settled down to assimilate what they had taken.

Unfortunately for them, the Vegans were the last known spacefaring race as one headed to the Rim – in other words, they were the obvious anchor on one border of the *Ziru Sirka* when the Imperium was first proposed. For a while they were protected by having the Geonee between them and the Vilani, but after that race was conquered the days of Vegan independence were numbered. The Vilani conquered the original Vegan Polity by about 120 A.D.

Since then the Vegans have been carefully trying to find a way out of their predicament. While not aggressive, or even particularly resentful of the Imperium, they would rather be their own masters. With lives spanning several centuries from birth to death, the Vegans are cautious by Human standards, and have never brought a plan all the way to the point of rebellion. With the right spark from Terra, though, this may change.

Physiology

Vegans are roughly humanoid, but they diverge strongly from Human appearance. Muan Gwi is a small world, so they are very tall – often over 7' in height – but frail and unable to handle Terran gravity for any length of time. Their eyes are at the top of their body at the end of a long fleshy hood; strictly speaking this isn't a "head," in that it doesn't contain any other sensory organs nor can it turn independently of the rest of the body. Vegans hear through a series of ear holes around their shoulders, and a mouth pierces the chest. The mouth isn't dual purpose like a Human's, being only for eating their vegetarian diet; breathing slits flank it on either side.

Muan Gwi is quite arid, so Vegan legs bear a superficial resemblance to those of Terran camels, especially in their broad, soft feet that can easily handle sandy ground. Vegan arms split into many tentacles just below the elbow, producing an odd "hand" that makes it difficult for a Vegan to use Human equipment and vice versa.

Psychology

Terrans often characterize Vegans as stoic, but this is not true. Vegans actually have a range of emotions quite similar to ours, surprisingly for such an alien race. The difference is that their emotions are much *weaker* than those of Humans, to the point that they are rarely swept away by what they feel.

As a result, Vegans are much less ambitious and driven than Humans, and will think about things rather than act. In the Imperium this is probably a good thing, as the thoroughness with which the Vilani put down rebellion would bring disaster if the Vegans ever acted on their feelings about being subjected.

Vegan society before the Consolidation Wars was somewhat similar to that of the Vilani, with citizens divided into castes named *tuhuir*. Despite the similarity, the Vegans find it troubling to live by Vilani ways, as they miss subtleties of the *tuhuir* system that matched particular Vegan needs. There is also resentment at the Imperium's controls on innovation in art, philosophy, and mathematics; these three topics are of great interest to the thoughtful Vegans.

Vegans in the Interstellar Wars

Though other subject races are more obviously opposed to being part of the Imperium, the Vegans may have made the most progress through sheer passive resistance. They follow Vilani dictates in letter, not spirit, and only to the minimum extent necessary to keep the Imperium from cracking down. They follow orders, and back down when challenged, but constantly test the limits of what they can do. After 2,000 years of practice, they are masters of being infuriating without seeming the least bit threatening.

From a Terran standpoint, there are very few races that would make better neighbors. Vegans will follow their own interests without qualms as long as they think they can get away with it. They will gladly help Terrans whenever the help brings discomfort to the Vilani and doesn't endanger Vegan society. As a result, they have proven to be very useful trading partners and sources of intelligence. In many ways they are the Confederation's window onto the rest of the Imperium.

The Vilani Military

The doctrine of "hit it with a big hammer" is indeed crude, but the Vilani have a very large hammer, and have been pounding nails for a very long time. Of course, it has been almost as long since any of the nails have really fought back.

– Hauptmann Heinrich Guthard, Terran Confederation Marines (2166)

The Vilani Way of War

It's been many generations since the Vilani have faced a threat that couldn't be easily crushed by the combined forces of the Navy and Army. The greatest danger to the Vilani is complacency; being on top for so long makes it difficult to imagine another force capable of giving a good fight.

In the millennia that the *Ziru Sirka* has ruled the stars, the Vilani have developed an efficient military machine that is dependent on two things: strict adherence to procedures, and overwhelming force.

To the Vilani military, "The Book" is everything. The Vilani have compiled a vast collection of doctrine and tactics, some of it stretching back to before the Consolidation Wars. The natural conservatism of the Vilani mindset makes it difficult for commanders in the field to improvise, and their training doesn't even bother with realistic exercises to teach them this critical skill. A good way to look at this side of the Vilani military is to think of officers as skilled technicians, able to function within the limits of their training, but forced to refer to "The Book" when anything goes wrong. There are exceptions to this rule – officers who can improvise effectively – but these are rare.

Along with The Book, the Ziru Sirka meets threats with overwhelming force. This is an expression of the Vilani desire for short, "cost-efficient" wars. Even in pre-industrial times on Vland, actual combat was considered wasteful of lives and resources. It was considered far better form to muster a massive force and convince the opponent that resistance would be disaster for him. To this day, the Vilani are likely to open any campaign with a careful attempt at intimidation.

On the other hand, the bluff needs to be carried through if called. If a weaker force chooses to fight, it must be smashed, and collateral damage is not an issue – it's even a benefit. Wanton destruction produces terror and economic hardship, hopefully delivering a lesson that will last long into the peace that follows any war.

If an enemy manages to put up a good fight, the Vilani are likely to stand down and wait for another opportunity. Even during the Consolidation Wars, the Vilani were capable of great patience; they could wait for decades to deliver final defeat to an opponent. Today's more complacent Imperium is even more likely to back down if Terran or allied forces are able to resist the first assault, giving the Confederation a chance to rebuild and regroup.

The Vilani and Glory

The Vilani concept of military glory differs considerably from the Terran version.

The Vilani rarely award medals to *individuals* for achievement on the field of battle. Instead, entire units are recognized, even if only one or two soldiers performed heroically. Perhaps it was Private Kikiima who took out the enemy gun crew after charging 100 yards under heavy fire – but his fellow soldiers gave him covering fire, and his leaders trained him to be able to perform the feat. Hence it's the platoon as a whole that gets the "attaboy" from a commander.

The Vilani don't give medals as we think of them. Instead, the unit receives thanks or a gift from a senior commander. The further the praise originates from up the chain of command, the higher its value. Units hold these gifts and notes in high regard, and display them proudly. A gift might be as simple as a vial of soil from the battle site or a piece of debris from an enemy ship, or a family heirloom from the commander's clan. The rules governing the giving and display of these gifts are quite intricate.

While a Vilani trooper won't get medals pinned to his chest, he is still just as brave as his Terran counterparts. The base motivation for bravery ("please, don't let me be a coward and let my buddies down") is the same in both Terran and Vilani units. Vilani are already attuned to the opinions of others in their civilian society; they remain so in the military.

Of course, the Vilani expect any "barbarian" enemy to use the same tactics of terror and destruction against *them*, if given the chance. This is one reason why the Imperium tries to apply overwhelming force; the plan is to keep any enemy far too busy defending himself to play havoc with Imperial civilian populations. If an enemy *does* manage to break into the Imperial rear, the threat can unhinge an otherwise well-planned offensive as undefended worlds shout for help.

The Vilani Navy

The *Aasha Ziru Sirka* ("Fleet of the Grand Empire of Stars") has been the unquestioned master of the galaxy for thousands of years. Naval personnel *know* they cannot be beaten, and any small losses against barbarians, rebellious provinces, or other renegades are written off as bad luck.

Overall Organization

The *Aasha* doesn't have permanent fleets in the sense that Terrans think of them. Instead, the Vilani assemble fleets as needed from available units, and place senior officers in charge of them for the duration. That being said, there are some squadrons (*mashushshi*) composed of so many ships as to be fleets by Terran standards.

While this lack of consistent organization seems odd to most, it serves the Vilani well. Naval assets are found throughout the territory of a *shangarim*, and these ships can be quickly assembled into the sledgehammer so beloved in Imperial doctrine. Also, the lack of permanent fleets limits the power of commanders in the field, making it harder for one malcontent to gather enough power to be a threat.

In times of war, regional governors order their squadrons into service, and appoint senior officers to command the fleets. Occasionally a governor or other *shangarim* executive of high rank will take personal command of a task force, but this is not common practice. In many cases, commanding officers are recommended by their fellows. The non-linear nature of Vilani ranks makes it easy for a good starship captain to become the equivalent of a Fleet Admiral for the duration of a crisis, then go back to being a simple captain at the end of hostilities.

Vilani naval forces are usually organized around groups of 10: 10 ships make up a squadron, 10 squadrons make up a fleet, and so on. Groups of 10 are often broken into paired groups of five in order to cover more space during extended operations. This isn't a rule or formal regulation, but a simple habit that has become part of Vilani thinking. It is prevalent enough that Terran commanders have developed a rule of thumb: "If you see five Vilani ships, assume there are five more nearby."

Of course, the Vilani aren't unconscious of their "counting by 10s" foible. Vilani slang includes a set of metaphorical expressions that has spread beyond the Imperial Navy into Vilani society as a whole. For example, a formation or organization that's been badly damaged is said to be "counting by eights."

A leader who does the job with insufficient resources is said approvingly to be "counting by nines," whereas the same phrase is used *disapprovingly* of a leader who acts before he is ready. The Vilani say that the Terrans always count by nines, and when a Vilani refers to a "Terran 10," he means *nine*!

A leader who makes sure that every detail is taken care of, and who builds up overwhelming force before acting, is said to be "counting by 11s." This is usually a compliment.

On the other hand, a commander or leader who rarely acts, because he's too busy complaining that he doesn't have enough assets to complete the job, is said to be "counting by 12s." This is *not* a compliment.

Naval Rank

Rank in the *Aasha* is complex. Unlike navies built on the American or European model, there is no linear hierarchy of ranks. Instead, everything is based on function and position.

To this end, the names of ranks take full advantage of the tonal nature of the Vilani language. For example, *Merishmirra*^{6} means cruiser (*merishmir*) captain. *Merishmirra*^{5} means a senior staff officer on board a cruiser, usually an executive or department head. If a *Merishmirra*^{6} officer was to be transferred to a staff position on a large base, his rank would become *Gamirirem*, with the final syllable toned to indicate seniority. This system is very confusing to Terrans, as the tonal changes are subtle, and the concept of changing rank names entirely with each transfer is unfamiliar.

Because of all the different names, there are more than 50 distinct ranks in the *Aasha*, and even more if one considers tonal variations. Trying to remember that *Kurmaruushririi*^{3} means "second assistant jump technician" while the same word toned differently means "senior fleet engineer" gives most Terran intelligence officers headaches.

Battlegroups

The heart of the *Aasha Ziru Sirka*, the Vilani battlegroups (*gaashnarru*) are the force used to enforce the will of central command. The typical Vilani dreadnought or battleship displaces at least 20,000 dtons, and uses massive missile batteries for its main punch. These ships are organized into squadrons of 10, plus escorts and support vessels. The escort fleet is small, usually one or two cruisers per battleship, along with a handful of smaller vessels of 500-dton to 5,000-dton size. One of the battleships will be equipped with a specialized command-and-control center, along with stealth and heavy ECM systems, and will serve as the battlegroup's flagship.

The majority of the battlegroups are held in the Imperium's interior regions. Given the political situation at the time of the early Interstellar Wars, the *shangarim* felt a strong need to keep their strongest weapons close to the centers of power. These fleets were sent to regional governors only in times of dire need, and even then only at great political cost to the governor who called for them.

Cruisers

Displacing 4,000 to 20,000 dtons, the cruisers of the *Aasha* are the heavy ships most often seen on the frontiers. These vessels are equipped for long patrols (at jump-2, any significant patrolling takes many months) and are quite comfortable. Like battleships, they are noteworthy for their large missile magazines. Commanders of *Aasha* cruisers are the most independent-minded in the fleet, since they spend a great amount of time away from more senior commanders. On the other hand, they still have "The Book" hanging around their necks, and a duty to report on all actions while out in the field. Few take advantage of their isolation.

Smaller cruisers operate in "wolf packs" of 10 ships. They patrol together and attack targets of opportunity. Terran commanders quickly learn to be wary of such tactics. The larger ships are used as a reaction force, held at a fleet headquarters until word of an attack comes in. They are also deployed as heavy, short-legged patrollers, securing a small number of worlds (usually along a main).

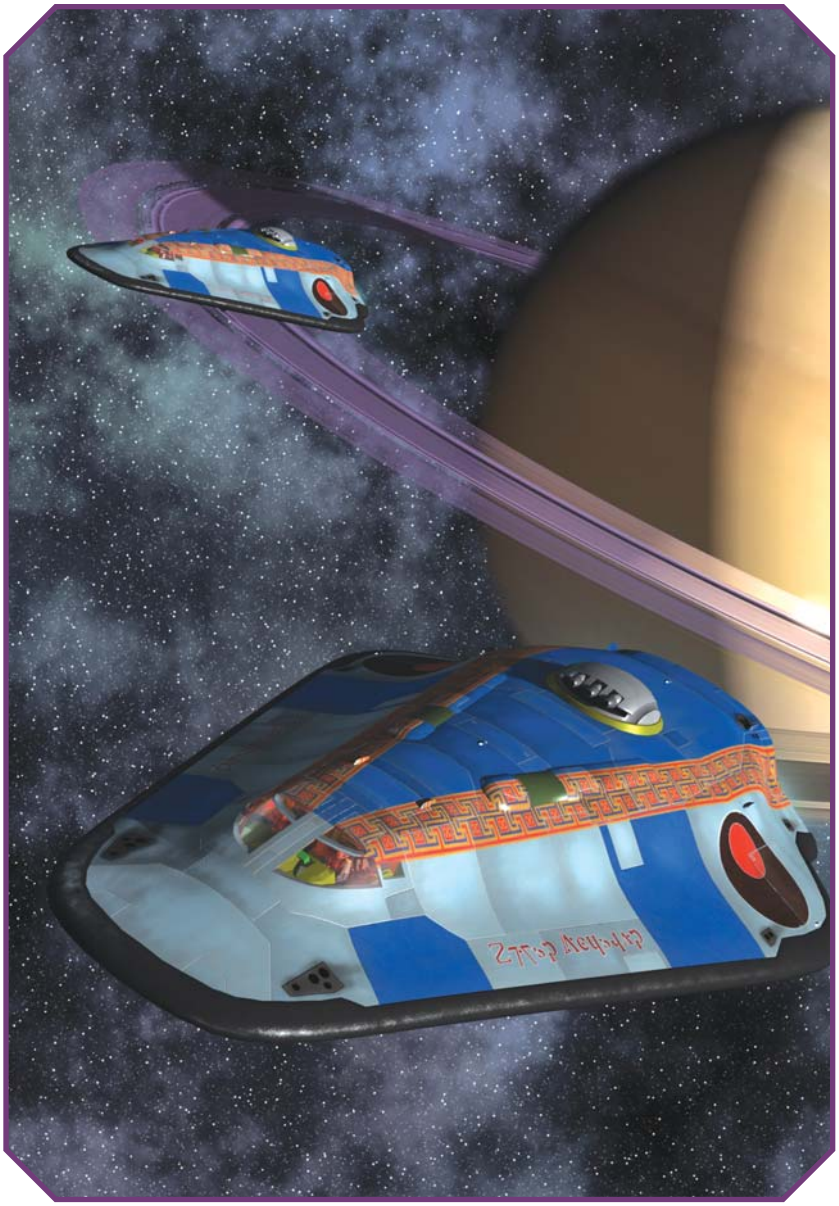
Destroyers and Escorts

The Vilani place little faith in smaller vessels. They don't fit into the "big hammer" strategy, and few of the Vilani's opponents can muster a credible space threat, making the need for a small escort minimal. The few smaller ships the Vilani do use are for escorting civilian vessels and conducting what is best described as customs duties: boarding ships and searching for contraband.

There are larger escorts, displacing 1,000 to 4,000 dtons, which accompany capital ships and cruisers to protect them from missiles and fighters. These ships and their crews carry little prestige, and are held in contempt by those serving on other ships.

Fighters

The Vilani rely heavily on their fighters, short-range ships displacing from 10 to 50 dtons that are used for everything from in-system patrols to massed assaults on battleships. Vilani fighters (*dhue*) usually carry one or two missile racks, with a few point-defense models carrying a laser weapon. In smaller fighters, weapons are in fixed mounts. The largest fighters carry turrets and crews of two or three men. There are also specialized fighters for EW, ground attack, and recon.



To transport the wings of fighters, the *Aasha* uses massive carriers. More like mobile bases than warships, the carriers displace up to 40,000 dtons. Each holds hundreds of fighters, organized into 10-ship squadrons. Fighter squadrons do not necessarily use a single type of fighter; in fact, *dhue* squadrons are organized around their pilots, not the vessels they fly.

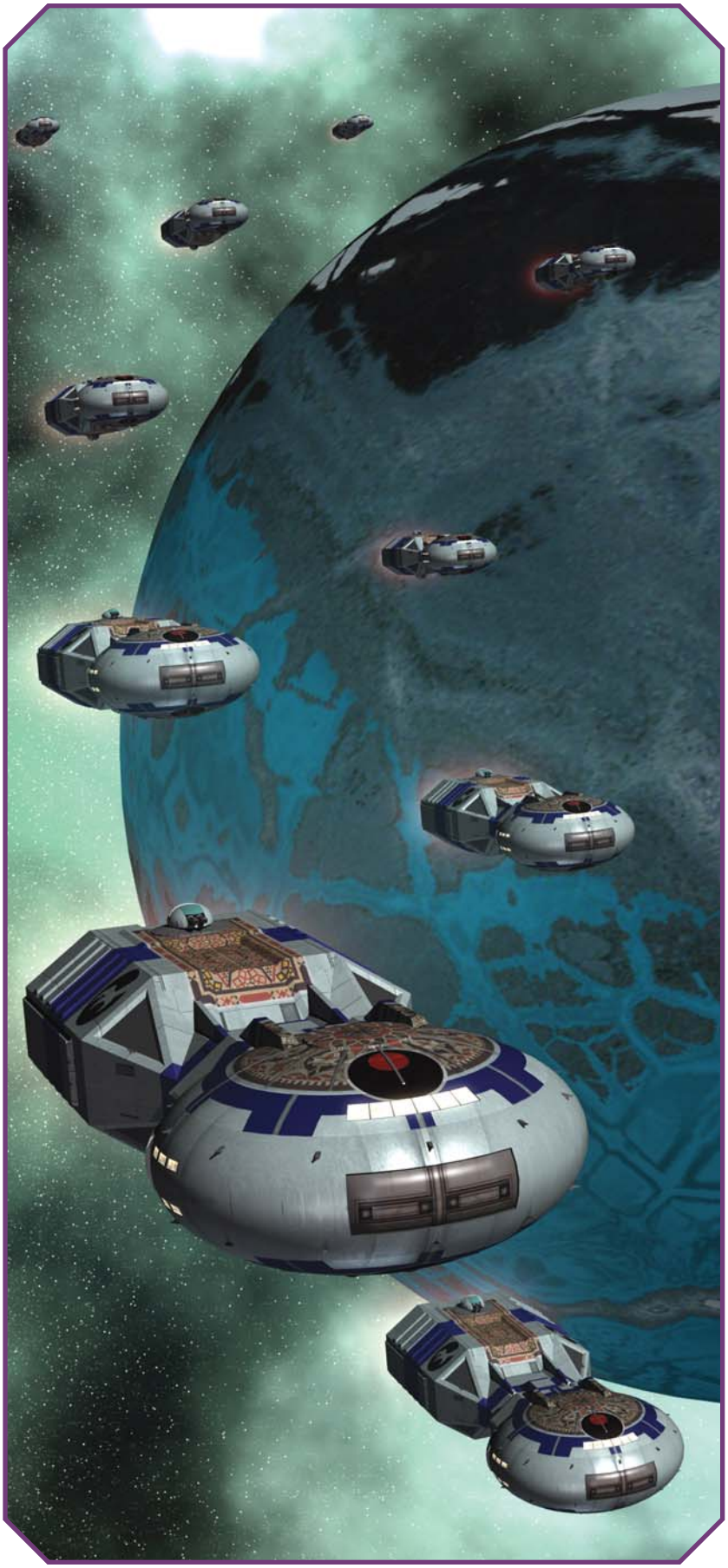
Support Ships

The *Aasha Ziru Sirka* uses hundreds of different classes of support ships. Given the nature of the Imperial government, many of them are simply "civilian" vessels given a new set of orders. Most common are freighters that have been converted to serve as troop carriers or other combat support ships.

The Vilani Marines?

There is no organization in the Vilani military comparable to the Terran Marine Corps. The line between Army and Navy is strictly drawn, and neither service can conceive of a force under the control of one that would execute some of the duties of the other. The closest thing the Imperium has to an elite Marine force is the *Shigniid Dia Ugkin*, the "Legion of the Frontier" (see p. 94).

The *Aasha* does have security troops for shipboard actions and guarding naval institutions, but these are considered naval personnel. Meanwhile, the Army has a few interface craft.



Naval Bases

The Vilani rarely settle unpleasant worlds unless they are important to transportation routes. Logically, then, the Vilani should put their naval bases in the same locations, as by definition their outposts are at chokepoints for fleet movements.

This theory, however, depends on the false assumption that the Vilani worry about stopping fleet movements. It has been almost 2,000 years since anyone fielded a large group of ships against them, and in that time the bases have shifted to protecting individual worlds of importance. Naval bases are therefore almost always placed on Garden worlds, which also solves the problem of leave for stationed personnel.

Naval Strategy

The Vilani expect to know about trouble before it brews, but placing the bases at important planets is intended to guard against times when they do not. In the first stages of a war, the fleets defend their bases and associated worlds. Individual units are detached if the opposition is sufficiently weak, or if a target of opportunity presents itself, but in general system defense is the squadron's first purpose.

While deployed units carry out system defense, other units gather at a convenient *eshiimar* ("marshaling yard") for orders. On average, there is one depot per 10 naval bases, and they are in mothballs for long periods of time, activated only when hostilities begin. The Vilani *eshiimar* closest to Terra is at Dingir; with the constant threat of warfare on the rimward frontier, the Vilani have taken the unusual step of keeping it open continually (though ships still only gather there when the shooting starts).

Once a sufficiently large number of units has gathered, they set out from the marshaling point to demonstrate that one does not challenge the Imperium. The usual tactic is to pick a main that runs from the depot to the source of the trouble, mopping up any resistance along the way with overwhelming shows of force. If this is enough to end the fighting, so much the better, but the *Aasha* is perfectly willing to blast opposing vessels into marble-sized pieces.

Army Rank

Compared to the Navy, the *Gisadia* uses a simple rank structure. There are only six enlisted ranks and eight officer grades. There are also the *amrimkhar*, the equivalent of warrant officers without command duties, who hold technical jobs that require status. See Chapter 6 for a summary of Imperial Army ranks.

Convoy Escort

The Terran Confederation has offered the first notable threat to Vilani lines of trade in over 1,000 years, so the Imperium is relearning how to protect its shipping. Unfortunately for them, the parts of "The Book" devoted to the topic assume that the enemy is limited to jump-1 ships, which is not the case for most of the Interstellar Wars. For the first time since the Consolidation Wars, The Book needs a new chapter. To date, the Vilani have been abysmal at coming up with tactics to deal with the situation; this is fortunate, as once the *Aasha* gets rolling there's not a lot for Terran units to do besides commerce raiding.

The Vilani Army

The *Ziru Sirka* has successfully held onto an empire of thousands of worlds, for thousands of years. Much of the credit can be given to the *Gisadia Ziru Sirka* – the "Army of the Grand Empire of Stars."

Over the centuries the army has gone from being little more than a mob to a highly professional force, then back again. These changes have always been dependent on the current state of security in the Empire. During times of relative peace, the Army has usually failed to maintain its funding against encroachments from the Navy or the *shangarim*. When war looms, or when (as has been the case recently) rebellions have flared, the Army gains stature.

Currently the Army is on the upswing, although in many regions the level of training remains little better than that of a heavily armed police force. Conservatism and the lack of a real foe has left many units composed of "parade ground troops" – troops who look good during drill, but perform poorly in combat.

General Doctrine

The *Gisadia* relies on large, heavy formations to establish superiority quickly, then tries to defeat the enemy in detail. This requires space superiority, which the *Ziru Sirka* has enjoyed for its entire history.

The Vilani don't make frequent use of "drop troops," forces trained to make re-entry in individual capsules, as a regular part of their force structure. A few special operations units do use this tactic on occasion, but it is rare. Instead, orbital bombardment is applied to suppress local defenses, then landing craft are used to shuttle whole battalions down at one time.

Ever wonder what goes on inside a Vilani officer's head? No? Neither does he.
– Common Terran Army joke (c. 2160)

The reason the Vilani do not make use of this tactic isn't technological, but psychological. In any sort of drop, be it from a low-flying aircraft or a ship in orbit, the forces being dropped will experience disruption of command lines due to troops being scattered. Terran troops deal with this by training such forces to act with individual initiative until command is reestablished. To the Vilani, it is inconceivable that a soldier could land and fight alone without direction.

Unlike the regulars, the *Shigniid Dia Ugkin* (p. 94) does make effective use of drop troops.

Infantry Battalions

The base formation of the *Gisadia* is the *nadshemi*, or "infantry battalion." The 1,200 or so troops in one *nadshemi* do the hard job of taking and holding ground. The Vilani infantry are vehicle-poor, with light-skinned APCs as their only means of transportation and support.

The battalion commander has a relatively large staff. Along with the "normal" staff positions such as operations, intelligence and supply, he has additional staff for public relations and security. He also has a number of officers holding the uniquely Vilani position *shugilii*, acting as a sort of chaplain's corps.

Each battalion has six companies: five infantry and one for command and support.

Tank Battalions

The Army also deploys *ishkaaim*, or "tank battalions." The Imperium still uses ground vehicles for its heavy tanks. The largest are wheeled or tracked, but the majority of them are ground effect vehicles. Vilani tanks use missiles and rapid-fire cannon to destroy the enemy. Imperial armor tactics resemble classic cavalry tactics of the pre-industrial era – probe for weakness, then get into the rear area to raise havoc.

Because of the difficulty in transporting ground vehicles, armor units make up a very small percentage of the forces used on the offensive. More often than not, they are found in the defense, where they can prepare for enemy attacks. Tanks are also used to occupy particularly restive worlds; the Vilani are not above using armored formations to literally crush civilian uprisings when necessary.

Tank battalions consist of three oversized companies along with a command and support company. The battalion commander has a smaller staff than his infantry counterpart, and is dependent on higher command for intelligence and much of his support.

Larger Formations

Gisadia forces rarely move in groups smaller than division strength. Units of this size, called *lurkugi*, are made up of six combat battalions, extra artillery (mostly missiles), and a support battalion.

The next larger unit is the *kuearda*, a corps-strength group of three to five *lurkugi*. Extra forces are added as needed. A unit of this size is only moved when a grave threat is perceived.

Beyond the *kuearda* is the *sukauuaashdug*, or "supreme army group," a collection of forces that haven't been used on the offensive in centuries. Each *sukauuaashdug* has several *kuearda* and whatever support its commander feels necessary. An Army officer commanding such a unit is one of the few who can confidently give orders to the Navy.

The Shigniid Dia Ugkin

Occupying a unique niche in the Ziru Sirka military, the *Shigniid Dia Ugkin* ("Legion of the Frontier") is the wild card in the otherwise predictable Vilani armed forces. Made up of subject-race troopers, malcontents, and outright criminals, the *Shigniid Dia Ugkin* is a cross between a penal battalion and the French Foreign Legion.

The *Shigniid Dia Ugkin* is composed solely of assault troops. In training and temperament, the force is unsuited to almost any other role. It is thrown into battle with little regard for casualties, since its members are not what the Vilani consider ideal citizens in any case. The troops of the Legion have developed a fatalistic attitude that is best summed up by its unofficial motto: *"Diduma inshaiirshurla aipgia ginagkhuuirkake kakiiinkhish khiikishela ad."* ("We have come here to die, and only the gods and officers know when that will happen.") *Shigniid Dia Ugkin* units operate their own spacecraft, and can be used as privateers in war.

> *The Frontier Legion's motto starts, "We have come here to die . . ." I think ours should be "Always happy to oblige."*
>
> *– Staff Sergeant John Sevdalian (2165)*

Recruiting for the *Shigniid Dia Ugkin* is difficult. Unlike Terrans, who find units like the Foreign Legion romantic, the typical Vilani sees the Legion as the equivalent of a prison sentence. Indeed, many of the Legion's recruits are accepted directly from prisons, or are given a choice between service and "hard time" when convicted of crimes. Others are encouraged to join by families who wish to hide a "black sheep."

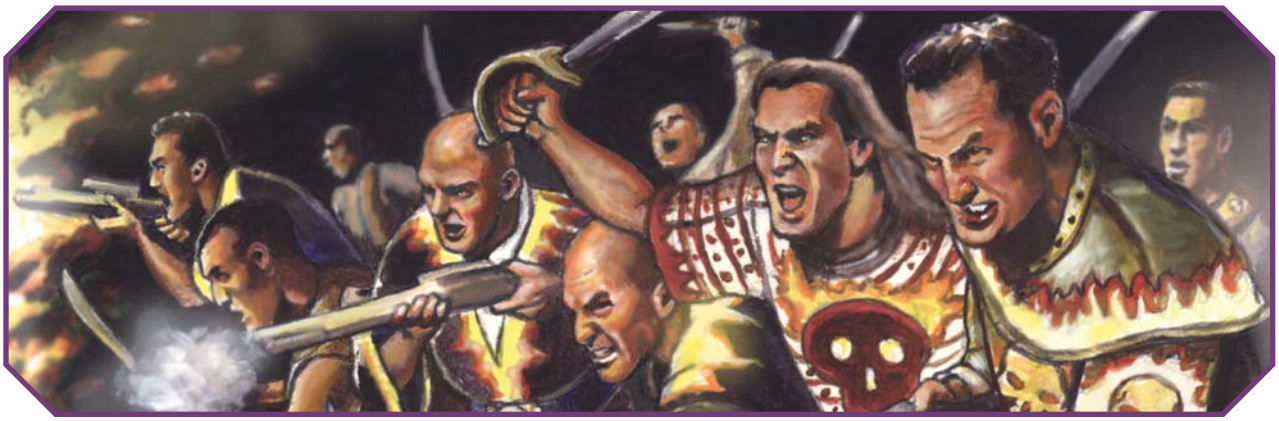
Legion officers are theoretically assigned from the regular Army, but here too the *Shigniid Dia Ugkin* is seen as a convenient dumping ground for junior officers who fail to conform to the Vilani way. This results in the *Shigniid Dia Ugkin* being, by far, the most versatile force in the Imperial Army. It is on par with a good Terran unit with regard to innovation and tactical flexibility.

One difficulty faced by the Legion is supply. *Shigniid Dia Ugkin* storehouses are always the last to get supplies, and they tend to always be under-stocked. To counter this, the Legion has developed a tradition of looting and adaptation. *Shigniid Dia Ugkin* units carry a wide variety of personal weapons, gear, and even uniforms.

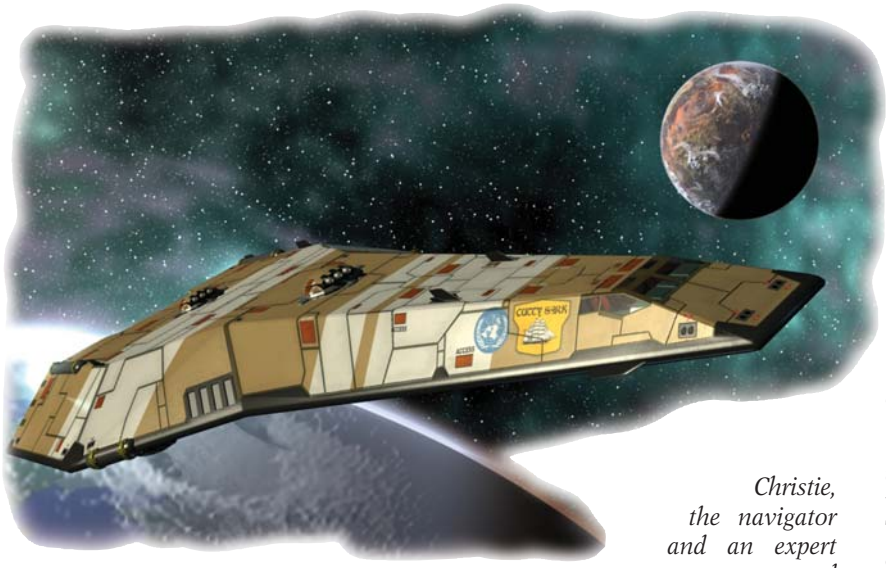
One unifying factor in the Legion is its love of bladed weapons. From the *kiikag* (a dagger with a brass knuckle-like guard) to the *khapsish* (a heavy, cutlass-like blade), no member of the *Shigniid Dia Ugkin* feels comfortable without his blade. Those who have survived assaults by the *Shigniid Dia Ugkin* describe howling mobs waving swords, even when boarding spacecraft!

Members of the *Shigniid Dia Ugkin* know their reputation, and work to enhance it. They tend to decorate any vehicles they come to possess with images of skulls and fire, wear as much ammunition as possible (along with the knives, of course), and even go to extremes in personal grooming.

Although the *Shigniid Dia Ugkin* can be found almost anywhere along the Imperial border, it is organized into units no larger than a company. There is usually one group of five Legion companies per frontier sector.



Chapter Five
The Known Universe



January 15, 2171 – Uruk star system, in Imperial space:

"Now, that's impressive."

Captain William Blake stood watching the viewscreen as ***Cutty Sark*** *made its final approach to the world called Uruk. To everyone's surprise, the screen displayed not one world, but two. The nearest sphere was blue-white, with touches of brown and green, the colors of a habitable world. The more distant was white and reddish-brown, the colors of a Mars-like desert world, but with the faint haze at its limb that denoted a significant atmosphere.*

Christie, the navigator and an expert astronomer, read figures from the panel before her. "This is a double-planet configuration, like that of Terra and Luna but with much less difference in size between the two components. Uruk has about 0.63 Terran masses, its companion Ishkar about 0.4. The distance between them is a constant 320,000 miles. The two worlds are in a state of mutual tide-lock."

"Long days, then," observed Blake.

Christie nodded, not bothering to refer to her panel as she made the necessary calculations in her head. "One day-night cycle will take about 47 standard days. The local weather patterns must be dominated by that cycle rather than by the seasons. Native life will be quite hardy, and accustomed to very long periods of darkness."

"It doesn't sound very hospitable, but the Vilani put their subsector capital here. I wonder what makes the place worth living on."

Christie shrugged. "I couldn't speculate, sir."

"Well, there's only one way to find out," Blake grinned. "Let's go see."

Interstellar Wars adventurers will spend a lot of time traveling among the stars, visiting worlds held by Terrans, Vilani, or other interstellar civilizations. The ***Traveller*** universe is a vast one, with many thousands of individual worlds to visit and explore.

This chapter covers the nature of *Charted Space*, the region of the galaxy that has been mapped by known spacefaring civilizations. It includes rules for describing worlds, and for generating new worlds on which adventures can be set. It also includes a detailed look at the region of space nearest to Terra – the primary battleground for the first half of the Interstellar Wars era, and the region most familiar to Terran explorers and Free Traders.

Describing Worlds

This book uses a specific format to give thumbnail descriptions of worlds. The terms defined in this section will be used both to describe specific worlds in the ***Interstellar Wars*** universe (for example, see *The Terran Neighborhood* on p. 101) and to help the GM design his own worlds (see *Placing Main Worlds* and *Placing Populations*, starting on p. 127).

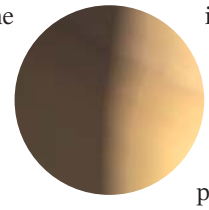
Mapping the Galaxy

Following ***Traveller*** and ***GURPS Space***, we use the *parsec* as a standard unit of measurement for interstellar distances. One parsec is equal to about 3.26 light-years, or 19 trillion miles.

Space is three-dimensional, but ***Traveller*** simplifies star-mapping by projecting the galaxy onto a two-dimensional plane. Star maps are thus oriented with the *coreward* direction at the top, toward the center of the Galaxy. The opposite direction is *rimward*. The direction of galactic rotation is toward the left edge of a standard map, designating the *spinward* direction. To the right edge of a standard map is the *trailing* direction.

The map of the known universe (p. 100) covers a region of the local arm of the galaxy, about 200 parsecs "wide" (spinward-to-trailing) and 240 parsecs "deep" (coreward-to-rimward). This region stretches roughly from Vland to Terra, and takes in the main body of the Vilani Imperium. Vilani astrographers divide space into *sectors*, rectangular regions that are exactly 32 parsecs wide and 40 deep and contain roughly 400 to 500 stars. Each sector is further subdivided into 16 subsectors, which are eight parsecs wide and 10 deep. Terran astrographers have picked up these conventions and use them in their own maps of the galaxy.

In ***Traveller***, space is mapped on a hexagonal grid, with each "hex" being one parsec across. Hence a sector is 32 by 40 hexes, and a subsector is eight hexes by 10. Each hex on the map is either empty or contains one star system. Each star system is considered to have a single "main world" that is the focus of Human or alien activity; in ***Traveller*** the details of the rest of the star system are often ignored.



Physical Details

The first few parameters given for each main world have to do with the world's physical properties: its overall type, size, surface environment, and potential value to colonists.

World Type (Type)

Terrestrial planets, the small worlds occupied by Humans and similar species, fall into several general types. A world's type depends on what *volatiles* the planet can retain over billions of years. Volatiles are chemical compounds with low melting and boiling points; they make up the bulk of a planet's atmosphere and hydrosphere. Hydrogen, nitrogen, oxygen, water, carbon dioxide, and a number of other familiar compounds are all volatiles.

Over long periods of time, heavy volatiles tend to stay in the planet's atmosphere while lighter compounds escape into space. A large, dense planet might be able to retain volatiles as light as hydrogen gas. A smaller world may be unable to hold onto compounds such as water, free oxygen, or carbon dioxide. Worlds closer to their primary star will have more difficulty retaining volatiles. All of this has a profound effect on the world's surface environment, particularly including whether or not it is capable of supporting Human life.

In ***Interstellar Wars***, the following world types are relevant.

Asteroid Belt: The "main world" of the star system is actually a settled asteroid belt. The bulk of the system's population lives in artificial habitats, floating freely in space or built inside the belt's largest asteroids. Inhabited asteroid belts are often major mining and industrial centers.

Barren (Ice): The main world of the star system too small to retain significant atmosphere, but it is far enough from the primary star that it can have rich deposits of water ice and similar frozen volatiles. Most Barren (Ice) worlds are actually large moons orbiting gas giant planets. Examples in the Terran system include Jupiter's moons Callisto and Europa.

Barren (Rock): The main world is too small to retain an atmosphere, and too warm to have much ice. The surface is almost entirely composed of naked rock, pocked with craters. Some Barren (Rock) worlds are large moons, while others are planets in their own right. Examples in the Terran system include Mercury and Luna.

Desert (Ice): The main world is large enough to hold onto an atmosphere, although that atmosphere may be very thin. It is cold enough to have a great deal of ice and other frozen volatiles. It may even have liquid "oceans," although these are very unlikely to be composed of pure water – they may be full of hydrocarbons or other odd substances instead. Most Desert (Ice) worlds are large moons orbiting gas giant planets. The sole example of a Desert (Ice) world in the Terran system is Saturn's moon Titan.

Desert (Rock): The main world is large enough to hold onto an atmosphere, but that atmosphere is probably very thin. The world is not large enough to retain water vapor. As a result, any water that the world originally had has probably escaped to space, perhaps leaving behind a few buried deposits of water ice. The foremost example in the Terran system is Mars.

Garden: The main world is very suitable for Human habitation. It has a significant atmosphere, plenty of liquid water to form oceans, and a pleasant climate. It also has extensive life, either locally evolved or imported, including photosynthetic organisms (plants) that can maintain free oxygen in the atmosphere. Terra itself is the best example of this class of world.

Glacier: The main world has a thick atmosphere and plenty of water – indeed, the world may have much *more* water than a typical "ocean world" like Terra. However, the world is so cold that most of this water is frozen, covering the rocky surface with a thick coat of ice. Photosynthetic life is rare or completely absent, so the atmosphere has little or no free oxygen. There is no example of this kind of world in the Terran system.

Greenhouse: The main world began its existence with a thick atmosphere and a good supply of water, but at some point it became too warm to support a habitable environment. As the oceans began to boil, the atmosphere experienced a "runaway greenhouse effect." Some Greenhouse worlds ("wet greenhouses") still have oceans of surface water, trapped by intense atmospheric pressure. Others ("dry greenhouses") have lost all of their original water to space. In either case, the surface environment is extremely hostile, the air unbreathable and furnace-hot. Venus (a "dry greenhouse") is the only example of this class of world in the Terran system.

Pre-Garden: The main world has a significant atmosphere, plenty of water, and a hospitable climate. However, photosynthetic life has not yet evolved or been established on the surface. As a result, the atmosphere contains little or no free oxygen. There are no examples of this class of world in the Terran system, although Terra itself fell into this category a billion years ago.

Subgiant: The main world is very large and cool, and was able to retain helium and even hydrogen gas from its era of formation. However, for

some reason it failed to undergo the process of "runaway accumulation" that would normally have given rise to a gas giant planet. The end result is a world with a very dense atmosphere of helium, hydrogen compounds, and (for the largest worlds) hydrogen gas. Unlike a gas giant planet, the subgiant world has a well-defined solid surface and may have oceans of liquid water mixed with other substances. There are no examples of this class of world in the Terran system.

Size (Dia)

A world's size is described in terms of its *diameter*. Some "worlds" are actually *asteroid belts*, composed of hundreds of small objects no more than a few hundred miles in diameter. Other worlds are planets or large moons, single solid bodies thousands of miles across.

Planets are also sometimes described according to their *density*, the average mass per unit volume in the planet's body. A Terra-like world will usually have an iron core of very high density, overlaid by a thick layer of less-dense rock and stone (the very thin layer of water and air is almost negligible on this scale). A planet with a smaller iron core would be less dense; a planet with more iron and less rock would be denser. Some large moons have bodies that contain a great deal of *ice*, which is even less dense than rock.

World density is expressed as a proportion of Terra's density – a world with a density of 1.0 is exactly as dense as Terra and probably has a very similar composition. Density normally ranges from 0.3 (a world with a great deal of ice in its body) to 1.4 (a world that is almost a ball of solid iron). Some textbooks and game sourcebooks prefer to give density in grams per cubic centimeter (g/cc); to get density in these units, multiply the density rating by 5.5.

Gravity (Grav)

Each world's *surface gravity* is measured in *Gs*, multiples of the surface gravity of Terra. A world with surface gravity of less than 1 G has a weaker "pull" than Terra, while a world with surface gravity greater than 1 G has a stronger "pull."

Atmosphere

One of the most important questions any visitor to a world will have is, "Can I breathe the air?"

Breathable atmospheres, composed primarily of nitrogen and oxygen, are defined by their *pressure*. A breathable atmosphere can be Very Thin, Thin, Standard, Dense, or Very Dense. A *Standard* atmosphere has no special effects; the other pressure categories are defined on p. B429 and have effects as described there.

A breathable atmosphere may be *Tainted*. A Tainted atmosphere contains some contaminant that makes it dangerous to breathe without a filter mask or some other simple protective device. A tainted atmosphere is mildly Toxic (p. B429), usually requiring a HT roll no more than once per hour to avoid 1 point of toxic damage. Most tainted atmospheres can be breathed safely while wearing a filter mask (p. 167). For more detail on Tainted atmospheres, see *Atmospheric Taints*, p. 125.

Unbreathable atmospheres present varying degrees of danger to unprotected Human visitors. They can be *Suffocating*, not actively poisonous but lacking in free oxygen. They can be *Toxic*, actively doing damage when breathed directly. Or they can be *Corrosive*, attacking exposed tissues and requiring full-body protective gear. All three of these categories are as described on p. B429.

Interstellar Wars defines one category of unbreathable atmosphere that does not appear in the ***Basic Set***. An *Insidious* atmosphere is considered to be Corrosive, requiring full-body protection. However, unless protective equipment is specifically designed for that particular atmosphere, the equipment will fail after 2d hours. Insidious atmospheres represent environments that are so hostile as to overwhelm "off-the-shelf" protective equipment, or that are capable of somehow getting around the protection offered by such equipment.

Hydrographic Coverage (Hyd)

Planets are also described in terms of their *hydrographic coverage*, the portion of the world's surface that is covered by "oceans" of some liquid material. On a Terra-like world, the oceans will be composed of liquid water; on more hostile planets the oceans may be composed of more exotic substances.

Many worlds that have no liquid oceans on the surface may be rich in water or other ices; they may also have extensive underground water or ice. These features do not count toward the hydrographic coverage, but may be of interest to visitors.

Surface Climate (Climate)

The fastest way to describe a world's overall climate pattern is to talk about the *average* surface temperature for the world. Local temperatures will naturally vary widely from this average. Rather than give a single precise figure, it is more useful to give a range of "most typical" temperatures, which can be understood as representative. The temperature ranges used in ***Interstellar Wars*** are given in the World Climate Table.

World Climate Table

Climate Type	*Temperature Range (F)*	*Temperature Range (K)*
Frozen	Below -20°	Below 244 K
Very Cold	-20° to 0°	244 K to 255 K
Cold	0° to 20°	255 K to 266 K
Chilly	20° to 40°	266 K to 278 K
Cool	40° to 60°	278 K to 289 K
Normal	60° to 80°	289 K to 300 K
Warm	80° to 100°	300 K to 311 K
Tropical	100° to 120°	311 K to 322 K
Hot	120° to 140°	322 K to 333 K
Very Hot	140° to 160°	333 K to 344 K
Infernal	Above 160°	Above 344 K

Climate Type is a descriptive name for the world's overall surface climate. *Temperature Range (F)* gives the associated range in degrees Fahrenheit. *Temperature Range (K)* gives the same range in *kelvins*, an absolute unit of temperature that is often used by scientists, and which can be used in certain computations in worldbuilding.

Note that Frozen and Infernal climates are considered uninhabitable for Humans; those climate ranges are typical of barren worlds outside the "life zone" of a star system. Most Humans will find Very Cold, Cold, Hot, and Very Hot climates to be uncomfortable, so worlds with those climate types will be difficult to live on.

Resources (RVM)

Every world has some value to Human or other settlers: mineral resources, native plant or animal species that generate useful products, even something as simple as arable land on which crops can be sown. ***Interstellar Wars*** uses the Resource Value Modifier (RVM), a number between -5 and +5, to describe the overall resource value of a world.

An RVM of +0 indicates a world of average resource wealth, likely to attract settlement only if it is reasonably habitable. An RVM above +0 indicates unusual resources, which may attract settlers even if the local environment is hostile. An RVM below +0 indicates a world unlikely to offer any resources worth exploiting.

Affinity (AFF)

The *Affinity* score for a given world is a summary of all the factors that might make the world attractive to Human settlement – whether the surface environment is hospitable or not, the level of local resources, and so on. The Affinity score is a number between -5 and 11, and is closely related to the Resource Value Modifier.

Social Details

Each world is also described in terms of its social environment: the allegiance and size of the local population, the size and availability of starport facilities, details of the local government, and the size of the local economy.

Allegiance (Alg)

A world will usually have an *allegiance code* that indicates who "owns" the world. Each allegiance code can have a "subcode" indicating that the world is inhabited by a specific subculture or unusual population. The most likely examples are given here; GMs designing their own regions of space for adventure are encouraged to come up with more allegiance codes and subcodes as needed.

Im (Imperial): The world is claimed and governed by the Vilani Imperium. An Imperial world without a subcode is inhabited by the mainstream "Imperial Vilani" culture.

*Im-K (Imperial-**kimashargur**):* The world is populated primarily by *kimashargur* Vilani (p. 18).

Im-Ve (Imperial-Vegan): The world is populated primarily by Vegans under Imperial rule (p. 88).

Cs-Im (Imperial Client State): The world is aligned with and subordinate to, but not officially a part of, the Vilani Imperium.

Te (Terran): The world is claimed and governed by the Terran Confederation, and is populated predominantly by Terrans.

Te-V (Terran-Vilani): The world is populated primarily by Vilani, and was conquered or annexed by the Confederation.

Cs-Te (Terran Client State): The world is aligned with and subordinate to, but not officially a part of, the Terran Confederation.

Ve (Vegan): The world belongs to the independent Vegan Polity (after 2236 in the official history; see p. 36).

Na (Non-aligned): Independent neutral world without affiliation.

Population

Each world's population will be given. A world's listed population includes both permanent residents and long-term transients; "temporary" workers at the starport or a naval base are included, but short-term visitors are not. Population is always given to two significant figures (i.e. "1.3 billion" instead of "1.265 billion").

Each world also has a Population Rating (PR). This is the "order of magnitude" of the world's population; increasing the PR by one multiplies the actual population by a factor of 10. For example, a world with a population between 1.0 million and 9.9 million has a PR of 6; a world with a population between 1.0 billion and 9.9 billion has a PR of 9.

Starport Class (Port)

Starports are graded by their ability to provide fuel, spare parts, and repairs to visiting starships. The following classification applies to the main starport on any given world; most worlds will have several ports of lower class than the main starport.

Class A (Excellent quality installation) starports are the largest and best equipped, with facilities for even the largest starships. Visiting crew and passengers will find hostels, recreation and training facilities, warehouse space, and so on. Refined fuel will be available. There will be a shipyard capable of constructing new starships, and an extensive repair facility.

Class B (Good quality installation) starports are somewhat smaller, but still well equipped. Services for visiting crew and passengers are present, but less extensive. Refined fuel will be available. There will be a shipyard capable of constructing non-starships from scratch; the shipyard will be able to provide repairs and maintenance overhaul service for starships.

Class C (Average quality installation) starports are common on low-population or backwater worlds with limited interstellar trade. Services for visiting crew and passengers will be basic, and many visitors may simply choose to live aboard ship. Only unrefined fuel will be available. Basic repair facilities will be present, but complex repairs (or a ship's annual maintenance overhaul) will have to be done elsewhere.

Class D (Poor quality installation) starports are common on worlds that see almost no starship traffic. There will be almost no services for visiting crew and passengers. Only unrefined fuel will be available, and there will be no significant repair facilities.

Class E (Frontier installation) starports are usually found on worlds that have been explored but have almost no outside contact. The starport is essentially a marked area of open ground. There are no services for visitors, and there are no refueling or repair facilities.

Class X (No installation) indicates a world with no starport at all and no provision for any ship landings. Class X "starports" are typical of uncharted worlds, or of worlds that have been "interdicted" (forcibly cut off from interstellar contact).

Some worlds will have a separate starport facility for Terran, Imperial, or other naval forces. Such a "naval base" is indicated in ***Interstellar Wars*** world data by an N added to the starport class; for example, a class A starport with a naval base will appear in world data listings as having an "A-N" starport.

Government Type (Government)

Interstellar Wars uses a subset of the government types and special conditions listed on pp. B509-510 to describe local world governments. The following government types are most common for Terran and Vilani worlds.

Anarchy: This is a rare type, found only on worlds on which local government has collapsed, or where the population density is too low to support formal government.

Athenian Democracy (AthDem): This government type is only found on a few low-population Terran worlds. The concept of mass participation in government is almost unthinkable to the Vilani.

Caste: This government type is common on medium-population Vilani worlds. Such worlds often have a "primitive" form of Vilani social organization, reminiscent of the institutions first established on Vland thousands of years ago. The population is organized into dozens or hundreds of adoptive castes, with no one caste clearly in charge. Sharurshid and the other *shangarim* usually have only limited involvement in local government, and the interstellar Imperial aristocracy is likewise not much in evidence.

Some Vilani worlds that have come under Terran rule still retain a Caste government type. On these worlds, the Terran governing class is trying to leave most Vilani customs and social structures alone. The newcomers therefore operate as a new "ruling caste" within the largely unchanged Vilani society.

Clan/Tribal: This government type is occasionally found on low-population Vilani worlds. It functions rather like the Caste type, but is even more primitive – castes are usually subordinate to family and clan relationships.

Corporate State (Corporate): This government type indicates a world run like a business by one or more allied corporations. Both Terran and Vilani worlds sometimes come under this government type. Within the Imperium, it indicates direct rule by one of the *shangarim* and its many subsidiaries, with profit-making a primary government concern. In Terran space, a Corporate State is usually a colony world established and run by one of the Terra-based industrial conglomerates.

Dictatorship: This government type is found on a few high-population Terran worlds. Terran colonies rarely *start* as dictatorships – such a government usually seizes power only after a social upheaval that undermines local democracy. Some Terran worlds with the Dictatorship government type are currently under Confederation military rule, after "peacekeeping" forces were sent in to calm an unstable social situation. Conquered Vilani worlds often go through a period of military rule as well, and are considered Dictatorships during that time. Dictatorship is a very *rare* government form in Imperial space. The Vilani prefer government by consensus, at least among the ruling class, and rarely accept rule by a single individual.

Feudal: This government type is very common on Vilani worlds, and is probably the prevalent political form within the Imperium. The name is rather misleading, as the Vilani do not practice military feudalism of the form once frequently found on Terra. Instead, they practice a kind of *corporate* feudalism in which the aristocracy is one of economic managers. These worlds have fully established caste systems that are governed by the *shangarim* by way of the interstellar Imperial aristocracy (see p. 78 for a discussion of Vilani noble titles and responsibilities). A Feudal world is intimately involved in the wider Imperium, with extensive political and trade links to nearby systems.

Representative Democracy (RepDem): The most common government type on Terran worlds, including once-Vilani worlds that have been conquered and assimilated by the Terran Confederation. Officials who are elected by the population set laws and government policy. The Confederation has a policy of encouraging representative government everywhere that local conditions make democracy practical. The constitutional details change from world to world (especially on worlds that have home rule – see p. 131).

Theocracy: This government type appears on a few high-population worlds. On Terran worlds it represents true rule by a religious elite, usually derived from one of the major Terran faiths. Vilani religious ideas are somewhat different; a Vilani "theocracy" is usually not overly concerned with deities as such, but with the rigidly careful maintenance of ancient traditions. A "theocratic" world in Imperial space is usually dominated by the *shugilii* caste (p. 73).

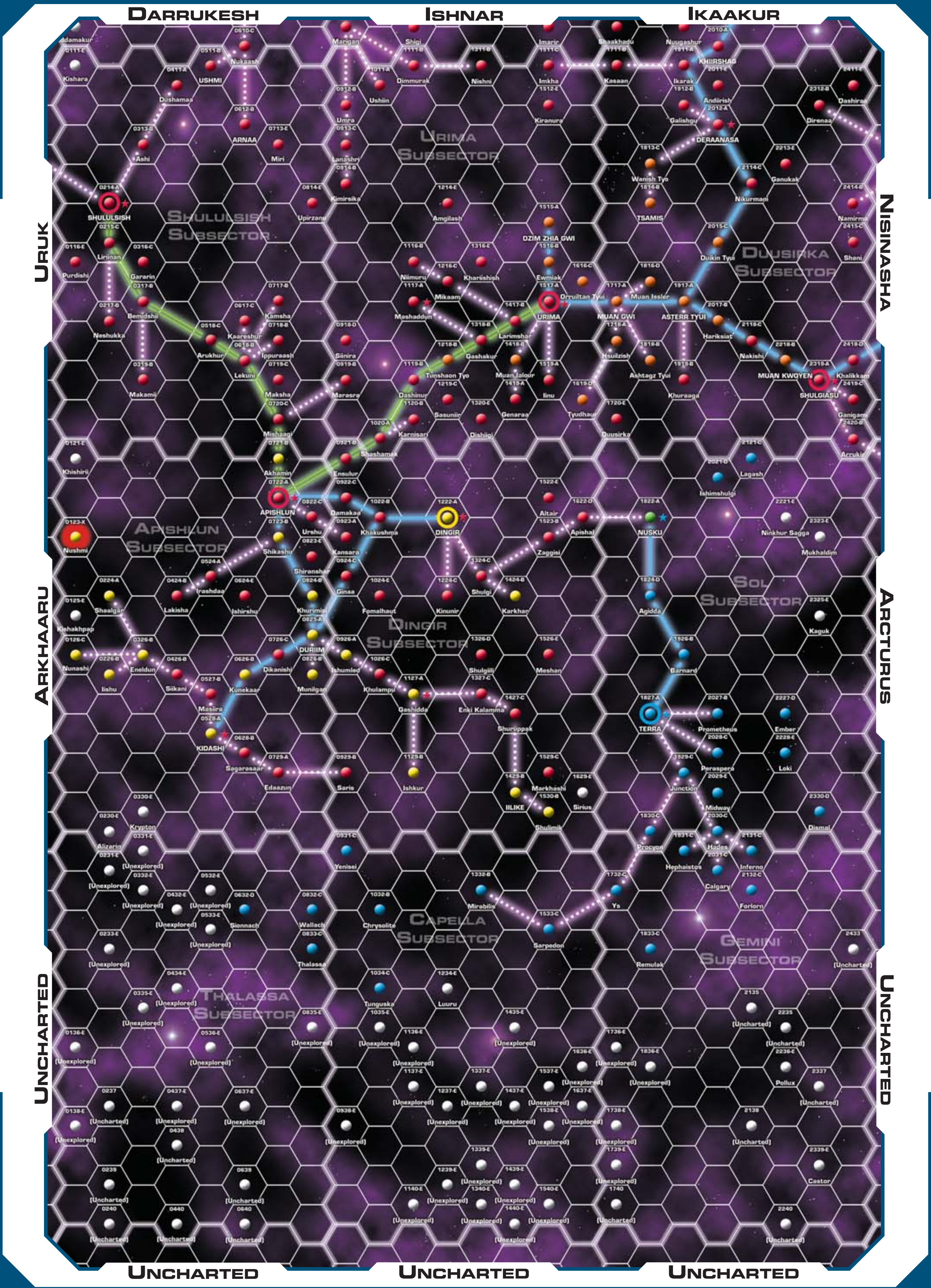
Control Rating (CR)

Interstellar Wars uses the Control Rating system (p. B506) to describe the level of local governmental control. Use the rules from the ***Basic Set*** to estimate how often local government will interfere with visitors to a given world.

Technology Level (TL)

Every world has an associated Tech Level (see p. B511). ***Interstellar Wars*** defines a number of technologies that are not standard for ***GURPS*** (see Chapters 7 and 9 for details). TL10 represents the "Imperial standard" technology, the best available to the Imperium throughout the era. The Terran Confederation progresses from TL9 to TL11 during the course of the Interstellar Wars.

Note that in ***Interstellar Wars***, the Tech Level of a world does *not* normally indicate that only goods at that Tech Level are available there. Most worlds have access to off-planet commerce, and can buy goods at any Tech Level through the interstellar trading network. Visitors to a backwater Imperial world with TL7 will still be able to buy TL10 goods (probably at a premium cost, since they must be imported).



Darrukesh
Ishnar
Ikaakur
Uruk
Nisinasha
Arkhaaru
Arcturus
Uncharted
Uncharted
Uncharted
Uncharted
Uncharted
Urima Subsector
Shululsish Subsector
Duusirka Subsector
Apishlun Subsector
Sol Subsector
Dingir Subsector
Capella Subsector
Gemini Subsector
Thalassa Subsector
Kishara
Dushamaa
Nukaash
USHMI
ARNAA
Ashi
Miri
Marigan
Shigi
Dimmurak
Ushiin
Nishni
Umra
Lanashri
Kimirsika
Imaric
Imkha
Kiranura
Shaakhadu
Kasaan
Nuugashur
KHIIRSHAG
Ikarak
Andiirish
Galishgu
DERAANASA
Dashiraa
Direnaa
Wanish Tyo
TSAMIS
Genukak
Nikurmani
Namirma
Shani
SHULULSISH
Upirzana
Amgilash
DZIM ZHIA GWI
Duikin Tyui
Lirinan
Purdishi
Gararin
Bemidshii
Neshukka
Makamii
Niimuru
Kharashish
Mikaam
Mashaddun
Ewmiak
URIMA
Orruiltan Tyui
MUAN GWI
Muan Issler
ASTERR TYUI
Hariksiat
Nakishi
MUAN KWOYEN
SHULGIASU
Khalikkam
Ganigam
Arrukir
Kamsha
Kaareshur
Arukhur
Lekuni
Ippuraash
Maksha
Marasra
Siinira
Larimshar
Gashakur
Tunshaon Tyo
Muan Taloun
Genaraa
Iinu
Tyudhaun
Hsuilzish
Ashtagz Tyui
Khuraaga
Duusirka
Dashinur
Sasuniir
Dishiigi
Karnisari
Mishaagi
Shashamak
Akhamin
Ensulur
Khishirii
Lagash
Ishimshulgi
APISHLUN
Damakaa
Khakushma
DINGIR
Altair
Apishal
NUSKU
Ninkhur Sagga
Mukhaldim
Nushmi
Urshu
Shikashu
Kansara
Zaggisi
Shiranshar
Irashdaa
Lakisha
Ishirshu
Ginaa
Fomalhaut
Kinunir
Shulgi
Karkhan
Agidda
Kaguk
Shaalgar
Kishakhpap
Khurimisi
DURIIM
Nunashi
Eneldun
Siikani
Ilshu
Kunekaar
Dikanishi
Munilgan
Ishumled
Khulampu
Shulgiili
Meshan
Barnard
Masiira
KIDASHI
Gashidda
Enki Kalamma
Shuruppak
TERRA
Prometheus
Ember
Sagarasaar
Edaazun
Saris
Ishkur
Markhashi
Sirius
IILIKE
Shulimiik
Perasperu
Loki
Junction
Midway
Dismal
Procyon
Hades
Hephaistos
Inferno
Calgary
Krypton
Alizarin
Yenisei
Forlorn
Mirabilis
Ys
Sionnach
Wallach
Chrysolite
Thalassa
Sarpedon
Remulak
Tunguska
Luuru
Pollux
Castor
(Unexplored)
(Uncharted)

Unless a character grew up on a world that was actually cut off from the rest of the galaxy, he will probably be familiar with equipment at the maximum TL available. On the other hand, people from a world with low TL are likely to be *poor*. The Tech Level of a world *does* indicate the technology most commonly available to local industry, which determines the *productivity* of the local economy, which in turn determines the typical wage and standard of living for the local population.

Trade Classifications (Trade)

Trade classifications note clusters of economically meaningful world characteristics. These are important natural or demographic features that can influence a world's preferred imports or exports. They can also influence the real wealth available to citizens of the world.

Ag (Agricultural): The world's economy is dominated by the production of foodstuffs and related goods.

Ex (Extreme): The world is inhospitable, requiring the use of artificial habitats. Vacc suits or other extensive protective gear is required to venture outside.

In (Industrial): The world's economy is dominated by heavy industrial production.

Na (Non-Agricultural): The world is dependent on synthetic or hydroponic food production and imported food.

Ni (Non-Industrial): The world has almost no heavy industry, and is dependent on imports for all of its heavy equipment.

Po (Poor): The world's population suffers under low-grade living conditions, and much of the world's economic production is used to simply maintain local infrastructure.

Ri (Rich): The world is very hospitable, and the population enjoys high-grade living conditions.

World Trade Number (WTN)

Every world has an associated World Trade Number (WTN). This is an abstract measure of the *economic output* of the world – essentially, the total value of all goods and services produced there, modified by the level of offworld trade that takes place through the world's starport. The World Trade Number is used in the trade rules (p. 177) to help determine where major trade routes are, and how much trade takes place between any given pair of worlds.

The Terran Neighborhood

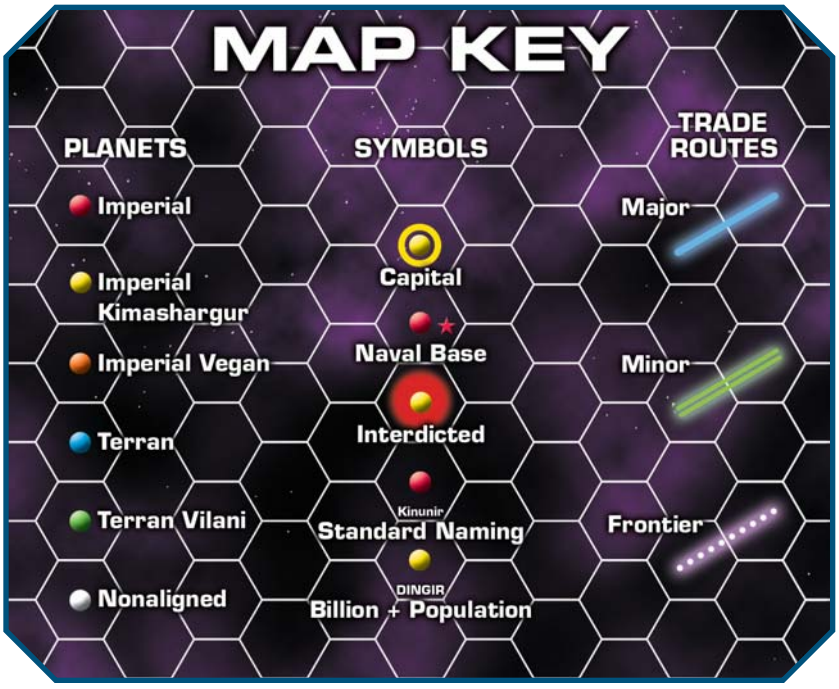
The early Interstellar Wars take place in an area three subsectors by three. Most of this region is controlled by the Imperium, while the Terran Confederation is backed up against a substantial three-parsec gap that can't easily be crossed. The Confederation itself dominates only the Sol subsector, and is just beginning to expand into the regions to rimward that have been untouched by any star-faring race.

Shululsish Subsector

Most of this subsector was settled in the last centuries of the Consolidation Wars, largely by core-sector Vilani interested in opening up new worlds in the aftermath of the Vegan campaign. Colonization was slow; a few worlds were actually settled as late as 900 by Imperial Vilani who circumvented the tightening controls on migration.

One branch of the Rim Main trails into the subsector from rimward, but even this astrographic feature has failed to bring a great deal of commerce or settlement into the region. It remains a backwater, probably the most isolated and neglected portion of the *Saarpuhii Kushuggi*'s domain. If anything, Imperial control has been weakening over the last 500 years. Local nobles have started sponsoring mercenaries, fighting little wars with each other under the noses of the higher levels of government.

By no coincidence, the Shululsish subsector is also a primary target for Terrans who wish to undermine Imperial authority in the border regions. Free Traders and other adventurers have already been present in the subsector for many years.



Shululsish Subsector Data Table

Hex	Name	Alg	Type	Dia	Grav	Atmosphere	Hyd	Climate	RVM	AFF	Population
0111	Kishara	–	Garden	8,900	1.20	Standard	98%	Warm	-1	7	–
0116	Purdishi	Im	Desert (Rock)	6,200	0.71	Trace	–	Hot	+0	0	–
0214	SHULULSISH	Im	Garden	5,400	0.80	Dense	42%	Cool	+0	9	1.6 billion
0215	Liriinan	Im	Garden	7,100	0.86	Standard	87%	Normal	+0	9	520 million
0217	Neshukka	Im	Garden	8,200	1.07	Dense	92%	Warm	+0	8	140 million
0313	Ashi	Im	Desert (Rock)	3,900	0.40	Trace	–	Cold	+1	1	8.2 million
0316	Gararin	Im	Desert (Rock)	3,400	0.43	Trace	–	Cool	+0	0	600
0317	Bemidshii	Im	Garden	5,300	0.58	Standard	69%	Normal	+0	9	770 million
0319	Makamii	Im	Barren (Rock)	900	0.11	–	–	Hot	+2	2	8.5 million
0411	Dushamaa	Im	Garden	8,000	1.08	Standard-T	71%	Warm	-1	7	100 million
0511	Ushmi	Im	Garden	6,100	0.72	Standard	32%	Normal	+0	9	2.6 billion
0518	Arukhur	Im	Barren (Rock)	1,900	0.24	–	–	Infernal	+1	1	1.3 million
0612	Arnaa	Im	Garden	7,900	0.97	Dense	60%	Warm	+0	9	1.4 billion
0617	Kaareshur	Im	Garden	9,100	0.91	Standard	72%	Cool	-2	7	130 million
0618	Lekuni	Im	Asteroid Belt	–	–	–	–	Frozen	+1	1	5.1 million
0713	Miri	Im	Desert (Rock)	4,700	0.41	Trace	–	Frozen	+0	0	–
0717	Kamsha	Im	Greenhouse	9,000	1.25	Insidious	46%	Infernal	+2	2	2.6 million
0718	Ippuraash	Im	Barren (Rock)	1,700	0.14	–	–	Infernal	+0	0	11,000
0719	Maksha	Im	Barren (Ice)	2,600	0.13	–	–	Frozen	+0	0	950
0720	Mishaagi	Im	Pre-Garden	6,700	0.86	Suffocating	72%	Cool	+0	0	7,000
0814	Upirzanu	Im	Subgiant	9,000	1.09	Corrosive	48%	Frozen	+1	1	750,000

0214 Shululsish

As the capital of the subsector, Shululsish is the home of the region's leading *sarriiu*. The position is a thankless one – every outsider who has been placed in the post has soon found the lesser nobles of the subsector united against him. The last two *sarriiu* have been weakling locals instead; the current one (Esharku Gudakhaa) is nearly feebleminded.

Instead of being a center for order, Shululsish has become a pawn in regional politics. It is home to nearly a third of the subsector's population – so if one of the region's *shakkanakhu* can get control of it, he has the upper hand as long as he can hold it. The *sarriiu*'s court is a pit of cutthroat politics – every spare noble child, talented family retainer, and foolishly brave *kiduunuuzii* in the subsector is there, fighting it out for favor. Countless careers have been made and broken here in the last few decades.

Shululsish itself is small, but heavily populated. It is quite dense, due to a large nickel-iron core. Despite being halfway between Mercury and Mars in size, it has a thick atmosphere and several large seas.

One Kaareshuri offered me 10 credits for a used tin can. The zinc in it would redeem half an acre of land. I couldn't do it; I ended up just giving it to him. They're going to take my union card away when I get back to Terra.

– Hirohisa Mori, Free Trader (2165)

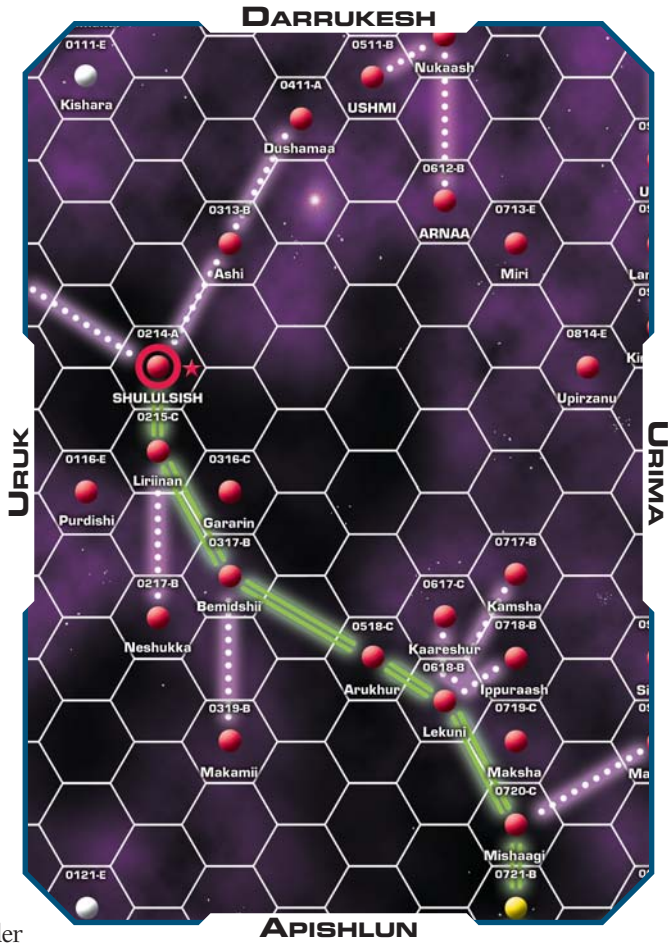
0215 Liriinan

Of all the worlds in this loosely controlled subsector, Liriinan is the most independent of all. This isn't a deliberate choice by its citizens, but an outgrowth of the fact that the planet's riches are so great that there is little need for them to engage in interstellar trade. Visiting Terran merchants are currently introducing them to the difference between "need" and "want."

Home to a half-billion people, Liriinan is a huge market for Terran merchants, despite its relative isolation. More than any other world in the subsector, it is free to do as it wishes; it is not under the direct control of Sharurshid or the Imperial aristocracy. The local population is beginning to take advantage of this freedom by engaging in "illegal" manufacturing – it is producing goods outside the fixed Sharurshid quotas, specifically intended for trade with Terran visitors.

The total amount of illicit manufacturing is quite small in comparison to Liriinan's handling of its own needs. Only a few thousand people have shown the mental flexibility to try it, though the number continues to expand as young people come of age after being exposed to the practice. The only other factor limiting trade is the planet's mediocre starport, but as Liriinan is a long run from Terra anyway, this doesn't affect most ships that call.

Port	Government	CR	TL	Trade	WTN
E	–	0	0	–	–
E	–	0	0	–	–
A-N	Feudal	6	10	–	5.5
C	Caste	4	6	Ri	4.5
B	Feudal	6	9	–	5.0
B	Feudal	1	9	Ex Na Ni	4.0
C	Corporate	0	10	Ex Ni	2.5
B	Caste	6	7	–	4.5
B	Feudal	4	9	Ex Na Ni	4.0
A	Feudal	6	10	–	4.5
B	Feudal	6	8	–	5.0
C	Caste	4	8	Ex Na Ni	3.5
B	Feudal	4	10	–	5.5
C	Caste	6	5	–	4.0
B	Feudal	4	10	Ex Na Ni	4.0
E	–	0	0	–	–
B	Caste	1	8	Ex Ni	4.0
B	Caste	4	9	Ex Ni	3.5
C	Corporate	4	10	Ex Ni	2.5
C	Corporate	1	8	Ex Ni	2.5
E	Caste	6	8	Ex Ni	2.5



The world itself is one of the most hospitable known to the Confederation, a near-paradise at the end of a long trading route. A slightly lower gravity contributes to the giddy feeling many Terrans experience while visiting here. With less land than Terra, all in the temperate and subtropical zones, there are no deserts or arctic wastelands on the whole planet. The local climate and soil are very favorable for imported food crops and fruit trees, some of which grow so easily that they might almost be considered weeds. The people have developed away from standard Vilani attitudes in their isolation, and are now more relaxed in manner and dress than Imperials on other worlds. All of this makes Liriinan a favorite port of call for Terran merchants, who half-jokingly refer to it as "Tahiti."

0617 Kaareshur

Though quite distant from Terra, Kaareshur is a major destination for Confederation traders. The system is very poor in metals, and is desperate for imports of any element heavier than iron. Historically this has not been much of a problem, as the rich Lekuni belt is only one jump away; the two systems made an excellent partnership, with metal going one way and food the other.

Unfortunately for Kaareshur, Lekuni has fallen under the sway of *iishakku* Erkiishaga of Arukhur. He's been deliberately redirecting the belt's metal production to the other worlds under his control, or to the Apishlun and Urima subsectors. If productivity were his sole interest, he'd be better off continuing the old arrangement, but he is using the lack of shipments as a way of extending his influence to Kaareshur. Local people and organizations that make concessions to him get some of the metals they need, just enough to stay afloat. Those who don't are driven under.

As a result, free traders who touch down with metals in their holds are in a position to make a killing. Two factors make the trip dangerous, though. The *iishakku* controls Kamsha as well, and the Ippuraash outpost goes out of its way to avoid antagonizing him. Erkiishaga therefore controls most of the planets inbound to Kaareshur, so *getting* there in the first place is a problem.

Once the landing gear touches down, though, the prospective trader has to deal with the desperation of the Kaareshuri. The locals are having problems even feeding themselves, as the soil is so metal-poor that some critical micronutrients are missing from the soil. Plants won't grow unless the fields are salted with zinc and molybdenum, and those, too, used to come from Lekuni. Even if a Terran is bringing in something simpler, like iron or tin, rumors will spread, and crowds will begin to gather . . .

Urima Subsector

The Urima subsector is dominated by a segment of the Rim Main that moves across the rimward half of the subsector. The worlds on the main were settled in the immediate aftermath of the Vegan Consolidation Campaign, about A.D. 200. Settlement of the more scattered worlds to coreward was slow, and was only completed about A.D. 800.

The subsector is a major hub of trade and commerce, especially around the neighbor worlds of Dzim Zhia Gwi (Vegan) and Urima (Imperial Vilani). This cluster of worlds is a major target for Terran adventurers, especially those trying to understand and win allies among the Vegan population.

Urima Subsector Data Table

Hex	Name	Alg	Type	Dia	Grav	Atmosphere	Hyd	Climate	RVM	AFF	Population
0912	Umra	Im	Garden	5,700	0.64	Very Thin-T	–	Hot	+0	0	16,000
0913	Lanashri	Im	Subgiant	10,300	1.60	Corrosive	82%	Frozen	+0	0	11,000
0914	Kimirsika	Im	Garden	9,200	1.04	Dense	78%	Normal	+0	9	520 million
0918	Siinira	Im	Desert (Rock)	3,900	0.37	Suffocating	–	Chilly	+0	0	2,200
0919	Marasra	Im	Garden	9,800	1.30	Thin	62%	Normal	-1	7	240 million
1011	Ushiin	Im	Garden	5,400	0.81	Standard	18%	Warm	+0	8	400 million
1020	Shashamak	Im	Garden	6,100	0.71	Very Thin-T	40%	Cool	+1	1	1.3 million
1111	Dimmurak	Im	Garden	6,000	0.68	Thin	71%	Normal	+0	8	830 million
1116	Niimuru	Im	Garden	4,300	0.65	Standard	82%	Warm	+0	9	140 million
1117	Mashaddun	Im	Garden	8,800	1.00	Dense-T	36%	Cold	-2	5	100 million
1119	Dashinur	Im	Garden	6,200	0.78	Standard	99%	Cool	-1	7	42 million
1120	Karnisari	Im	Garden	6,000	0.70	Thin-T	39%	Chilly	+0	7	310 million
1214	Amgilash	Im	Asteroid Belt	–	–	–	–	Infernal	-4	-4	–
1216	Mikaam	Im	Garden	4,300	0.76	Thin	62%	Cool	+0	8	130 million
1218	Tunshaon Tyo	Im-Ve	Garden	5,000	0.56	Thin	37%	Normal	+0	8	420 million
1219	Sasuniir	Im	Barren (Ice)	1,100	0.07	–	–	Frozen	+0	0	2,800
1311	Nishni	Im	Asteroid Belt	–	–	–	–	Frozen	-1	-1	10,000
1316	Khariishish	Im	Desert (Rock)	4,900	0.43	Trace	–	Cold	-1	-1	–
1318	Gashakur	Im	Desert (Rock)	5,000	0.46	Trace	–	Frozen	+0	0	4,400
1320	Dishiigi	Im	Barren (Rock)	900	0.08	–	–	Frozen	-1	-1	–
1417	Larimshar	Im	Garden	6,000	0.68	Thin-T	69%	Warm	-1	6	29 million
1418	Muan Ialour	Im-Ve	Garden	5,400	0.52	Thin	58%	Cool	-1	7	100 million
1419	Genaraa	Im	Garden	5,000	0.82	Dense-T	99%	Tropical	+0	7	220 million
1511	Imkha	Im	Garden	5,000	0.83	Standard	35%	Warm	+0	9	770 million
1512	Kiranura	Im	Pre-Garden	6,000	0.62	Suffocating	60%	Chilly	+0	0	–
1515	Dzim Zhia Gwi	Im-Ve	Garden	4,400	0.72	Thin	57%	Cool	+2	10	3.6 billion
1516	Ewmiak	Im-Ve	Garden	4,300	0.70	Thin	24%	Normal	+0	7	200 million
1517	URIMA	Im	Garden	7,000	0.83	Thin	50%	Hot	+2	9	2.5 billion
1519	Iinu	Im	Garden	8,200	1.05	Dense	99%	Warm	-1	7	390 million
1616	Orruiltan Tyui	Im-Ve	Barren (Rock)	1,300	0.10	–	–	Frozen	+0	0	2,500
1619	Tyudhaur	Im-Ve	Garden	5,200	0.83	Dense-T	94%	Very Hot	+0	5	19 million

1011 Ushiin

Ushiin is a tidally locked world with a warm climate, leading to an unusual distribution of water and ice. As usual, the hot and cold poles are desert and glacier respectively, but on Ushiin the glacier gives way to tundra several hundred miles from the terminator line. Along the line itself, the temperature rises to the point that the planet has a ring of liquid water some 200 miles wide completely surrounding the planet. The world's name means "iris" in Vilani, and from the right angle Ushiin does resemble a gigantic eye.

Despite its odd appearance, Ushiin is fairly typical of tide-locked worlds. The major exception is ecological in nature. At some point in the distant past, its oceans were apparently seeded with *Terran* life, which has by now almost displaced the native biosphere. The Vilani have noticed the oddity, but have not made much of it. Confederation scientists consider it a clue as to where the Vilani and other non-Terran Human races came from. Even aside from this, Ushiin is a magnet for paleontologists looking for species that went extinct on Terra during the late Pleistocene.

When he said we were headed to Ushiin to look for extinct life, I was all up for it. I loved dinosaurs and stuff when I was a kid. Turned out he was an expert in plankton, and we came back with 150 gallons of green water.

– Raimo Saarinen, Free Trader (2168)

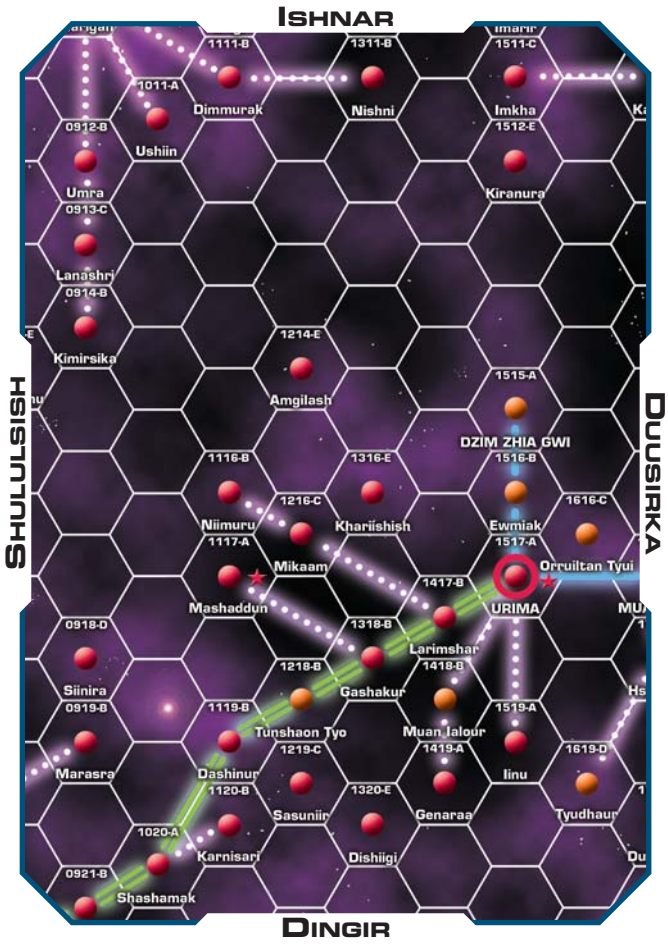
1519 Iinu

Iinu has almost no land protruding from its world-girdling ocean, so while otherwise quite pleasant it isn't as densely populated as other worlds nearby. As a result, it was a literal backwater until recently.

The primary product of Iinu is the meat of a local life form, an enormous floating creature that serves as the equivalent of a mobile coral reef in the local ecology. The Vilani of Iinu never examined this animal particularly closely, simply harvesting it for food. Its meat is so cheap locally that it has never been exported offworld.

The first person to really analyze the meat was Esmeray Uzunjarsili, a Terran Free Trader with a background

Port	Government	CR	TL	Trade	WTN
B	Corporate	4	10	Ex Ni	3.5
C	Corporate	1	8	Ex Ni	3.0
B	Feudal	6	7	–	4.5
D	Caste	0	8	Ex Ni	2.0
B	Feudal	6	8	–	4.5
A	Feudal	1	8	–	5.0
A	Clan/Tribal	6	8	Ni	4.0
B	Theocracy	6	5	–	4.0
B	Feudal	1	7	–	4.5
A-N	Feudal	4	10	–	5.0
B	Feudal	5	7	Ri	4.0
B	Feudal	2	5	–	4.0
E	–	0	0	–	–
C	Feudal	6	6	–	4.5
B	Caste	4	6	–	4.5
C	Caste	5	8	Ex Ni	2.5
B	Corporate	3	10	Ex Ni	3.5
E	–	0	0	–	–
B	Caste	4	10	Ex Ni	3.0
E	–	0	0	–	–
B	Caste	4	7	Ag	4.0
B	Caste	4	9	–	5.0
A	Theocracy	6	10	–	5.0
C	Feudal	6	7	–	4.5
E	–	0	0	–	–
A	Caste	4	10	–	5.5
B	Caste	4	9	Po	5.0
A-N	Feudal	6	10	–	5.5
A	Feudal	1	10	–	5.0
C	Caste	4	9	Ex Ni	3.0
D	Caste	4	5	–	3.5



in chemistry. Forced to stay on Iinu for more than two months while repairs were made to her ship, she started examining the local life out of sheer boredom. She hit the jackpot one day when she took a close look at what had been destined for her plate that evening.

The creature's meat and organs turned out to be a storehouse of pharmaceutical precursors. Disliking its local name, she dubbed it the *daghadasi* in her native language (Turkish). One important drug has already been isolated from the creature, an effective treatment for Alzheimer's disease, and Captain Uzunjarsili is now a multimillionaire.

Duusirka Subsector

The bright star Vega (*Duusirka* to the Vilani) is the most prominent feature of this subsector. Ironically, the Vega star system is of almost no importance in local affairs; the sentient species that Terrans call "Vegan" is not from that star system at all. Instead, the Vegan sphere is centered on the homeworld Muan Gwi, circling an unassuming red dwarf star three parsecs to coreward.

The Duusirka subsector is the heart of the Imperial Rim Province. Its capital, Shulgiasu, is home to the *Saarpuhii Kushuggi*'s court, the local center of Imperial power. The Vegan homeworld and other Vegan worlds are major industrial centers. The provincial war fleets that threaten Terra are largely built and supplied from the Duusirka subsector's shipyards. It also produces trade goods sold both in the Terran Confederation and a great distance to coreward.

Seven to eight months from Terra by usual transport, the Duusirka subsector is much too distant for casual visits. Still, thousands of Terrans travel to the region every year – adventurers, ambassadors, spies, and even the occasional tourist who wishes to experience the best that Imperial civilization has to offer.

1717 Muan Gwi

The second most populous world in the entire region (behind only Terra), Muan Gwi is the homeworld of the Vegan race. Despite its 2,000-year history of oppression, it is still an economic powerhouse, and the center of trade with other major Vegan worlds like Muan Kwoyen and Dzim Zhia Gwi. Next to Dingir, it is also the favorite target of Terran traders. Merchants who head out this way get to see the awesome Zinn Aho highport, a massive facility some two miles long . . . the largest orbital structure in the sector.

There are very few Vilani on Muan Gwi, thanks to the highly developed Vegan talent for passive resistance (p. 88). Vilani bureaucrats find postings to Muan Gwi infuriating, and so in recent centuries the Vegans have largely been left to run things themselves – just as they wanted.

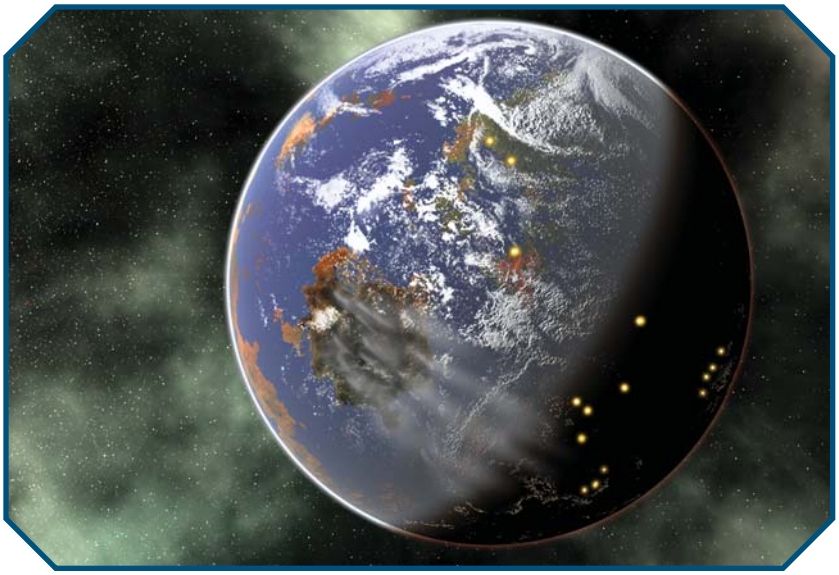
Duusirka Subsector Data Table

Hex	Name	Alg	Type	Dia	Grav	Atmosphere	Hyd	Climate	RVM	AFF	Population
1711	Kasaan	Im	Garden	7,100	0.99	Dense	49%	Normal	+0	9	780 million
1717	Muan Gwi	Im-Ve	Garden	4,300	0.65	Thin	62%	Cool	+2	10	4.3 billion
1718	Hsuilzish	Im-Ve	Garden	6,200	0.68	Standard-T	84%	Warm	+0	8	320 million
1720	Duusirka	Im	Asteroid Belt	–	–	–	–	Infernal	-1	-1	–
1813	Wanish Tyo	Im-Ve	Garden	6,000	0.62	Very Thin	–	Very Cold	+1	1	5.0 million
1814	Tsamis	Im-Ve	Garden	5,300	0.53	Thin-T	68%	Normal	+2	9	1.3 billion
1816	Muan Issler	Im-Ve	Desert (Rock)	2,800	0.37	Trace	–	Frozen	+1	1	5.2 million
1818	Ashtagz Tyui	Im-Ve	Desert (Rock)	3,000	0.38	Trace	–	Normal	+0	0	2,600
1911	Ikarak	Im	Asteroid Belt	–	–	–	–	Frozen	+2	2	3.0 million
1912	Galishgu	Im	Barren (Ice)	1,600	0.10	–	–	Frozen	+0	0	14,000
1917	Asterr Tyui	Im-Ve	Garden	6,100	0.70	Standard	61%	Cool	+0	9	1.1 billion
1919	Khuraaga	Im	Garden	8,900	1.00	Thin-T	16%	Hot	-1	5	52 million
2011	Andiirish	Im	Asteroid Belt	–	–	–	–	Frozen	-1	-1	–
2012	Deraanasa	Im	Garden	7,800	1.00	Standard	63%	Normal	+2	11	3.2 billion
2015	Duikin Tyui	Im-Ve	Desert (Rock)	3,100	0.28	Trace	–	Frozen	+0	0	15,000
2017	Hariksiat	Im-Ve	Desert (Rock)	3,200	0.31	Trace	–	Cold	+0	0	4,200
2114	Nikurmani	Im	Subgiant	7,900	1.04	Corrosive	61%	Frozen	+0	0	5,000
2118	Nakishi	Im	Garden	7,000	0.98	Dense	48%	Normal	+0	9	310 million
2213	Ganukak	Im	Asteroid Belt	–	–	–	–	Frozen	-2	-2	–
2218	Muan Kwoyen	Im-Ve	Garden	6,100	0.70	Standard	58%	Cool	+0	9	1.5 billion
2312	Direnaa	Im	Garden	8,200	1.08	Standard	51%	Normal	+1	10	490 million
2319	SHULGIASU	Im	Garden	6,800	0.81	Thin	83%	Warm	+1	9	2.4 billion
2411	Dashiraa	Im	Garden	5,000	0.86	Very Thin-T	12%	Frozen	+0	0	–
2414	Namirma	Im	Barren (Ice)	2,300	0.13	–	–	Frozen	+0	0	5,900
2415	Shani	Im	Desert (Ice)	3,700	0.25	Toxic	21%	Frozen	+0	0	6,200
2418	Khalikkam	Im	Desert (Rock)	6,400	1.09	Trace	–	Very Hot	+1	1	630,000
2419	Ganigami	Im	Garden	4,400	0.61	Very Thin	31%	Cold	+0	0	2,500
2420	Arrukir	Im	Garden	5,400	0.86	Dense-T	99%	Tropical	+0	7	200 million

1816 Muan Issler

Muan Issler was once the "second homeworld" of the Vegans, home to nearly 2 billion members of that race. When the Vegan Consolidation War came to an end, it was left as a stark example of what the Vilani were willing to do to win.

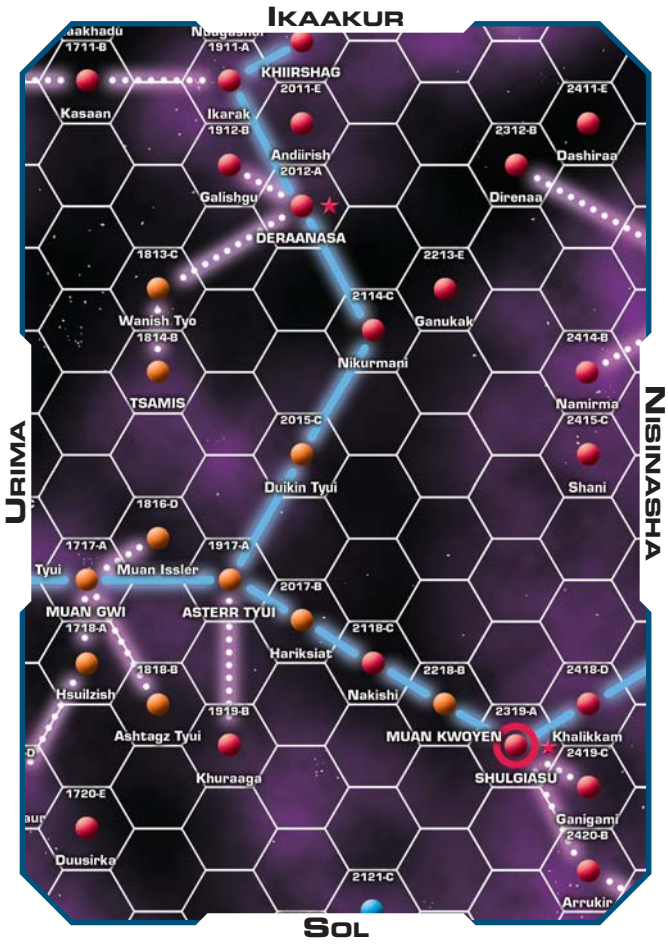
By 119, the Imperium had pushed the Vegans back to just two worlds: their homeworld and Muan Issler. After a half century of combat, the Vegans had the measure of their foe, and while the situation was still grim, they were determined to make the Vilani fight for every cubic foot of their space. Both systems were bristling with defensive arrays, and anything approaching within a billion miles of the planet without permission was vaporized.



After scouting the defenses, the Vilani realized that the final push was going to be extremely costly. More campaigns against other races loomed, so the decision was made to nuke the Vegans into submission. The Vegan civilian populations were vulnerable to nuclear attack – so standing off in the outer system, a huge Vilani fleet lobbed wave after wave of nuclear-tipped missiles toward Muan Issler. Perhaps one missile in 100 got through, but the hits shattered the planet's society over the course of a few weeks. After a time, the defenses still held but there was nothing left to defend. The razing of Muan Issler was then broadcast to the Vegans on Muan Gwi, and the last world of the Polity surrendered rather than go through a repeat of the massacre.

In the Interstellar Wars period, Muan Issler is home to less than five million Vegans and about 500,000 Vilani. Even now, the planet has slightly elevated radiation levels due to heavy-metal fallout in the soil.

Port	Government	CR	TL	Trade	WTN
B	Feudal	0	9	–	5.0
A	Caste	4	10	–	5.5
A	Caste	4	10	–	5.0
E	–	0	0	–	–
C	Caste	4	8	Ex Na Ni	3.5
B	Caste	4	8	In	5.0
D	Caste	4	8	Ex Na Ni	3.5
B	Caste	4	10	Ex Ni	3.0
A	Caste	6	10	Ex Na Ni	4.5
B	Corporate	2	10	Ex Ni	3.5
A	Caste	4	10	–	5.5
B	Feudal	4	7	Po	4.0
E	–	0	0	–	–
A-N	Feudal	4	10	–	5.5
C	Caste	4	10	Ex Ni	3.5
B	Caste	4	10	Ex Ni	3.0
C	Caste	5	10	Ex Ni	3.0
C	Feudal	6	7	–	4.5
E	–	0	0	–	–
B	Caste	4	10	–	5.5
B	Caste	1	10	–	5.0
A-N	Feudal	5	10	–	5.5
E	–	0	0	–	–
B	Corporate	5	10	Ex Ni	3.0
C	Caste	1	8	Ex Ni	2.5
D	Caste	5	8	Ex Ni	3.0
C	Caste	2	10	Ni Po	3.0
B	Feudal	6	7	–	4.5



The Vegan inhabitants of the world have never reconciled themselves to the destruction, which to them was only a few generations ago. They are disproportionately involved in efforts to throw off the Vilani yoke. Of all Vegans, the inhabitants of Muan Issler come the closest to displaying radical behavior. Some even carry small vials of ash from destroyed cities, as a reminder of their dead ancestors.

2319 Shulgiasu

Originally founded as an advance base against the Vegans during the Consolidation Wars, Shulgiasu has long moved past its humble beginnings. It is the most densely populated Vilani world in the Kushuggi province, and is the political and cultural capital for Vilani in the region.

Shulgiasu is a major destination for Terran travelers, although fewer make the trip than one might think at first. Shulgiasi are sticklers for procedure, and unscheduled traders are likely to find themselves in a sea of red tape. Most captains prefer to head for Dingir or Muan Gwi, closer to Terra and more likely to offer a hospitable reception.

On the other hand, this does mean that Shulgiasu has been relatively untouched by Terrans, and there are undoubtedly commercial opportunities here if one can only find them. Some have suggested that the planet's Vegan minority (numbering about 10 million) may be the place to start.

As the base for Vilani consolidation of the whole region, Shulgiasu is stuffed full of monuments and other examples of Vilani triumphalism. The capital city, Kankhali, has been nicknamed "The Golden City," partly for its richness and partly for a golden sheen to the buildings that was the height of architectural fashion 2,300 years ago. Given that archaism is one of the watchwords for Vilani culture, the fact that Shulgiasu still stands out is worth noting.

Apishlun Subsector

The Apishlun subsector was settled about 800-1000, almost exclusively by *kimashargur* Vilani who wished to escape the strict social controls imposed by Imperial law. Although the *kimashargur* were conquered by the Imperium soon afterward, their subculture remains dominant on several worlds of the region. Meanwhile, Imperial authority is relatively weak; most of the local aristocratic clans are uninterested in imposing the full strictness of Vilani tradition on the populace. Terran adventurers who reach the subsector often find it easy to make friends and act within the Imperial framework.

Almost all of the subsector's worlds are situated on the "tail" segment of the Rim Main, forming a closely bound community. Although Apishlun is on the extreme Imperial frontier, and the reach of Imperial authority is relatively weak here, trade remains active. Of course, the combination of rich trade and weak authority often makes the region a primary target for Terran spies and commerce raiders during wartime.

Apishlun Subsector Data Table

Hex	Name	Alg	Type	Dia	Grav	Atmosphere	Hyd	Climate	RVM	AFF	Population
0121	Khishirii	–	Barren (Ice)	1,400	0.07	–	–	Frozen	+0	0	–
0123	Nushmi	Im-K	Garden	8,100	1.11	Dense	72%	Normal	+0	9	220 million
0125	Kishakhpap	–	Desert (Rock)	3,800	0.40	Trace	–	Frozen	-2	-2	–
0126	Nunashi	Im-K	Garden	4,300	0.70	Thin	68%	Warm	-1	7	51 million
0224	Shaalgar	Im-K	Garden	6,200	0.71	Standard	60%	Cool	+0	9	260 million
0226	Iishu	Im-K	Garden	4,900	0.61	Standard-T	92%	Warm	+0	7	38 million
0230	Alizarin	–	Garden	4,300	0.73	Standard	57%	Normal	-1	8	–
0326	Eneldun	Im-K	Desert (Rock)	2,900	0.22	Trace	–	Frozen	+1	1	3.1 million
0330	Krypton	–	Pre-Garden	8,800	1.18	Suffocating	41%	Tropical	+2	2	–
0424	Lakisha	Im	Garden	7,300	0.98	Dense-T	82%	Warm	+0	8	300 million
0426	Siikani	Im	Barren (Rock)	1,400	0.13	–	–	Hot	+0	0	15,000
0524	Irashdaa	Im	Garden	5,800	0.86	Dense	89%	Warm	+0	9	160 million
0527	Masiira	Im	Garden	6,000	0.77	Standard	92%	Normal	+0	8	140 million
0528	Kidashi	Im-K	Garden	4,400	0.60	Thin	68%	Cold	+2	9	2.5 billion
0624	Ishirshu	Im	Glacier	8,100	1.02	Toxic	22%	Frozen	+0	0	–
0626	Kunekaar	Im-K	Garden	6,900	0.87	Thin-T	18%	Hot	-1	4	13 million
0628	Sagarasaar	Im	Garden	5,100	0.84	Dense	87%	Tropical	+0	9	190 million
0721	Akhamin	Im-K	Garden	5,900	0.65	Standard	21%	Warm	+0	8	290 million
0722	APISHLUN	Im	Garden	8,900	1.16	Dense	61%	Normal	+2	11	3.0 billion
0723	Shikashu	Im-K	Garden	8,000	1.13	Standard	63%	Warm	+0	9	810 million
0726	Dikanishi	Im	Asteroid Belt	–	–	–	–	Infernal	-1	-1	700
0729	Edaazun	Im	Garden	4,300	0.64	Standard	95%	Cold	+0	7	490 million
0822	Urshu	Im	Desert (Rock)	3,900	0.31	Trace	–	Frozen	+0	0	16,000
0823	Shiranshar	Im	Pre-Garden	9,900	1.25	Suffocating	52%	Normal	+0	0	–
0824	Khurimisi	Im-K	Garden	6,000	0.70	Thin-T	22%	Cool	+0	6	43 million
0825	Duriim	Im-K	Garden	4,400	0.68	Dense	79%	Cool	+1	10	2.4 billion
0826	Munilgan	Im-K	Garden	5,300	0.54	Thin	39%	Cold	+0	7	190 million

0722 Apishlun

Apishlun is one of the most remarkable planets known. It apparently developed multicellular life as much as five billion years ago. Since then, the native life has developed a planet-wide ecosystem of incredible richness and complexity.

On most living worlds, native species tend to specialize and develop symbiotic relationships with one another. Ecologies develop complex feedback mechanisms, bringing stability to the living environment. This process is usually halted by natural disaster – comet or asteroid strikes, massive volcanic eruptions, ice ages brought on by continental drift, and so on. After each mass-extinction event takes place, the surviving species are forced to start over from scratch.

Apishlun has been almost free of mass extinctions for a very long time. It circles a tame K1 V star, has no planetoid belts as neighbors, and is protected from cometary intruders by three large gas giants circling the outer regions of the star system. While there is some evidence of very old impacts on the world, the Apishlun system was effectively clean of debris more than five billion years ago. Meanwhile, the planet's internal heat has declined over the eons. Although continental drift and volcanism have not stopped entirely, they have slowed a great deal and have not threatened the stability of the ecosphere in over 500 million years.

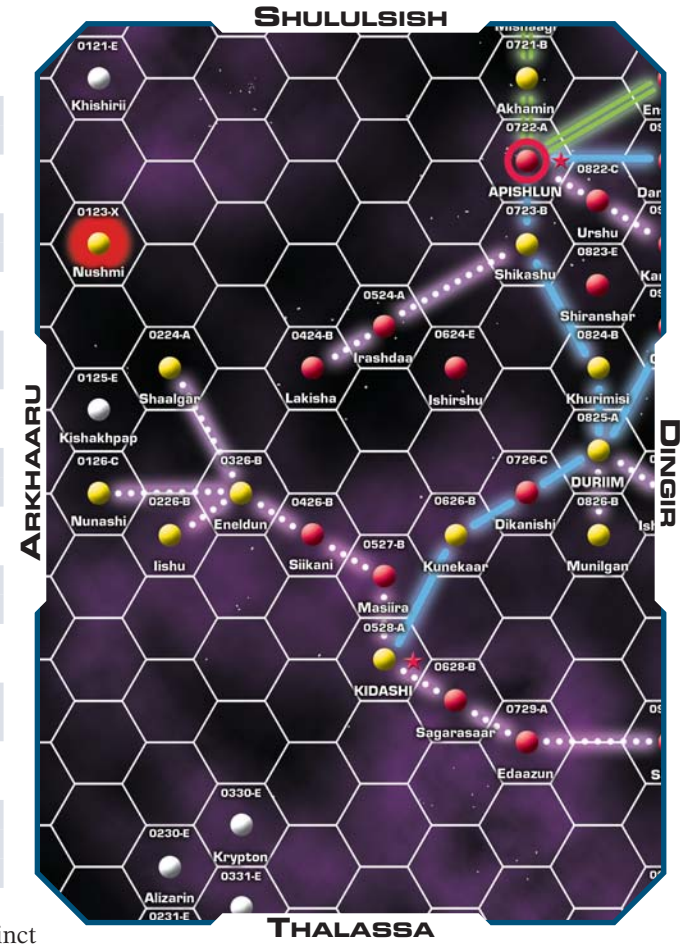
As a result, the symbiotic connections between life forms have become more and more complex, to the point that they are actually able to resist their own destruction. Apishlun has become an example of the "Gaia hypothesis."

The Vilani inhabitants of the planet don't appreciate the mechanism, as most Vilani lack sophistication in the

On Apishlun, I had a fruit that was the best thing I ever ate – sweet, juicy, with a faint tartness that went straight to the pleasure centers in my brain. I found it growing on a tree at the edge of some farmer's field. When the farmer saw me eating it, he nearly blew a blood vessel. I thought I was in trouble until he explained to me it wasn't his fruit tree, it was just something that had been growing there. And the last time he'd checked, it was poisonous.

– Sergio Alessandri, Free Trader (2165)

Port	Government	CR	TL	Trade	WTN
E	–	0	0	–	–
X	Caste	4	2	Ri	0.0
E	–	0	0	–	–
C	Caste	2	6	Ag	4.0
A	Caste	3	10	Ri	5.0
B	Clan/Tribal	3	10	–	4.5
E	–	0	0	–	–
B	Clan/Tribal	2	10	Ex Na Ni	4.0
E	–	0	0	–	–
B	Feudal	6	7	–	4.5
B	Caste	3	9	Ex Ni	3.5
A	Feudal	6	10	–	5.0
B	Feudal	6	7	–	4.5
A-N	Feudal	4	10	–	5.5
E	–	0	0	–	–
B	Feudal	2	6	Po	4.0
B	Caste	6	10	–	5.0
B	Feudal	2	7	Ri	4.5
A-N	Theocracy	6	10	–	5.5
B	Feudal	4	9	Ri	5.0
C	Caste	0	8	Ex Ni	2.0
A	Feudal	6	8	–	5.0
C	Corporate	3	8	Ex Ni	3.0
E	–	0	0	–	–
B	Feudal	3	10	Po	4.5
A	Feudal	4	9	–	5.5
B	Feudal	2	8	–	4.5



biological sciences. When they first colonized the world, they simply noticed that the biosphere was particularly hospitable. They don't realize that Apishlun is literally *accommodating* them, adapting at enormous speed to their presence and fitting them into the planet's immense web of life.

A few Terran scientists have been to Apishlun, and are trying to understand how the whole system works, and how it can work so *quickly*. One nagging problem is that any symbiotic relationship involves a trade-off. The speed with which the planet's ecology can incorporate offworlders suggests that there is some advantage to it in doing so. What the Vilani might be giving up remains mysterious.

For those not living on Apishlun, the biosphere remains interesting if only for the trade opportunities it represents. The planet is a net exporter of food, and a producer of luxury foodstuffs. Meanwhile, the extravagance of Apishlun's native life promises a vast number of biologically produced chemicals and pharmaceuticals to whoever can get in and examine them in detail first. Biologists estimate that the planet has more than 1,000 times as many distinct species as Terra has had at any point in its history, so the project is potentially huge – and so are the potential profits.

Dingir Subsector

Like the neighboring Apishlun subsector, this region was first settled by *kimashargur* dissidents between A.D. 800 and A.D. 1000. Dingir itself was the capital of a *kimashargur* "pocket empire" that defied Imperial authority for a few short decades. The region has been pacified for centuries – but with the wars against Terra ongoing, many cracks are beginning to appear in the facade of Imperial unity.

For centuries, the Dingir subsector was a backwater, almost entirely ignored by the Imperium. Aside from a small segment of the Rim Main, most of the region's worlds are scattered, divided by jump-1 gaps that cut off the largest and slowest freighters. Trade and commerce have always been relatively sparse. Today, of course, the region has suddenly become important as a primary battleground in the wars against Terra. Many of the subsector's people, accustomed to living out from under direct Imperial gaze, are resentful of their region's new prominence.

The Dingir subsector is sometime called "Smuggler's Heaven" by Terran Free Traders. Not only are many of the region's star systems thinly populated and badly patrolled, but some members of the local population enthusiastically cooperate with Terran smugglers. Many a Free Trader ship has arranged to meet with a Vilani counterpart in the outer fringes of some local star system, exchanging contraband. Of course, the Imperial Navy has become aware of this practice, and has stepped up patrols in the region.

Dingir Subsector Data Table

Hex	Name	Alg	Type	Dia	Grav	Atmosphere	Hyd	Climate	RVM	AFF	Population
0921	Ensulur	Im	Barren (Rock)	2,800	0.37	–	–	Frozen	+1	1	3.9 million
0922	Damakaa	Im	Barren (Rock)	1,900	0.19	–	–	Frozen	+0	0	50,000
0923	Kansara	Im	Garden	5,600	0.61	Standard	58%	Normal	+0	9	800 million
0924	Ginaa	Im	Garden	5,400	0.57	Very Thin	19%	Cold	+0	0	400
0926	Ishumled	Im-K	Garden	5,400	0.68	Standard-T	72%	Warm	+0	8	610 million
0929	Saris	Im	Desert (Rock)	3,400	0.43	Trace	–	Cool	+1	1	11 million
1022	Khakushma	Im	Garden	4,800	0.67	Very Thin	46%	Cool	+0	0	24,000
1024	Fomalhaut	Im	Greenhouse	7,900	1.17	Corrosive	83%	Infernal	+0	0	–
1026	Khulampu	Im	Glacier	8,700	1.15	Suffocating	19%	Frozen	+0	0	6,500
1127	Gashidda	Im-K	Garden	3,400	0.51	Standard	95%	Cold	+1	8	780 million
1129	Ishkur	Im-K	Garden	5,200	0.49	Standard	23%	Hot	+0	7	370 million
1222	DINGIR	Im-K	Garden	10,200	1.03	Dense	89%	Warm	+0	9	1.4 billion
1224	Kinunir	Im	Garden	5,000	0.48	Very Thin	16%	Warm	+0	0	15,000
1324	Shulgi	Im	Desert (Rock)	5,200	0.47	Trace	–	Frozen	+0	0	11,000
1326	Shulgiili	Im	Pre-Garden	6,200	0.71	Suffocating	100%	Cool	+0	0	2,500
1327	Enki Kalamma	Im	Barren (Rock)	1,900	0.17	–	–	Very Hot	+1	1	2.4 million
1424	Karkhar	Im-K	Garden	6,100	0.72	Standard-T	51%	Normal	-1	7	48 million
1427	Shuruppak	Im	Asteroid Belt	–	–	–	–	Frozen	+0	0	16,000
1429	Iilike	Im-K	Garden	4,300	0.76	Thin	51%	Cool	+1	9	1.0 billion
1522	Altair	Im	Asteroid Belt	–	–	–	–	Infernal	+0	0	–
1523	Zaggisi	Im	Garden	7,200	0.97	Dense-T	88%	Tropical	+0	8	100 million
1526	Meshan	Im	Desert (Rock)	4,200	0.40	Trace	–	Chilly	+0	0	–
1529	Markhashi	Im	Barren (Rock)	2,900	0.20	–	–	Frozen	-1	-1	1,000
1530	Shulimik	Im-K	Garden	7,000	1.04	Dense	32%	Normal	+0	9	630 million
1622	Apishal	Im	Garden	6,000	0.70	Very Thin	29%	Cool	+0	0	600
1629	Sirius	–	Asteroid Belt	–	–	–	–	Infernal	-2	-2	–

1222 Dingir

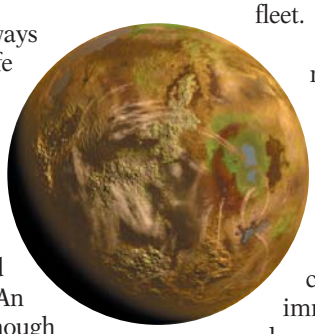
Contesting Shulgiasu for the title of most important Vilani world in the province, Dingir is a major destination for Terrans heading into the Imperium.

The planet is large, and relatively close to its primary. Its multiple continents are small and evenly distributed, which allows warm ocean water to circulate from the equator to the poles with ease. Dingir has no ice caps, despite being only marginally warmer than Terra.

With many continents, Dingir is also interesting because it is relatively decentralized for a Vilani world. Cities are dotted all over the planet, and starports serve many of them, rather than the usual "one world, one main starport" rule followed in the Imperium. As the Dingiri are also *kimashargur*, they're a little more flexible than most Vilani. Smuggling is rampant, and fortunes can be made.

Balancing this is Dingir's status as the local Imperial naval depot. There are always a large number of Vilani military ships in-system, and these are often deployed to patrol for unauthorized trade. If the Imperium were ever to start cracking down on trade from the Confederation, Dingir is likely where they'd start.

1526 Meshan



Epsilon Indi has always been a top candidate for life near Earth, and it was intensely studied even before the Terran invention of the jump drive. Life was never found there until the system was examined up close and Meshan was discovered. An inhospitable place, far enough from its sun to be cooler than Earth, it still had developed some primitive photosynthesizing life.

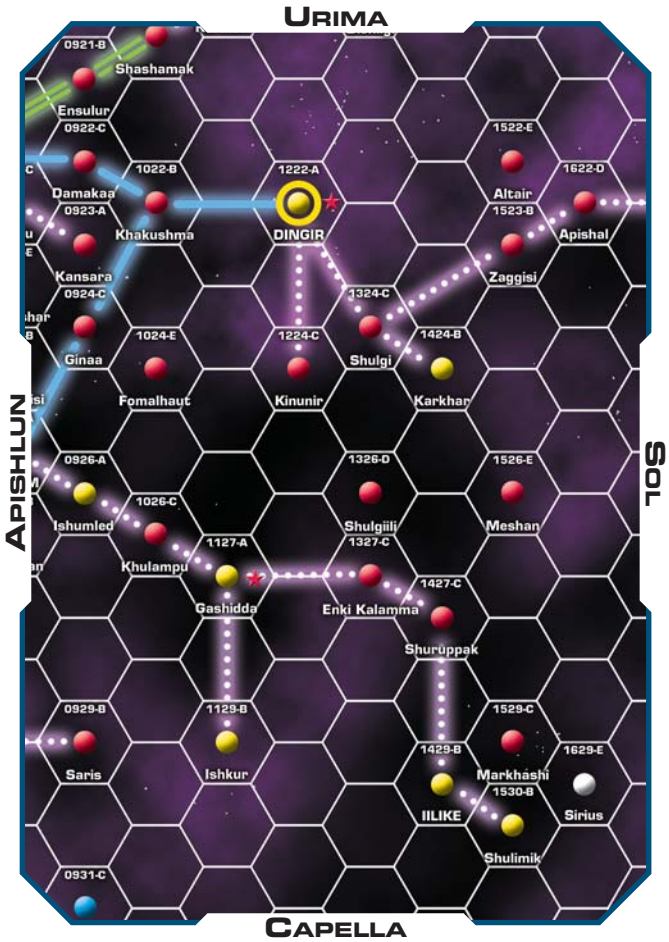
After the Second Interstellar War, the Confederation decided to place a colony on the planet. Although there was no direct access to Meshan except through Imperial space, the choosy Vilani had never settled the planet. Hence the Confederation felt free to place a colony there.

At the outbreak of the Third Interstellar War, however, the planet's isolated position proved a terrible liability. With Kadur Erasharshi's armada moving down the Corridor, there was no way to reinforce Meshan, The colony was helpless when a Vilani squadron jumped into the system looking for elements of the Terran fleet.

Of course there was nothing to find, but just to be on the safe side the Vilani commander dropped a nuclear warhead on the colony's landing field. 90% of the Terran colonists were killed immediately; with the colony's infrastructure destroyed, most of the rest followed in the next few weeks. With the Siege of Terra underway, it was three months before a relief expedition could be mounted – in fact, the Confederation didn't even know the colony had been destroyed until the siege was lifted. When the relief force finally did arrive, the last few hundred survivors were evacuated.

Since then, the system has been a no-man's land. The Confederation has considered rebuilding the colony, but until the planet's position is less strategically vulnerable those plans

Port	Government	CR	TL	Trade	WTN
B	Caste	1	10	Ex Na Ni	4.0
C	Caste	0	10	Ex Ni	3.0
A	Feudal	5	8	Ri	5.0
C	Corporate	0	8	Ni Po	2.0
A	Caste	2	9	–	5.0
B	Feudal	6	8	Ex Na	4.0
B	Corporate	1	8	Ni	3.0
E	–	0	0	–	–
C	Corporate	2	9	Ex Ni	3.0
A-N	Feudal	6	10	–	5.0
B	Theocracy	6	5	–	4.0
A-N	Feudal	6	10	–	5.5
C	Caste	1	8	Ni Po	3.0
C	Corporate	1	8	Ex Ni	3.0
D	Corporate	0	10	Ex Ni	2.5
C	Caste	6	10	Ex Na Ni	4.0
B	Feudal	5	9	–	4.5
C	Caste	3	10	Ex Ni	3.0
B	Theocracy	6	6	–	5.0
E	–	0	0	–	–
B	Feudal	6	8	–	4.5
E	–	0	0	–	–
C	Caste	2	8	Ex Ni	2.5
B	Feudal	4	9	Ri	5.0
D	Caste	2	8	Ni Po	2.0
E	–	0	0	–	–



will have to wait. The destruction of Meshan still rouses anger in many people, but it was only one of many terrible events to happen during the Third Interstellar War.

Epsilon Indi has a distant brown dwarf companion, some 1500 AU away. The dwarf is surrounded by a thick belt of gas and rock, baked by its infrared radiation. As one of the closest brown dwarfs to Terra, it is studied intensely by Confederation scientists. Given the tensions along the border, however, there is no permanent installation in orbit, and exploratory ships are always accompanied by Terran military backup.

1629 Sirius

The brightest star in Terra's sky is a lonely and desolate place up close. The system is eternally blasted by its brilliant white primary star, and was severely disrupted in the past by the white dwarf companion as it passed through the red giant stage. Little can be found except a few thousand boulder-sized chunks of refractory rock and metal close to the primary, and a once-melted cloud of icy bodies in the far outer system. It is difficult even to refuel at Sirius – traffic crossing the system must carry extra fuel to double-jump, bring tanker ships, or spend *months* searching for an icy body in the outer star system.

Sirius doesn't even qualify as the armpit of the universe. You gotta have something there to qualify for "armpit."

– Able Spacehand Martin Baker, Terran Navy (2163)

Under normal circumstances, the system would be ignored, but in the current situation Sirius is of considerable strategic value. It is one of the two "choke point" systems that stand between Imperial and Terran space (Nusku being the other). The Confederation *must* defend the Sirius-Procyon "bridge," just as it must defend the Corridor stretching from Nusku to Barnard's Star.

Sirius has no permanent habitation, as there's simply nothing there to permanently inhabit. Both sides patrol the system periodically, watching for a buildup of forces. Each of the last two wars involved strikes through this system, so any movement is viewed with suspicion. Rumor has it that the Confederation government is considering towing an Oort cloud object closer into the star, to use as a watch post and refueling depot. Naturally, any such move is likely to meet with severe Imperial disapproval.

Sol Subsector Data Table

Hex	Name	Alg	Type	Dia	Grav	Atmosphere	Hyd	Climate	RVM	AFF	Population
1822	Nusku	Te-V	Garden	5,300	0.59	Standard	86%	Warm	+1	10	1.1 billion
1824	Agidda	Te	Garden	8,800	1.08	Standard-T	20%	Normal	+0	7	42,000
1827	TERRA	Te	Garden	7,900	1.00	Standard	72%	Normal	+1	10	12 billion
1830	Procyon	Te	Desert (Rock)	3,700	0.37	Trace	–	Warm	+2	2	11,000
1926	Barnard	Te	Barren (Rock)	2,000	0.14	–	–	Infernal	+0	0	1,200
1929	Junction	Te	Garden	8,800	1.00	Standard-T	51%	Chilly	+0	8	240,000
2021	Ishimshulgi	Te	Barren (Rock)	1,700	0.15	–	–	Hot	+0	0	450
2027	Prometheus	Te	Garden	7,400	0.93	Dense	49%	Tropical	+0	9	850,000
2028	Peraspera	Te	Pre-Garden	7,400	0.84	Toxic	24%	Cold	+0	0	13,000
2029	Midway	Te	Garden	6,300	0.73	Dense-T	89%	Very Cold	+0	6	25,000
2030	Hades	Te	Garden	4,400	0.72	Very Thin	12%	Frozen	+1	1	10,000
2121	Lagash	Te	Garden	5,900	0.60	Standard	68%	Normal	+0	9	140,000
2222	Ninkhur Sagga	–	Glacier	9,700	0.98	Suffocating	24%	Frozen	+0	0	–
2227	Ember	Te	Desert (Rock)	3,600	0.33	Trace	–	Frozen	+0	0	2,500
2228	Loki	Te	Subgiant	8,700	0.95	Corrosive	100%	Frozen	+0	0	–
2323	Mukhaldim	–	Garden	4,900	0.47	Very Thin	28%	Very Cold	+1	1	–
2325	Kaguk	–	Garden	6,200	0.74	Thin-T	84%	Cool	+0	8	–
2330	Dismal	Te	Desert (Rock)	4,300	0.40	Trace	–	Cold	+1	1	10,000

Sol Subsector

Heart of the Terran Confederation, the Sol subsector includes Terra itself and most of the earliest Terran colony worlds. As such, the region has been the main battlefield for the first few wars against the Imperium. With the recent conquest of Nusku, however, the Terrans are hoping to push the battle back into Imperial territory.

Aside from Nusku, one of the last great *kimashargur* settlements, Vilani colonization of the region has always been sparse. Over the centuries a few expeditions have ventured into the subsector from time to time, the most recent of these being the venture that contacted Terrans at Barnard's Star at the beginning of the Interstellar Wars era. But these expeditions never stayed for long, nor did they establish permanent colonies.

Under *saarpuhii* Kadur Erasharshi, a series of Vilani outposts was established on the worlds of the "Lagash Trace" trailing from Nusku – but these outposts, too, were abandoned after the Third Interstellar War. Rumor has it that the Vilani established a great cache of high-technology goods and equipment on one of those worlds. Although the rumor makes little sense, this has not stopped treasure-hunters from investigating. The Confederation is hoping to use those worlds for a more practical purpose – exploring across the jump-3 gap to trailing, in order to reach the rich worlds that are believed to lie beyond.

The Terran population of the region is still almost entirely located on Terra itself. The so-called "Outback" worlds to rimward and trailing are home to small industrial outposts and colonies; many of these are growing rapidly, but none of them contribute significantly to the Terran economy as yet. The character of these colonies is widely varied, from the sophisticated European-flavored technocracy of Prometheus to the wild anarchy of the Ember outpost. Fortunes and reputations can be made – or lost – in this booming colonial community.

1822 Nusku

Nusku orbits 61 Cygni A, a slightly variable K5V star 0.29 AU away. The night sky is spectacularly lit up by 61 Cygni B (named *Anlagar* in Vilani), which is currently some 87 AU away. Anlagar is much too distant to contribute any warmth to the planet, but it is a dazzling point of orange light in the sky for much of the year, easily visible during the day as well as at night.

With more than a billion citizens, Nusku has the second-largest population in the Confederation. Its technological base is consistent throughout the planet, and is more advanced than the average on Terra itself. These are ideal conditions for industrial development; the Confederation has

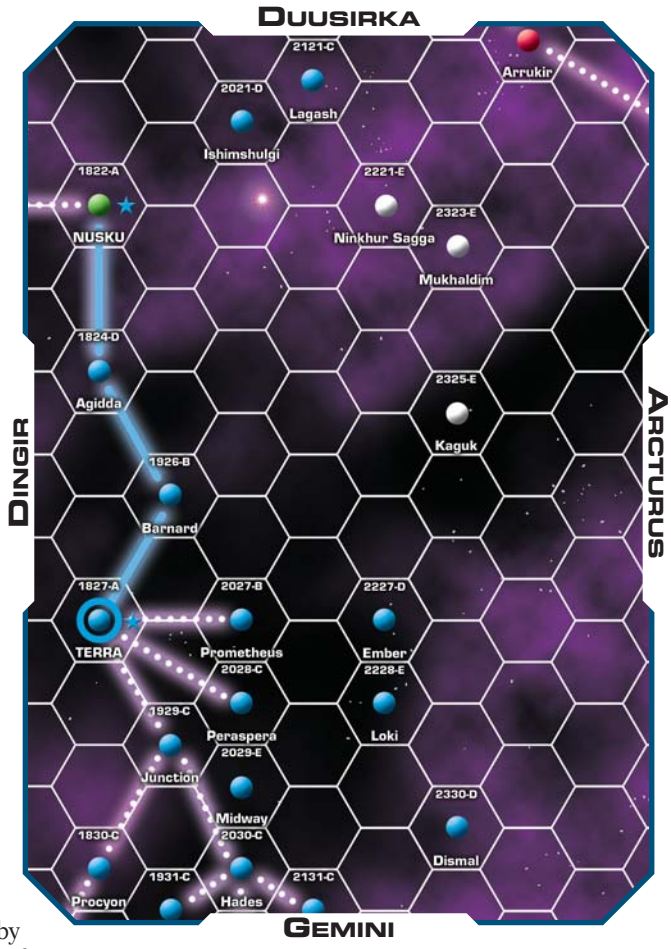
Port	Government	CR	TL	Trade	WTN
A-N	RepDem	5	10	–	5.5
D	RepDem	6	6	Ni	2.5
A-N	RepDem	6	9	–	6.0
C	RepDem	1	10	Ex Ni	3.0
B	Corporate	4	10	Ex Ni	3.0
C	RepDem	6	6	Ni	3.0
D	Corporate	0	9	Ex Ni	2.0
B	Technocracy	3	10	Ni	4.0
C	Corporate	5	9	Ex Ni	3.0
E	Technocracy	4	5	Ni	2.0
C	AthDem	2	9	Ni Po	3.0
C	AthDem	2	6	Ni	3.0
E	–	0	0	–	–
D	Anarchy	0	10	Ex Ni	2.5
E	–	0	0	–	–
E	–	0	0	–	–
E	–	0	0	–	–
D	AthDem	2	8	Ex Ni	2.5

been deliberately converting Nusku from a nondescript Vilani world into an industrial powerhouse.

The *kimashargur* Vilani who inhabit the world have taken up Terran notions of progress and science with a vengeance, and annual economic growth has been greater than 10% ever since the Confederation took over. Pre-conquest industries, including the superb local shipyards, have been restored to service and are expanding rapidly. An extensive naval base has been constructed. Major shipping lines are popping into existence on a yearly basis solely to serve Nusku, and the right cargo at the right time can make a trader's fortune.

Naturally, this white-hot economic boom has attracted Terran immigrants in huge numbers. More Terrans migrate to Nusku each year than to all of Terra's other colony worlds put together. Of course, this migration has yet to disturb the demographic balance of the planet – over 95% of the population is still pureblooded Vilani.

As important as the Terrans have been to Nusku, Nusku has had a nearly as great an effect on Terra. For the first time, Terran industry has been able to examine Vilani technology and techniques as a whole – rather than something traded for or acquired in bad condition after a battle. Important discoveries are being made every month, as legions of investigators and intelligence operators pore over Nusku's factories and databases.



1824 Agidda

Agidda will long be remembered as the first world taken from the Vilani. Barnard was only formally claimed by the Imperium *after* Terrans first visited, so its integration into the Confederation was relatively unimportant in the grand scheme of things. Agidda, on the other hand, had been colonized by *kimashargur* Vilani around A.D. 1100. While the outpost eventually became decrepit, a waypoint leading nowhere, it *was* a part of the Imperium for several hundred years. When Agidda was handed over to the Terrans at the end of the Second Interstellar War, it was the first indication that Terra could truly advance against the might of the Ziru Sirka.

The Vilani outpost was deliberately destroyed as the Imperium withdrew from the Terran advance, so the Terran Agidda colony had to start from scratch. The planet is only marginally habitable – tidally locked, it is nearly bereft of life as its primary (Ross 154) occasionally flares and does severe damage to the day face of the planet. The highest native life forms are bacterial mats in the ocean shallows, and the level of oxygen in the air is too low for Humans to breathe without artificial aid.

Nusku's a nice world. You get the best of Vilani and Terran societies working together, and it's clean, efficient, and quiet. People are friendly, the kids are well dressed. Place drives me nuts.

– Bill Rodriguez, Nusku colonist (2165)

Agidda's main importance is its strategic location – it sits on the Corridor between Terra and Nusku, and can serve as an outer picket of Terra's home defense. A great deal of transit traffic comes through the star system, and the colony is primarily designed to provide services for this traffic. As usual, the Confederation is strapped for solars (p. 142) in its continuing effort to colonize and otherwise upgrade everything in sight, so Agidda's Crimson Down starport is still quite primitive. As Nusku swells in importance, the Agidda colony will doubtless grow and modernize.

1929 Junction

Next to Prometheus (and discounting Nusku), Junction is the Terran Confederation's most populous colony. Although the planet resembles Terra in several respects, it is not a particularly hospitable world, and it is likely that many of the next wave of colonies will surpass it.

Junction's primary hazard is the atmosphere itself. It is composed of the usual mix of oxygen and nitrogen found on terrestrial worlds, and is even of approximately the same density as Terra's. However, the planet is deep within an ice age caused by a deficit of carbon dioxide in the air. This lack has varying effects on different people, but it is common to experience dizziness, disturbed breathing, and sleeping difficulties. Over time the symptoms get stronger, so people living on Junction prefer to live in enclosed habitats with the right amount of carbon dioxide introduced into the air. When he goes outside, a citizen will wear a small remixer mask that retains enough CO_2 to make up the difference.

The planet is also tidally locked to its red dwarf primary. Despite the constant mixing of the atmosphere and oceans, temperatures can get too high or low for comfort away from the twilight zone. People do venture out into the "hotback" and "coldback," but such expeditions require preparation. So far, all colonization ventures have stuck to the band of relatively pleasant territory in between.

Of course, Junction is the second-closest reasonably habitable world to Terra (again behind Prometheus). Unlike better worlds that are further out, it has been surveyed completely, and exploitation of its resources was under way even before more distant planets were discovered. As a virgin world, Junction still has easily accessible stocks of rare metal ores and petrochemicals, and arable land to help feed Terra's billions. While their world is far from perfect, Junction's inhabitants make the most of its proximity to a market of billions.

0210 Procyon

Procyon's sole inhabited world is a Mercury-sized ball of rock that would be uncolonized even by the non-discriminating Terrans if it weren't for its location. One jump from the Sirius system, Procyon is the shield between the Imperium and Terran colonies as far away as Ember and Forlorn.

Procyon is hardly a colony at all, but rather an oversized military installation. Next to Nusku, it has the largest standing fleet of any Confederation system, and patrols from there are launched towards Sirius on a weekly basis. Everyone living on Procyon is either military personnel or just passing through.

So far as anyone can tell, Procyon has no value at all except for its strategic importance. The world has been examined fairly extensively in the hopes of making it a little more self-supporting, but nothing valuable has ever turned up. On the other hand, Procyon shrunk considerably as it cooled, and the surface is very cracked and jumbled. It is difficult to say for certain that there isn't *something* worthwhile down in the many crevasses that cross the planet's surface.

Looking Home

Visitors to Alpha Centauri are often curious to find Sol in Prometheus' sky. As it happens, so are the Prometheans, and even young children will be able to point it out if asked.

The plane of the system's orbits faces Sol almost head on, so the Sun can't be seen from the European settlements. In the north, however, it is visible high in the sky for the entire year, about 15° from the celestial pole. It is the fourth brightest star in Prometheus' sky, and adds an extra "leg" to the constellation Cassiopeia (which otherwise looks much the same on Prometheus as it does on Terra).

To the naked eye, of course, there is no sign that Sol has any planets.

2027 Prometheus

The Prometheus colony was Terra's first, founded by the ESA even before the discovery of the jump drive. It is the most heavily populated of all native-Terran colonies, and is expected to pass one million citizens in the next few years. In 2122 it had the honor of being the first interstellar nation admitted to the United Nations, and the Republic of Prometheus was a founding member of the Terran Confederation. It still maintains a European character, but Humans of all types – even Vilani immigrants – can be found in the colony.

Prometheus orbits Alpha Centauri A closely enough to receive somewhat more stellar radiation than Terra does from Sol. This makes the world quite warm. The equatorial regions are nearly uninhabitable, so settlements tend to cluster around 60° north and south latitude. The southern zone is the home of the original European colony, while the northern zone is more recently settled and much more mixed. Grav transports shuttle between the two regions several times a week.

The entire Alpha Centauri star system has a high concentration of metals, as much as twice that of Sol, so Prometheus is rapidly becoming a major mining center. It's cheaper to get basic metals like iron and nickel from asteroids, but in cases where vulcanism and water can help concentrate the metals (for example, gold, copper, and palladium), Prometheus is turning up sites richer than anything ever found on Terra.

The system's most unusual feature is its companion stars. Swinging in

and out from 11 to 36 AU over the course of 80 years, Alpha Centauri B is a spectacular sight, far brighter than Luna in Terra's sky and packed into a smaller disk. Despite its impressive appearance, it is too distant to affect Prometheus' climate in a way noticeable without instruments.

Naturally, B draws a lot of attention from tourists, but a tradition has grown up that an immigrant isn't *really* a Promethean until he's seen Proxima with the naked eye. Dim and far more distant, Proxima is only just visible near the Pleiades. The newcomer's friends will take him out one night specifically to take a look, and binoculars are available if needed (though the guest of honor can expect ribbing if they have to be used).

2028 Peraspera

Arguably the oddest Terran colony, Peraspera is a gigantic laboratory, home to 13,000 personnel in one installation. All are dedicated to various projects that are made easier by the planet's odd environment.

Life has not yet evolved on Peraspera, so the atmosphere is a choking mixture of nitrogen, nitrogen oxides, carbon dioxide, and various sulfurous gases. Most people studying the planet are interested in life support under these conditions, either short term or long.

The "short-termers" are experts in the field of actual life support, mechanical systems that allow people to live in buildings plunked down in unbreathable air. The Suerrat are the current masters of this technology, but they are more focused on dealing with vacuum conditions. The Vilani have never developed the technology to deal with unbreathable atmospheres for extended periods of time without cheating – bringing in oxygen and other supplies from off world. Confederation scientists are hoping to come up with systems that will let them live on worlds like Peraspera self-sufficiently. If nothing else, it would let them tuck away military installations where the Vilani would never find them, since no supply traffic would give them away.

The other main group is composed of scientists interested in making Peraspera and many other worlds habitable in the long run through terraforming. The planet bears a resemblance to Terra more than a billion years ago, and natural processes will probably turn it into a good analog of the Terran homeworld some day. The terraforming researchers are interested in *speeding up* that process – but it's not yet clear just how quickly the transformation might be accomplished.

2227 Ember

Ember is a singularly unpromising world, inhabited by Terrans only in their desperate desire to expand away from the Imperium. Smaller than Luna, and with nearly no atmosphere, it was originally intended as a stepping-stone into space to trailing. Unfortunately neither it nor its nearby brother Loki was near another "stepping-stone." Ember is a dead end, more than two parsecs from anything further out, and was officially abandoned years ago.

Still, the economic and military buildup of the Confederation is so intense that some people see worth in Ember. Ember orbits 23 AU from its twin primaries, and most of the time its surface is completely frozen. However, the smaller of the two primaries is a flare star, and leaps to five times its normal brightness every now and then. Ember is still frozen at these times . . . but less so than usual. During flare episodes, complex molecules like ethane and acetylene can form in the nearly oxygen-free conditions. These are valuable feed stocks for several industrial processes, so something more than 1,000 independent miners and explorers can be found on the planet at any given time, scooping up the chemicals once the flare is over and they freeze solid.

Flare times can be very dangerous, not least because there's no way to predict when they will occur. Ember has multiple locations where large water ice plateaus poke up above the landscape. Prospectors rest on these safe havens while a flare is going on – despite the increased temperature, there's no chance of water ever melting on Ember. Once the flare is over, however, their crawlers must descend to the plains and begin their mining. If they're trapped out in the open when another flare hits, they risk being mired in slushy swamps, or even completely submerged in a hydrocarbon lake, to be entombed when things freeze up again.

Thalassa Subsector Data Table

Hex	Name	Alg	Type	Dia	Grav	Atmosphere	Hyd	Climate	RVM	AFF	Population
0136	(Unexplored)	–	Garden	6,800	0.70	Very Thin-T	–	Tropical	+1	1	–
0138	(Unexplored)	–	Garden	8,300	1.06	Thin-T	40%	Very Hot	+0	5	–
0231	(Unexplored)	–	Desert (Rock)	4,000	0.36	Trace	–	Cold	+0	0	–
0233	(Unexplored)	–	Garden	4,400	0.72	Standard	68%	Cool	-1	8	–
0237	(Uncharted)	–	–	–	–	–	–	–	–	–	–
0239	(Uncharted)	–	–	–	–	–	–	–	–	–	–
0240	(Uncharted)	–	–	–	–	–	–	–	–	–	–
0331	(Unexplored)	–	Barren (Rock)	800	0.04	–	–	Frozen	+2	2	–
0332	(Unexplored)	–	Desert (Rock)	4,000	0.38	Trace	–	Very Cold	+0	0	–
0335	(Unexplored)	–	Garden	6,100	0.90	Standard-T	83%	Warm	-1	7	–
0432	(Unexplored)	–	Garden	5,000	0.67	Standard-T	100%	Chilly	+0	7	–
0434	(Unexplored)	–	Desert (Rock)	6,000	0.67	Trace	–	Frozen	+0	0	–
0437	(Unexplored)	–	Barren (Rock)	2,100	0.12	–	–	Frozen	+2	2	–
0438	(Uncharted)	–	–	–	–	–	–	–	–	–	–
0440	(Uncharted)	–	–	–	–	–	–	–	–	–	–
0532	(Unexplored)	–	Garden	5,200	0.53	Very Thin	16%	Normal	+0	0	–
0533	(Unexplored)	–	Desert (Rock)	2,700	0.12	Trace	–	Frozen	+0	0	–
0536	(Unexplored)	–	Garden	6,300	0.86	Dense-T	62%	Normal	+0	8	–
0632	Sionnach	Te	Garden	4,800	0.61	Very Thin	30%	Cool	+0	0	500
0637	(Unexplored)	–	Desert (Rock)	3,800	0.36	Trace	–	Frozen	-1	-1	–
0639	(Uncharted)	–	–	–	–	–	–	–	–	–	–
0640	(Uncharted)	–	–	–	–	–	–	–	–	–	–
0832	Wallach	Te	Garden	4,300	0.70	Standard-T	83%	Tropical	-1	7	11,000
0833	Thalassa	Te	Garden	4,300	0.76	Dense	98%	Cold	+0	7	58,000
0835	(Unexplored)	–	Garden	6,100	0.68	Thin	94%	Warm	+0	7	–

Thalassa Subsector

Months from Terra by starship and cut off by the rimward edge of Imperial territory, the Thalassa subsector would be of little interest except for a quirk of astrography. The Saris-Yenisei "bridge" (p. 118) gives Terran explorers access to the region, which has never even been charted by the Vilani Imperium. The first Terran outposts have been established in the subsector, and exploration of the more distant worlds is already under way.

In fact, most of the worlds of this subsector have been explored only superficially, and many have been covered by nothing but a short orbital survey. The Confederation government is far too short-handed to mount an intensive exploration of the region, so private adventurers are being recruited to do the job. From the new colony on Thalassa itself, exploration ships are slowly fanning out across the region, making maps, performing surveys, and staking claims for various factions back on Terra. With the Confederation government so distant, a "Wild West" atmosphere has settled over the region; explorers are advised to be well armed to avoid tempting their colleagues into piracy.

0231 Unexplored

This as-yet-unnamed world has only been visited once to date, and due to its distance from Terra it will likely remain uninhabited for some time.

Reports from the crew of the *Bougainville*, the one ship to travel through the system, indicate that life here is very unusual. The planet is small, and has lost nearly all of its water and air to space. In its early days, life presumably evolved as normal, but now it is fighting a rearguard action against extinction.

On the surface, the sole life is found at cave mouths, a single species of plant that releases water to freeze and seal off the entrance while still allowing light in for photosynthesis. These plants can grow to great lengths down into the caverns, and apparently are the basis of a cave-dwelling ecology. The explorers from the *Bougainville* report that the cave systems are damp, with large lakes here and there, containing fishlike animals. The atmospheric pressure inside is also considerably higher than on the surface.

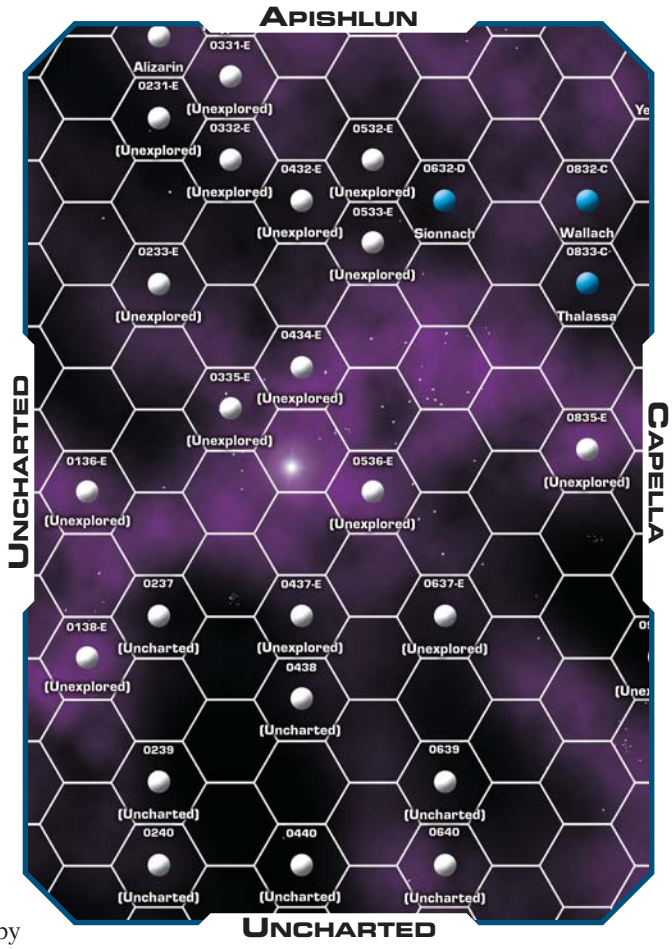
0632 Sionnach

The newest of Terra's colonies, Sionnach is the spearhead of exploration into the Thalassa subsector. Though this region is not as rich in habitable worlds as the Near Boötes Cluster, Sionnach sees a steady stream of ships passing through from Chrysolite via Wallach and Thalassa.

Sionnach itself is not much of a prize, once one gets past its location. The atmospheric pressure is less than 40% of Earth's, making it unbreathable even though the air is half oxygen. The Confederation has been deliberately recruiting colonists from the Bolivian Altiplano on Terra, as they are adapted to similar conditions, but even they are unable to stay outside more than a few hours without a pressure mask. Most visitors will likely faint within a few seconds.

Despite this failure, the Confederation continues to build up Sionnach. A scientific institute is due to open in the next year, with the intent of studying the effects of low-but-not-impossible atmospheric pressures on other kinds of Terran life. The hope is that it may be possible to engineer food crops that can handle low oxygen levels in otherwise

Port	Government	CR	TL	Trade	WTN
E	–	0	0	–	–
E	–	0	0	–	–
E	–	0	0	–	–
E	–	0	0	–	–
–	–	–	–	–	–
–	–	–	–	–	–
–	–	–	–	–	–
E	–	0	0	–	–
E	–	0	0	–	–
E	–	0	0	–	–
E	–	0	0	–	–
E	–	0	0	–	–
E	–	0	0	–	–
–	–	–	–	–	–
–	–	–	–	–	–
E	–	0	0	–	–
E	–	0	0	–	–
E	–	0	0	–	–
D	Anarchy	0	8	Ni Po	2.0
E	–	0	0	–	–
–	–	–	–	–	–
–	–	–	–	–	–
C	RepDem	4	7	Ni	3.0
C	RepDem	4	10	Ni	3.0
E	–	0	0	–	–



hospitable environments. If successful, this will open up more worlds for colonization, so the Confederation is putting forth as much effort as possible so far from Terra.

There are rumors that several Vegans have been invited to join the project, as the worlds they prefer are not that different from Sionnach.

0833 Thalassa

One of the three Terran outposts in the subsector, Thalassa is in the middle of an ecological catastrophe caused by contact with Terran lifeforms.

The planet was first surveyed in 2128 by the Terran jump-2 ship *Argo*, on one of the first exploration missions into this subsector. They found a water world, with the only significant land mass buried under ice at the south pole. Thalassa was about 700 million years old, and had recently developed basic multicellular life. The planet was noted as a potential colony world, and then the *Argo* moved on.

When the next ship arrived six years later, it was obvious that something had happened – Thalassa's formerly stable biosphere was in full collapse. A six-month investigation came to the conclusion that contamination by Terrestrial bacteria was the cause. Designed by an extra 3.5 billion years of evolution to break down tough organic tissues like cellulose and keratin, these bacteria were now quite efficiently destroying the primitive Thalassan life forms.

Over the next few decades, several attempts were made to reverse the process, but – were successful. In 2164, the planet was officially turned over to a coalition of scientific research units working on the problems of terraforming. Native Thalassan life is now found only in extremely harsh environments at the ocean bottoms, where their destroyers can't go, so the new caretakers have decided to introduce Terran lifeforms into the biosphere. With previously existing oxygen in the air and liquid water in abundance, Thalassa is considered a much easier job than Mars (the other Confederation world being terraformed), and it is hoped that what can be learned from the process here will help on the Red Planet and elsewhere.

In the six years since taking custody of the planet, the Thalassan Coalition has managed to produce a stable, if simple, ecological web consisting mostly of bacteria and plankton, with a few small fish species as well. Now that that has been established, the next step is to start introducing larger and larger animals, up to sharks and whales, all the while working endlessly to keep the system in control.

About 5,000 of the planet's population are actively involved in the process, while the rest are colonists of a more traditional stripe. The planet's few islands are rich with volcanic ash that can be turned into soil with the right "starter" mixture of Terran soil and organisms. Already, several of the largest islands have been settled, and the long process of making the planet self-supporting has begun.

Thalassa is sufficiently far off normal trade routes that few ships visit, and in any case the current colony's sole possible export is low-value bulk foodstuffs. However, the Coalition scientists are usually well paid by their offworld employers, and are desperate for consumer goods and equipment imported from elsewhere.

Capella Subsector Data Table

Hex	Name	Alg	Type	Dia	Grav	Atmosphere	Hyd	Climate	RVM	AFF	Population
0931	Yenisei	Te	Barren (Rock)	800	0.05	–	–	Frozen	+0	0	1,300
0938	(Unexplored)	–	Asteroid Belt	–	–	–	–	Infernal	+1	1	–
1032	Chrysolite	Te	Garden	5,100	0.51	Thin-T	72%	Warm	+1	8	52,000
1034	Tunguska	Te	Garden	4,700	0.65	Thin	9%	Very Cold	+0	5	10,000
1035	(Unexplored)	–	Garden	4,300	0.70	Standard	82%	Normal	+0	9	–
1136	(Unexplored)	–	Garden	6,800	0.84	Dense	50%	Normal	+1	10	–
1137	(Unexplored)	–	Desert (Rock)	3,800	0.43	Trace	–	Very Cold	+0	0	–
1140	(Unexplored)	–	Garden	9,300	1.06	Standard-T	64%	Normal	-1	7	–
1234	Luuru	–	Subgiant	9,100	1.20	Corrosive	71%	Frozen	+0	0	–
1237	(Unexplored)	–	Desert (Rock)	4,300	0.38	Trace	–	Frozen	+0	0	–
1239	(Unexplored)	–	Garden	6,200	0.68	Thin-T	71%	Hot	+0	6	–
1332	Mirabilis	Te	Garden	4,300	0.70	Thin	31%	Normal	+1	9	140,000
1337	(Unexplored)	–	Garden	4,400	0.78	Dense	72%	Warm	+0	9	–
1339	(Unexplored)	–	Garden	7,300	0.93	Standard	96%	Warm	+0	8	–
1340	(Unexplored)	–	Garden	4,900	0.50	Very Thin-T	16%	Very Cold	+0	0	–
1435	(Unexplored)	–	Garden	6,900	0.87	Thin	91%	Chilly	+0	7	–
1437	(Unexplored)	–	Garden	7,300	0.85	Standard	32%	Normal	+1	10	–
1439	(Unexplored)	–	Garden	8,100	1.07	Dense	74%	Cool	+0	9	–
1440	(Unexplored)	–	Asteroid Belt	–	–	–	–	Infernal	+2	2	–
1533	Sarpedon	Te	Desert (Rock)	3,000	0.24	Trace	–	Frozen	+1	1	10,000
1537	(Unexplored)	–	Desert (Rock)	3,400	0.38	Trace	–	Cold	+2	2	–
1538	(Unexplored)	–	Garden	8,400	1.19	Very Dense	96%	Very Hot	+1	6	–
1540	(Unexplored)	–	Garden	7,400	0.84	Thin	50%	Cool	+1	9	–
1636	(Unexplored)	–	Garden	4,400	0.75	Thin	56%	Normal	+0	8	–
1637	(Unexplored)	–	Barren (Rock)	2,000	0.11	–	–	Frozen	+0	0	–

Capella Subsector

Rimward of Terra and the Imperial border is a jump-3 gap, uncrossable by starships using current technology. The only break in that gap is between Saris (in the Dingir subsector) and Yenisei (in the Capella subsector), which are only two parsecs apart. The Vilani have never taken advantage of this "bridge" to explore or colonize to rimward – which leaves the Capella subsector open for Terran expansion.

Since the end of the Third Interstellar War, the Confederation has invested considerable resources in exploring and colonizing past the Saris-Yenisei "bridge." Several Terran colonies have been established in the region, providing a base for exploration to rimward. From here, it appears that Terran expansion can continue almost indefinitely, so the venture is regarded as a long-term investment in the future of Terran civilization. Even if the Vilani should conquer Terra, it seems unlikely that they would pursue every Terran colonist to the edge of the galaxy.

The main thrust of exploration in this area is to rimward and trailing of the "bridge," toward a rich grouping of stars called the Near Boötes Cluster. It is already known that this cluster contains a surprising number of rich garden worlds. Direct exploration of these worlds is under way, with both Confederation and private expeditions taking part. The Confederation's long-range colonial plan includes intensive settlement of the cluster over the next century or so.

It is known that several "generation ship" expeditions, sent out in the mid-21st century, headed in this direction from Terra. Reopening contact with these long-lost colonists would be a great coup, even if it had little effect on the course of the conflict with the Imperium.

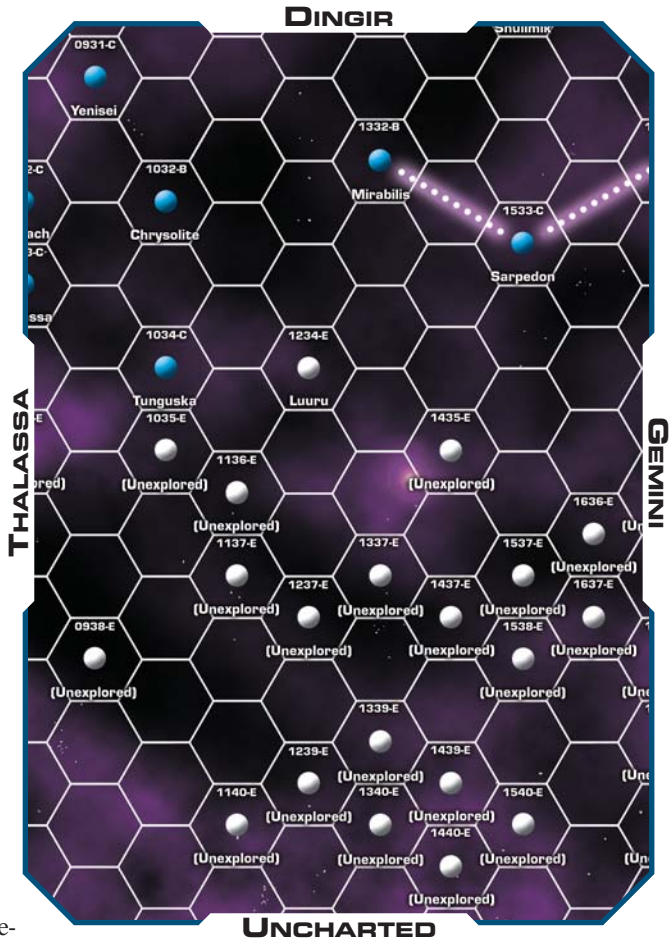
1032 Chrysolite

One of the most ancient worlds known, Chrysolite is over seven billion years old. Its sun is now at the hottest point in its history, and the planet is so warm that its oceans are evaporating. Chrysolite's "cold trap," the upper part of its atmosphere that has until now kept its oceans from disappearing into space a molecule at a time, is saturated with water.

This condition makes the planet's skies a place of astonishing beauty and violence. Thunderheads rear 50 or more miles up, ultraviolet light smashes water vapor into its component ions, and enormous lightning bolts bring them back together. The ground is often pelted with raindrops the size of a man and hail the size of a fist – only the world's warm climate keeps the latter from being even bigger. The landscape is scarred by erosion, and the oceans are brown with silt.

Naturally, all of this has put off the Terran Confederation, as Chrysolite is a necessary stopping point between the Sol subsector and the Near Boötes Cluster, or to Sionnach and the worlds of Thalassa subsector. As of 2170, 52,000 people call the planet home, and for the last 10 years it has been the informal home base for Terran explorers in the region. In particular, a bar named The Golden Stone (in Mesa, the planet's only large town) has become famous as a place where men and women rest who've been the first Humans to see some part of the universe.

Port	Government	CR	TL	Trade	WTN
C	Corporate	2	10	Ex Ni	3.0
E	–	0	0	–	–
B	RepDem	5	10	Ni	3.5
C	AthDem	4	9	Ni Po	3.0
E	–	0	0	–	–
E	–	0	0	–	–
E	–	0	0	–	–
E	–	0	0	–	–
E	–	0	0	–	–
E	–	0	0	–	–
E	–	0	0	–	–
B	RepDem	6	10	Ni Po	4.0
E	–	0	0	–	–
E	–	0	0	–	–
E	–	0	0	–	–
E	–	0	0	–	–
E	–	0	0	–	–
E	–	0	0	–	–
E	–	0	0	–	–
C	Technocracy	0	9	Ex Ni	3.0
E	–	0	0	–	–
E	–	0	0	–	–
E	–	0	0	–	–
E	–	0	0	–	–
E	–	0	0	–	–



1034 Tunguska

Anyone looking at this world from orbit understands its name when the Yin Crater rotates into view. One hundred miles in diameter, it lies on the edge of one of the planet's oceans, taking a huge bite out of the adjoining continent.

The impact occurred 100,000 years ago, and Tunguska is still recovering from the ensuing mass extinction. Life on land is impoverished; no land-animal species is larger than a domestic cat, and every species is genetically homogeneous, descended from a few survivors of the asteroid strike. The oceans are better off, but still depleted. Terran colonists are bringing plant and animal species with them in the hopes of integrating them with the local biosphere while it is already in the process of adapting. With any luck, a hybrid will develop that is very hospitable to Humans.

1337 Unexplored

Visited only twice so far by any Terran explorers, this system contains a very promising terrestrial world that is targeted for the next wave of colonization. The most unusual thing in the system, though, is in orbit around the next planet out. The planet itself is a nondescript Mercury-sized hunk of rock, but its "moon" is an artifact of some sort, named the Litchford Remnant after its discoverer.

The Remnant is a vaguely rib-shaped piece of extremely hard ceramic, 300 feet long and 20 feet thick, broken at one end. Inscribed all over its surface are lines that bear a resemblance to large-scale computer circuits, but only the lines and the slightest traces of germanium are left of whatever those might have been. The artifact hasn't been dated, mostly because without knowing its composition it is impossible to know what tests to use. It has been scratched with very high-powered lasers, and the resulting puffs of gas suggest it is an arrangement of boron, silicon, and carbon. Figuring out exactly how the atoms hold together and produce the Remnant's incredible hardness is beyond Confederation technology.

The Green Badge

Chrysolite is named for a cheap green gemstone that can be found in quantity around the shores of the small lake next to Mesa. Terran explorers based on the planet have been using the stones to distinguish themselves from "ordinary people" for several years now. On returning to Chrysolite, any person who was the first Human ever to step onto a planet receives a half-inch flat oval of the green-and-yellow-streaked stone to wear. The badge can be set in a ring, a brooch, a pin, an earring, or anything else – the exact location is left up to the explorer. Although chrysolite is only a semiprecious stone, the badges have entered Terran folklore; genuine examples are priceless. Only 27 exist, and the owners of six are missing or dead.

Gemini Subsector Data Table

Hex	Name	Alg	Type	Dia	Grav	Atmosphere	Hyd	Climate	RVM	AFF	Population
1732	Ys	Te	Garden	7,700	0.98	Thin-T	72%	Tropical	+0	7	32,000
1736	(Unexplored)	–	Desert (Rock)	3,600	0.33	Trace	–	Very Cold	-1	-1	–
1738	(Unexplored)	–	Garden	2,300	0.18	Standard	98%	Warm	+0	8	–
1739	(Unexplored)	–	Garden	7,200	0.76	Very Thin	–	Cold	+1	1	–
1740	(Uncharted)	–	–	–	–	–	–	–	–	–	–
1833	Remulak	Te	Garden	9,100	1.15	Standard-T	43%	Warm	+1	9	48,000
1836	(Unexplored)	–	Garden	9,800	0.87	Dense	50%	Normal	-1	8	–
1931	Hephaistos	Te	Pre-Garden	9,000	1.02	Suffocating	98%	Warm	+0	0	6,000
2031	Calgary	Te	Garden	10,200	0.90	Dense-T	96%	Cold	+0	6	10,000
2131	Inferno	Te	Garden	5,000	0.50	Standard-T	79%	Hot	+0	7	30,000
2132	Forlorn	Te	Garden	4,300	0.74	Dense-T	62%	Cold	+0	7	12,000
2135	(Uncharted)	–	–	–	–	–	–	–	–	–	–
2138	(Uncharted)	–	–	–	–	–	–	–	–	–	–
2235	(Uncharted)	–	–	–	–	–	–	–	–	–	–
2236	Pollux	–	Asteroid Belt	–	–	–	–	Infernal	-3	-3	–
2240	(Uncharted)	–	–	–	–	–	–	–	–	–	–
2337	(Uncharted)	–	–	–	–	–	–	–	–	–	–
2339	Castor	–	Asteroid Belt	–	–	–	–	Very Cold	+2	2	–
2433	(Uncharted)	–	–	–	–	–	–	–	–	–	–

Gemini Subsector

The Gemini subsector is divided into two sections. To coreward is a scatter of worlds that are immediately accessible from Terra, part of the "Outback" that has already been settled by a series of Terran outposts. These worlds are well explored, and several of them are inhabited by small (but fast-growing) Terran communities.

Cut off from the "Outback" by a jump-3 gap are the unexplored worlds of the subsector, some of them in the Near Boötes Cluster to spinward, others scattered and relatively inaccessible to trailing. The Cluster is accessible to Terran explorers by way of the Saris-Yenisei "bridge," but even so the Cluster worlds of the Gemini subsector are at the very limit of Terran exploration. To trailing, the remaining worlds of the subsector are isolated by another jump-3 gap, and so are almost completely unknown to Terran explorers. Only the bright stars Castor and Pollux are at all known; their star systems have been mapped only from a distance, by sensitive telescopes.

The Gemini subsector is the target of a number of strange rumors. Several explorers have reported odd non-Human artifacts, or traces of activity that can't be tied to any known Terran expedition. Verification of these rumors is very difficult, and the Confederation government dismisses them as unfounded.

0501 Inferno

One of the first colonies in this subsector, Inferno has been settled for less than 10 years. The planet is quite like Terra, but unfortunately it's most like the Terra of 300 million years ago – carbon dioxide levels in the atmosphere are 40 times as high as those on Terra. Breathing Inferno's air for more than an hour causes nausea and dizziness, and most people pass out after a few hours more. Special recirculating masks containing reserves of powdered limestone are needed for extended outdoor journeys. This extra fraction of greenhouse gas gives Inferno its name, as temperatures at the equator can exceed 160°. In the northern and southern latitudes the climate is cooler, but still very warm.

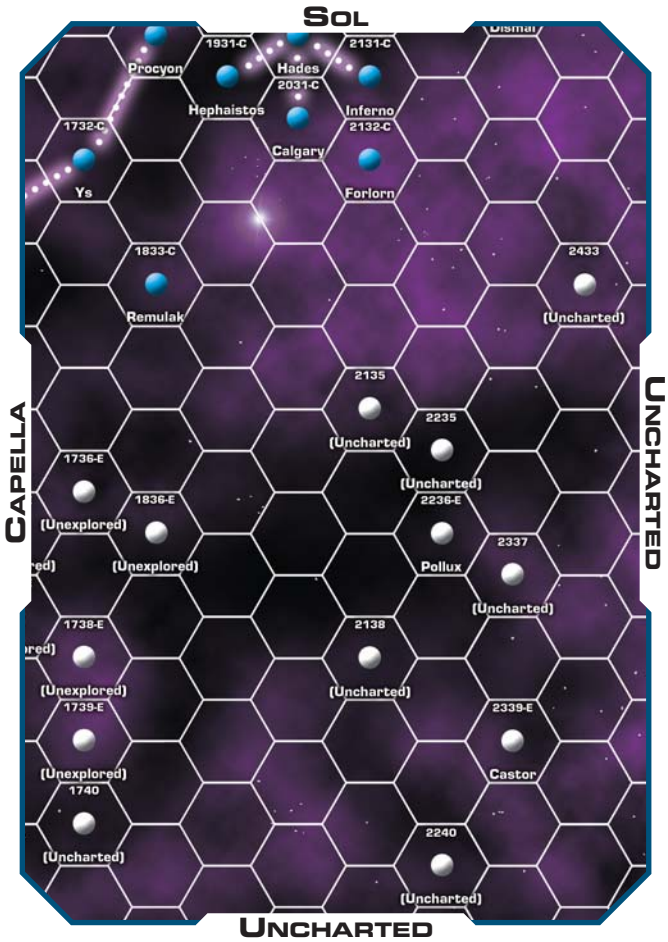
While bad for Humans, the air and heat make Inferno a paradise for plants. It is nearly impossible to get anywhere along the ground, as the greenery (which is actually a dark greenish-blue due to Inferno's red sun) is impenetrable over much of the planet. Unless staying in the cleared colony area, air travel is recommended.

Animal life usually takes a back seat to Inferno's flora, but pseudo-insects have carved a substantial niche for themselves. Like many Terran insects, they feed on plants, mostly as pollinators in symbiosis. One interesting divergence from Terran life is the manner in which the insects find their food and each other. On Terra, sight is the primary means of location, accounting for the colorful flowers that can be found in any garden. On Inferno, the forest canopy is so thick it's possible to be a few feet away from a plant and not be able to see it. The insects use sound instead, and in a manner that may be unique in the galaxy.

Both plants and insects pick up metals from the soil, using them to build long sturdy veins – in the leaves or petals of plants, and in the wings of insects. When struck, these veins chime like a tuning fork. Each pairing of insect species and associated plant has a unique frequency. If one can manage to get some distance into the forest, the visitor is treated to a random concert of notes, reminiscent of "experimental" music.

Plants on Inferno usually use iron for their veins, thinly sheathed with organic material to prevent rusting. Entomologists, on the other hand, need to be very careful with their insect specimens. With weight a consideration for flying insects, most species have settled on magnesium. In the damp, carbon-dioxide-laden air of Inferno, this presents no problems – but in a Terran-style atmosphere, they often spontaneously combust, killing the bug and surprising nearby Humans.

Port	Government	CR	TL	Trade	WTN
C	AthDem	6	8	Ni	3.0
E	–	0	0	–	–
E	–	0	0	–	–
E	–	0	0	–	–
–	–	–	–	–	–
C	AthDem	5	5	Ni	2.5
E	–	0	0	–	–
C	Corporate	2	10	Ex Ni	3.0
C	RepDem	1	8	Ni	3.0
C	Technocracy	6	6	Ni	3.0
C	AthDem	4	7	Ni	3.0
–	–	–	–	–	–
–	–	–	–	–	–
–	–	–	–	–	–
E	–	0	0	–	–
–	–	–	–	–	–
–	–	–	–	–	–
E	–	0	0	–	–
–	–	–	–	–	–



Placing Worlds

Interstellar Wars GMs running adventures far from Terra will want to design their own worlds. This section presents a simple system for designing regions of space to serve as the backdrop for adventures. The rules here assume conditions as of the ***Interstellar Wars*** era in the ***Traveller*** universe – GMs who want a system more widely applicable to other settings should refer to ***GURPS Space***.

Mapping a Subsector

Each subsector has a system density, indicating how likely it is for a world to appear in each hex (see the System Presence Table). For example, the region of space closest to Terra is of Scattered density.

When mapping a subsector for the first time, choose a system density, then roll dice as indicated in the table for each hex in the subsector map. Place a world in the hex if the target number of greater is rolled. Alternatively, the GM may simply place an appropriate number of star systems as he pleases (typical ranges of star system counts are given in the table).

System Presence Table

Subsector Density	*Throw per Hex*	*Typical Number*
Rift	12+ on 2d	2-3
Sparse	6+ on 1d	11-16
Scattered	5+ on 1d	21-32
Standard	4+ on 1d	32-48
Dense	3+ on 1d	43-64

Generating Worlds

The steps in the following sequence allow the GM to design the most important worlds of his ***Interstellar Wars*** universe. The sequence produces results similar to those of the ***Classic Traveller*** world-design rules, while retaining some degree of realism. Always remember that the rules should be considered guidelines, an indication of which options are more likely to yield the ***Traveller*** flavor while still fitting current scientific theory. No die roll should be allowed to dictate the course of the GM's campaign.

The steps below assume that the GM is planning to generate at least an entire subsector of space as a backdrop for ***Interstellar Wars*** adventures. The GM should proceed with Steps 1 through 6 of the sequence for each individual world. Once that has been done, Steps 7 through 15 will help him to determine how those worlds fit together – where the trade routes lie, which worlds play host to military bases, and so on.

The design sequence is intended to produce a description of the main world of each star system. A system may have thousands of other planets, moons, asteroids, and significant pieces of space debris. The main world is the one with the largest Human or alien population – the one that visitors are most likely to find interesting. The GM may design other worlds in the star system to suit his needs, possibly by referring to ***GURPS Space*** for additional detail.

Step 1: World Type

For each world marked on the map, roll 4d on the World Type Table and make note of the result. In some cases the result on the World Type Table includes two or more of the above classes; see the instructions following the table as needed.

World Type Table

Roll (4d)	*World Type*
4-7	Asteroid Belt
8-9	Barren
10	Desert (Rock)
11-12	Garden (Very Thin atmosphere)
13-14	Garden (Thin atmosphere)
15-16	Garden (Standard atmosphere)
17-18	Garden (Dense atmosphere)
19-21	Hostile
22-24	Garden (Very Dense atmosphere)

Asteroid Belt: The main world is of the Asteroid Belt type.

Barren: The main world is either a Barren (Ice) or Barren (Rock) world. Roll 3d; on a 12 or less the type is Barren (Rock), otherwise it is Barren (Ice).

Garden: The main world is of the Garden class. Aside from noting the world type, also make note of the atmospheric pressure (Very Thin, Thin, Standard, Dense, or Very Dense) for later reference.

Hostile: The main world falls into one of the remaining types, each characterized by a significant but unbreathable atmosphere. Roll 3d on the Hostile World Type Table, and make note of the result as the world's type.

Hostile World Type Table

Roll (3d)	*World Type*
3-4	Subgiant
5-6	Desert (Ice)
7-9	Glacier
10-15	Pre-Garden
16-18	Greenhouse

Step 2: World Size

Each world type has its own associated range of world sizes – refer to the following section that is appropriate for any given world. In each case, roll 3d on a Diameter Table specific to the world's type to get the diameter of the world. Once the diameter has been established, roll 3d on the specified Density Table to get the world's average density. The result on the Diameter Table may give a *Density Modifier* that must be added to the roll on the Density Table. Once the diameter and density of the world have been determined, the world's surface gravity can be computed.

The diameter of each world will be given in miles, rounded to the nearest 500 miles. If the GM wants finer detail, he can roll 1d immediately after his roll on the Diameter Table. On a 1, subtract 200 miles from the diameter from the table; on a 2, subtract 100 miles; on a 5, add 100 miles; on a 6, add 200 miles.

Asteroid Belts

If the main world is an asteroid belt, skip this step. The "world" is composed of dozens to thousands of asteroids, none of them more than a few hundred miles across, most of them much smaller. The surface gravity of these asteroids will be negligible.

Barren (Ice) Worlds

Roll 3d on the Barren (Ice) Diameter Table. Once the diameter of the world has been established, roll on the Icy Core Density Table (p. 123) to determine the world's average density.

Barren (Ice) Diameter Table

Roll (3d)	*Diameter*	*Density Modifier*
3-8	1,000	-4
9-12	1,500	-1
13-14	2,000	+0
15-16	2,500	-4
17-18	3,000	-8

Barren (Rock) Worlds

Roll 3d on the Barren (Rock) Diameter Table. Once the diameter of the world has been established, roll on the Small Iron Core Density Table (p. 123) to determine the world's average density.

Barren (Rock) Diameter Table

Roll (3d)	*Diameter*	*Density Modifier*
3-8	1,000	-8
9-10	1,500	-4
11-12	2,000	-1
13-14	2,500	+0
15-16	3,000	-4
17	3,500	-8
18	4,000	-12

Desert (Ice) Worlds

Roll 3d on the Desert (Ice) Diameter Table. Once the diameter of the world has been established, roll on the Icy Core Density Table (p. 123) to determine the world's average density.

Desert (Ice) Diameter Table

Roll (3d)	*Diameter*	*Density Modifier*
3-8	3,000	+8
9-12	3,500	+4
13-14	4,000	+0
15-16	5,500	+0
17-18	6,000	+0

Desert (Rock) Worlds

Roll 3d on the Desert (Rock) Diameter Table. Once the diameter of the world has been established, roll on the Small Iron Core Density Table to determine the world's average density.

Desert (Rock) Diameter Table

Roll (3d)	Diameter	Density Modifier
3-5	3,000	+12
6-8	3,500	+4
9-12	4,000	+0
13-15	4,500	-4
16-18	5,000	-8

Garden and Pre-Garden Worlds

For *both* Garden and Pre-Garden worlds, roll 3d on the Garden Diameter Table. *Modifiers:* For Garden worlds *only*, -6 if the world has a Very Thin atmosphere as indicated in Step 1, -3 if it has a Thin atmosphere, +3 if it has a Dense atmosphere, +6 if it has a Very Dense atmosphere.

Once the diameter of the world has been established, roll on the Large Iron Core Density Table (p. 124) to determine the world's average density.

Garden Diameter Table

Roll (3d)	Diameter	Density Modifier
3 or less	4,500	+15
4	5,000	+8
5-6	5,500	+0
7-8	6,000	+0
9-10	6,500	+0
11-12	7,000	+0
13-14	7,500	+0
15-16	8,000	-1
17	8,500	-4
18 or more	9,000	-8

Glacier Worlds

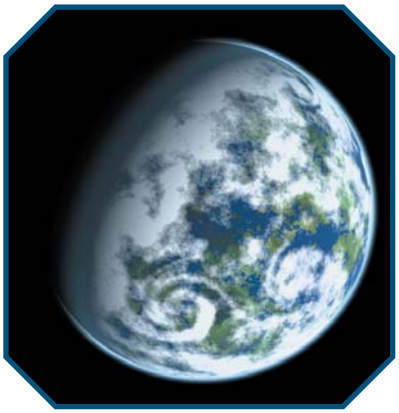
Roll 3d on the Glacier Diameter Table. Once the diameter of the world has been established, roll on the Large Iron Core Density Table (p. 124) to determine the world's average density.

Glacier Diameter Table

Roll (3d)	Diameter	Density Modifier
3	4,000	+12
4	4,500	+0
5-6	5,000	+0
7-8	5,500	+0
9-10	6,000	+0
11-12	6,500	+0
13-14	7,000	+0
15-16	7,500	+0
17	8,000	-4
18	8,500	-8

Greenhouse Worlds

Roll 3d on the Greenhouse Diameter Table. Once the diameter of the world has been established, roll on the Large Iron Core Density Table (p. 124) to determine the world's average density.



Greenhouse Diameter Table

Roll (3d)	Diameter	Density Modifier
3	4,500	+15
4	5,000	+8
5	5,500	+0
6	6,000	+0
7-8	6,500	+0
9-10	7,000	+0
11-12	7,500	+0
13-14	8,000	+0
15	8,500	+0
16	9,000	-1
17	9,500	-4
18	10,000	-8

Subgiant Worlds

Roll 3d on the Subgiant Diameter Table. Once the diameter of the world has been established, roll on the Large Iron Core Density Table (p. 124) to determine the world's average density.

Subgiant Diameter Table

Roll (3d)	Diameter	Density Modifier
3-4	8,000	+8
5-7	8,500	+4
8-10	9,000	+0
11-13	9,500	+0
14-18	10,000	+0

Planet Density

Once the diameter of a planet has been determined, roll 3d on one of the three following tables for the planet's density. For Barren (Ice) and Desert (Ice) worlds, roll on the Icy Core Density Table. For Barren (Rock) and Desert (Rock) worlds, roll on the Small Iron Core Density Table. For all other worlds, roll on the Large Iron Core Density Table. In all cases, apply any Density Modifier from the Diameter Table to the 3d roll.

Icy Core Density Table

Roll (3d)	Density
6 or less	0.3
7-10	0.4
11-14	0.5
15-17	0.6
18 or more	0.7

Small Iron Core Density Table

Roll (3d)	Density
6 or less	0.6
7-10	0.7
11-14	0.8
15-17	0.9
18 or more	1.0

Large Iron Core Density Table

Roll (3d)	Density
6 or less	0.8
7-10	0.9
11-14	1.0
15-17	1.1
18-20	1.2
21-23	1.3
24 or more	1.4

Planet Surface Gravity

To determine the surface gravity of a planet, apply the following formula:

G = (K × D)/7930

G is the world's surface gravity, in Gs. **K** is the world's density from one of the Density Tables. **D** is the world's diameter, in miles. Round off to two decimal places and make note of the result.

Step 3: Atmosphere

This step determines the composition and surface pressure of the world's atmosphere. Each world type has its own associated atmospheric properties. Refer to the following section that is appropriate for any given world.

Asteroid Belt, Barren (Ice), or Barren (Rock) Worlds

None of these worlds will have a significant atmosphere. Note "–" for the atmosphere; a visitor on the surface will be in a vacuum (see p. B437).

Desert (Ice) Worlds

A Desert (Ice) world will have an atmosphere, composed largely of carbon dioxide or nitrogen. Nitrogen oxides and ammonia are very likely to be present, presenting an immediate danger to exposed tissues. Roll 3d; on a 9 or less the atmosphere is Toxic, otherwise it is Corrosive.

Desert (Rock) Worlds

A Desert (Rock) world will have an atmosphere, very thin and composed largely of carbon dioxide and nitrogen. Roll 3d; on a 15 or less there is only a Trace atmosphere (p. B429), otherwise the atmosphere is Suffocating.

Garden Worlds

Garden worlds have significant atmospheres composed primarily of nitrogen, with a significant amount of free oxygen that can support Human respiration. The pressure of a Garden world's atmosphere is determined by the result originally obtained from the table in Step 1.

Any Garden world's atmosphere will be Tainted on a roll of 9 or less on 3d. To generate more specific detail about a given Tainted atmosphere, see the text box.

Glacier and Pre-Garden Worlds

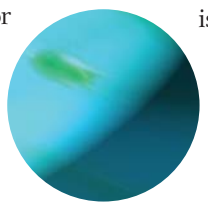
A Glacier or Pre-Garden world will have an unbreathable atmosphere rich with carbon dioxide and nitrogen. There may be other toxic substances in the atmosphere due to volcanic activity or other natural processes. Roll 3d; on a 12 or less the atmosphere is Suffocating, otherwise it is Toxic.

Greenhouse

A Greenhouse world will always have an atmosphere that is extremely dense and furnace-hot. A "dry greenhouse" world will have an atmosphere composed primarily of carbon dioxide and sulfur compounds, while a "wet greenhouse" world will have nitrogen, water vapor, and possibly even free oxygen in the mix. Roll 3d; on a 12 or less the atmosphere is Insidious, otherwise it is Corrosive.

Subgiant Worlds

A Subgiant world will have a very dense atmosphere dominated by helium, hydrogen, and hydrogen compounds such as ammonia and methane. Warmer subgiant worlds may have carbon dioxide and nitrogen gas in place of ammonia and methane. Roll 3d; on a 12 or less the atmosphere is Corrosive, otherwise it is Toxic.



Step 4: Hydrographics

This step determines the portion of the world's surface that is covered by liquid "oceans." These oceans are most likely to be composed of water, but on some worlds they may contain more exotic compounds.

Each world type has its own associated hydrographic properties. Refer to the following section appropriate for any given world. In each case, the hydrographic coverage is expressed as a multiple of 10% of the world's surface area. If the GM wants more detail, he can roll 2d-7 and multiply by 1%, adding the result (even if negative) to the basic hydrographic percentage generated below.

Asteroid Belt, Barren, and Desert (Rock) Worlds

None of these world types will have "oceans" of liquid water or other common substances. Their hydrographic coverage is always 0%.

Asteroid belt objects, Barren (Rock) worlds, and Desert (Rock) worlds that are far enough from the primary star *may* have some amount of water ice, buried under the surface or hidden in always-shadowed craters.

Barren (Ice) worlds are often covered with water ice, but will not have permanent bodies of liquid water on the surface. Beneath the surface of the ice, a Barren (Ice) world may have *considerable* liquid water, especially if the world experiences internal heating. For example, most Barren (Ice) worlds that orbit gas giant planets are heated by tidal effects, keeping the subsurface oceans warm enough to stay in a liquid state.

Desert (Ice) Worlds

Desert (Ice) worlds may have "oceans" of liquid volatiles, but these are likely to be composed of liquid hydrocarbons rather than water. Roll 2d-2 and multiply by 10%; the result is the portion of the world's surface covered by substances in a liquid state. The rest of the surface is likely to be rich with ices, possibly including water ice.

Atmospheric Taints

When the GM is running an adventure on a world with a tainted atmosphere, he may want to know more about the exact nature of the taint. Roll 3d on the Atmospheric Taint Table, or choose a primary contaminant from the sections below.

Atmospheric Taint Table

Roll (3d)	*Major Toxic Component*
3-4	Chlorine or Fluorine
5-6	Sulfur Compounds
7-8	Nitrogen Compounds
9-10	Organic Toxins
11-12	Pollutants
13-14	High Carbon Dioxide
15-16	High Oxygen
17-18	Inert Gases

Chlorine or Fluorine

In an oxygen-nitrogen atmosphere, chlorine would normally combine with other elements to form nontoxic compounds. However, it's possible for living things with an odd biochemistry to release a significant amount of chlorine into the atmosphere. This might give rise to a biosphere full of plants and animals that use a Terra-like carbon-oxygen cycle but are adapted to the presence of trace amounts of chlorine in the air. Visitors who do not have similar biochemistry would find the unfiltered air to be corrosive and very poisonous.

A world with significant amounts of chlorine in the air would be a very strange place. The air would carry a faint color, and the presence of chlorine would slightly distort images. Since chlorine gas is heavier than air, it would tend to pool in caves and depressions in the land, reaching concentrations that might kill even native animal life. On such a world, rainfall and standing water would actually be a weak hydrochloric acid solution. Living things would use odd polymers in their structure – natural plastics, which would not dissolve in the chlorine-tainted air.

On such a world, an unprotected Human would need to make a HT roll every minute, at -2 to -6 depending on the local concentration of chlorine. Failure causes 1 point of toxic damage. At its highest concentrations, the chlorine would actually be Corrosive (p. B429).

On some worlds, fluorine gas might play a role similar to chlorine, but fluorine is much less common.

Sulfur Compounds

Hydrogen sulfide, sulfur dioxide, and sulfur trioxide might be found in the air due to massive industrial pollution or volcanic activity. Visitors would find the air to be toxic and full of unpleasant odors. Rainfall and standing water would be weak solutions of sulfuric acid.

Unprotected visitors would need to make a HT roll once per hour to avoid 1 point of toxic damage. Close to a source of the sulfur compounds, the roll may be more frequent.

Nitrogen Compounds

Nitrogen oxides are very unlikely to appear in an oxygen-nitrogen atmosphere unless they are produced by a strange local biochemistry or by massive industrial pollution. As with sulfur compounds, the unfiltered air would be somewhat toxic and any open water would be tainted by acid.

Unprotected visitors would need to make a HT roll once per hour to avoid 1 point of toxic damage. Close to a source of the nitrogen compounds, the roll may be more frequent.

Organic Toxins

Living things may release dangerous substances into the air – pollen, spores, disease-causing microorganisms, complex airborne toxins, and so on. In general, an unprotected visitor would need to make a HT roll once per day to avoid 1 point of toxic damage. Unprotected exposure to the air may also count as exposure to a weak respiratory-agent poison (p. B437) or a disease (p. B442); the GM is encouraged to develop his own exotic maladies to give his alien worlds flavor.

Pollutants

Non-organic poisons may be in the air as well – heavy-metal or radioactive dust, toxic smoke from volcanism or industrial pollution, and so on. In general, an unprotected visitor will need to make a HT roll once per day to avoid 1 point of toxic damage. Heavy-metal poisoning can have lasting effects, as can radioactivity (p. B435).

High Carbon Dioxide

The Human metabolism is set to deal with a certain amount of carbon dioxide in the air. When there is too much, our breathing reflex malfunctions; the result is hyperventilation and a sense of suffocation. The result is rather like that of a Very Dense atmosphere (p. B430) and can lead to suffocation. (p. B436) It is possible to acclimate to moderate levels of carbon dioxide.

Very high levels of carbon dioxide are actively toxic and cannot be acclimated to; an exposed Human will need to make a HT roll once per hour to avoid 1 point of toxic damage.

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Atmospheric Taints (Continued)

High Oxygen

In moderate cases, an excess of oxygen can be a mild irritant to skin and mucous membranes, and can make it much easier for people to hyperventilate when working hard. Treat this as giving the effect on HT of a Dense atmosphere (p. B430).

Very high concentrations of oxygen are actively toxic; make a HT roll once per hour to avoid 1 point of toxic damage. At such concentrations, the oxygen increases fire hazards as well – all materials are considered to be one flammability class higher (p. B430).

Inert Gases

Nitrogen and other chemically inert compounds can cause "inert gas narcosis" when their partial pressure is high enough. Symptoms include light-headedness, reduced dexterity, euphoria, and impaired judgment. This is normally a problem only in Very Dense atmospheres, although a few compounds (such as nitrous oxide, or "laughing gas") can cause these symptoms at relatively low pressures.

An unprotected Human will be at -1 to all IQ-based rolls, and will need to make an IQ roll to perform even the simplest tasks. He will lose the Common Sense advantage if he has it, and will gain Impulsiveness.

World Climate Table

Roll (3d)	*Climate Type*	*Temperature Range (F)*	*Temperature Range (K)*
–	Frozen	Below -20°	Below 244 K
3	Very Cold	-20° to 0°	244 K to 255 K
4-5	Cold	0° to 20°	255 K to 266 K
6-7	Chilly	20° to 40°	266 K to 278 K
8-9	Cool	40° to 60°	278 K to 289 K
10-11	Normal	60° to 80°	289 K to 300 K
12-13	Warm	80° to 100°	300 K to 311 K
14-15	Tropical	100° to 120°	311 K to 322 K
16-17	Hot	120° to 140°	322 K to 333 K
18	Very Hot	140° to 160°	333 K to 344 K
–	Infernal	Above 160°	Above 344 K

Garden and Pre-Garden Worlds

Garden and Pre-Garden worlds will almost always have liquid-water oceans. Roll 2d-2 and multiply by 10% (maximum 100%); the result is the portion of the world's surface covered by liquid water.

Glacier Worlds

Glacier worlds generally have no permanent bodies of liquid water on their surface, but they may have lakes or small seas that are temporarily liquid during certain seasons. Roll 2d-10 and multiply by 10% (minimum 0%); the result is the portion of the world's surface that is usually covered by liquid water.

Greenhouse Worlds

Even if a Greenhouse world still has some surface water, it is usually in the process of losing it. Roll 2d-7 and multiply by 10% (minimum 0%); the result is the portion of the world's surface that is still covered by liquid water. A Greenhouse world that still has liquid water is a "wet greenhouse" (p. 124), while a world with 0% hydrographics is a "dry greenhouse."

Subgiant Worlds

A Subgiant world is unlikely to have oceans of pure liquid water. However, if its surface temperature and atmospheric composition are right it may have vast oceans of water and ammonia or other substances, mingled in a "eutectic" solution whose freezing point is much lower than that of pure water. Roll 2d-2 and multiply by 10% (minimum 0%); the result is the portion of the world's surface that is covered by such a liquid substance.

Step 5: Surface Climate

This step determines the *average* surface temperature of the world. The average doesn't take into account daily or seasonal variations – it indicates the most typical temperature to be found on the world over long periods of time.

Interstellar Wars defines world climate in terms of a set of temperature ranges. If a world is said to have one of these climate types, its average temperature falls within that range. The ranges are defined on the World Climate Table; in many cases, the GM will be directed to roll on that table in order to determine the world's climate type.

Climate Type is a descriptive name for the world's overall surface climate. *Temperature Range (F)* gives the associated range in degrees Fahrenheit. *Temperature Range (K)* gives the same range in *kelvins*.

Each world type has its own associated climatic properties. Refer to the following section that is appropriate for any given world.

Asteroid Belt Worlds

Asteroid belts can be found at almost any distance from the primary star, and so can have almost any climate. Roll 3d; on a 6 or less the world has Infernal climate, on a 7-9 the GM should roll on the World Climate Table, otherwise the world has Frozen climate.

Barren (Ice), Desert (Ice), Glacier, and Subgiant Worlds

All of these world types are found at some distance from the primary star, and are guaranteed to be too cold for liquid water. They always have Frozen climate.

Barren (Rock) and Desert (Rock) Worlds

These worlds can be found at a variety of distances from the primary star, although they are by definition too close and too warm to permit permanently frozen water on the surface. Roll 3d; on an 8 or less the world has Infernal climate, and on a 9-12 the GM should roll on the World Climate Table. Otherwise the world has Frozen climate.

Garden and Pre-Garden Worlds

These worlds are guaranteed to be "just right" for the presence of large amounts of liquid water – warm enough that most of the water will remain unfrozen, cool enough that none of it will boil. Roll on the World Climate Table for all such worlds.

Greenhouse Worlds

These worlds are extremely hot, due to the runaway greenhouse effect that is taking place in the atmosphere. They always have Infernal climate.

Step 6: Habitability and Resources

This step determines the factors that might make a world attractive for Human or alien settlement. Colonists are likely to come to a world that is comfortable for them, where they can live without investing in expensive artificial life support. However, even if a world is very inhospitable, settlers may arrive in a quest for valuable resources.

Resources

For each world, roll on one of the following tables. For Asteroid Belt worlds, roll 3d on the Asteroid Belt Resource Value Table. For all other world types, roll 3d on the Planetary Resource Value Table. The result will be a description of the world's resource availability, along with a Resource Value Modifier (RVM) that will be used in later steps of the sequence. Make a note of the RVM for each world.

Asteroid Belt Resource Value Table

Roll (3d)	*Overall Value*	*Resource Value Modifier*
3	Worthless	-5
4	Very Scant	-4
5	Scant	-3
6-7	Very Poor	-2
8-9	Poor	-1
10-11	Average	+0
12-13	Rich	+1
14-15	Very Rich	+2
16	Abundant	+3
17	Very Abundant	+4
18	Motherlode	+5

Planetary Resource Value Table

Roll (3d)	*Overall Value*	*Resource Value Modifier*
3-4	Very Poor	-2
5-7	Poor	-1
8-13	Average	+0
14-16	Rich	+1
17-18	Very Rich	+2

Affinity

The Affinity score for each world summarizes both resource value and habitability.

If the world is of any type other than Garden, the Affinity score is equal to the Resource Value Modifier. A Garden world with a Very Thin atmosphere will also have an Affinity score equal to the RVM; it may support locally evolved life, but Humans will be unable to survive without high-technology equipment.

If the world is of the Garden type with more than a Very Thin atmosphere, the Affinity score is computed as follows. Begin with the Resource Value Modifier and add 3. Add 1 if the atmosphere is either Standard or Dense. Add 1 if the atmosphere is not Tainted. Add 1 if the hydrographic coverage is between 1% and 29%, or if it is 91% or higher; add 2 if the hydrographic coverage is between 30% and 90%, inclusive. Add 1 if the world's average climate is Hot or Cold; add 2 if it is Chilly, Cool, Normal, Warm, or Tropical.

Make a note of the Affinity score for each world.

Placing Populations

Once the GM has gone through Steps 1-6 for every world in his region of interest, he will have defined the *physical* parameters for each world. In the rest of the world design sequence, he will determine the *social* parameters for each world – how many Humans (or other sapient beings) live there, what kind of government they live under, how much trade they engage in, and so on.

Population Categories

Before placing populations, the GM should first decide where to place *borders* – which worlds are currently in Imperial space, which are in Terran space, and which are outside space claimed by either major power. The GM should consider what kind of flavor he wants adventures in the region to have. Does he prefer tense cross-border confrontations, culture clashes deep inside Imperial territory, or bold exploration into uncharted space?

Colony Population Table

Roll (3d)	Population
28 or less	10,000 (PR 4)
29	13,000
30	15,000
31	20,000
32	25,000
33	30,000
34	40,000
35	50,000
36	60,000
37	80,000
38	100,000 (PR 5)
39	130,000
40	150,000
41	200,000
42	250,000
43	300,000
44	400,000
45	500,000
46	600,000
47	800,000
48	1.0 million (PR 6)
49	1.3 million
50	1.5 million
51	2.0 million
52	2.5 million
53	3.0 million
54	4.0 million
55	5.0 million
56	6.0 million
57	8.0 million
58	10 million (PR 7)
59	13 million
60	15 million
61	20 million
62	25 million
63	30 million
64	40 million
65	50 million
66	60 million
67	80 million
68	100 million (PR 8)
69	130 million
70	150 million
71	200 million
72	250 million
73	300 million
74	400 million
75	500 million
76	600 million
77	800 million
78	1.0 billion (PR 9)
79	1.3 billion
80	1.5 billion
81	2.0 billion
82	2.5 billion
83 or more	3.0 billion

If the subsector being generated is partially or wholly under Terran control, the GM should also decide whether the Terran-controlled worlds were first settled by Terrans or by someone else. Terran-originated colonies are only likely to be found close to Terra, in space that never fell under Imperial control. Late in the Interstellar Wars era, after Terrans have already conquered dozens or hundreds of Vilani worlds, most "Terran" worlds will have been settled originally by the Vilani or by Vilani subject races.

In any case, the GM should sort the worlds of his subsector into four categories:

Imperial Vilani worlds were originally colonized by the Vilani, or by a Vilani subject race, and are still under Imperial control.

Conquered Vilani worlds were originally colonized by the Vilani, or by a Vilani subject race, but have since passed into Terran control.

Terran worlds were originally colonized by the Terrans, and are still under Terran control. (During the course of the Interstellar Wars, Imperial forces managed to *destroy* a number of Terran outposts, but no well-established Terran world was ever *conquered* by the Vilani.)

Neutral worlds are under the control of neither major power.

Step 7: Population

This step determines the current population of each world in the subsector. This step must be performed for all of the worlds together; the placement of minor settlements tends to depend on the placement of major colonies, which in turn depends on the physical parameters determined in Steps 1-6.

Colonies

A *colony* is a permanent settlement on some world, a place where a Human or other community is likely to remain for generation after generation. Most of a colony world's population is made up of long-term immigrants or permanent residents; the colony is their home. Some "colonies" are actually the *homeworlds* of sapient races, and have been inhabited since prehistory.

New colonies usually begin with a population of at least 10,000; a truly massive colonization effort will begin by planting up to 500,000 people on the target world. From there, colonies will grow indefinitely due to further immigration and natural population increase.

The Vilani believe that overcrowding and unrestricted population growth lead to social instability, so they strictly limit their own populations and force their subject races to do the same. Terrans (and other barbarians) are not so careful – but even by the end of the Interstellar Wars era there are no Terran colonies more than about 200 years old, which limits the size of their populations.

Every Imperial Vilani, Conquered Vilani, and Terran world with an Affinity score greater than 0 will be a colony world. Very few Neutral worlds will be inhabited; the GM may deliberately place an occasional Neutral colony to represent the homeworld of some "barbarian" race not yet contacted by either the Vilani or the Terrans. There should generally be no more than one or two such worlds per *sector* – most subsectors have no native sapient races.

Once the Affinity score has been determined for every world being generated in the region, roll 3d on the Colony Population Table for each world in Imperial-controlled or Terran-controlled space with an Affinity score greater than 0. Make a note of the resulting population for each world. *Modifiers:* Add +3 times the world's Affinity score. If the world is *Imperial Vilani* or *Conquered Vilani*, add +40. If the world is *Terran*, add +1 for every 10 full years since the colony was established.

The population results from the Colony Population Table are approximate. The GM should feel free to vary them by up to 10% in either direction for any given world. Always round off world populations to two significant figures.

Outposts

An *outpost* is a settlement on an unattractive world, planted only because of the world's strategic

location or other unusual properties. Unlike a colony, an outpost has relatively few *permanent* settlers – most of the inhabitants expect to migrate elsewhere once their work at the outpost is finished.

Once all colonies have been placed, go back to each world with an Affinity score of 0 or less in Terran-controlled or Imperial-controlled space to determine whether it will have an outpost.

Some outposts are military in character. Military outposts are designed to serve as a base, or to pin down the current frontier between Terran and Imperial territory. Any world within two parsecs of a foreign colony will always have an outpost. Make a note of these military outposts first.

Many outposts are placed to serve transient starship traffic. If a world is located so that starships are likely to visit while traveling from one colony or military outpost to another, there will always be an outpost. For example, worlds on the map often fall into *mains*, groups of worlds in adjacent hexes, arranged so that a jump-1 starship can easily reach each world in turn. Every world on such a main will have an outpost, so long as there is at least one colony world or military outpost in both directions. Another common situation is the world placed two parsecs from a colony world on either side, so that jump-2 starships will almost always stop at the world on the way from one colony to the other. All such worlds will have outposts as well.

Other worlds may have outposts of very diverse nature – scientific research stations, corporate mining towns, small "rogue" settlements of the independent-minded, and so on. Terrans are much more likely to place such "extra" outposts than the Vilani. If a world that fits none of the above conditions is within Terran-controlled space, it will still have an outpost on a roll of 9 or less on 3d. If the world is within Imperial-controlled space, it will have an outpost on a roll of 5 or less on 3d.

For each world that has an outpost, roll 3d on the Outpost Population Table below to determine the outpost's approximate population. The results from the Outpost Population Table are also approximate. The GM should feel free to vary them by up to 25% for any given world. Always round off outpost populations to two significant figures (i.e. "2,600" instead of "2,633").

Outpost Population Table

Roll (3d)	*Population*
3 or less	100 (PR 2)
4	150
5	250
6	400
7	600
8	1,000 (PR 3)
9	1,500
10	2,500
11	4,000
12	6,000
13	10,000 (PR 4)
14	15,000
15	25,000
16	40,000
17	60,000
18 or more	100,000 (PR 5)

Step 8: Starport Facilities

Once the population of each world has been established, this step determines the level of starport facilities available on each world.

Colonies

For each colony world, roll 2d on the Colony Starport Table. *Modifiers:* +1 for every level of PR above PR 4. Note that on a natural 2 on the dice, the colony will *always* have a Class X starport; such a world has been interdicted by either the Vilani or the Terran government.

Colony Starport Table

Roll (2d)	*Starport Class*
Natural 2	X
4 or less	E
5-6	D
7-8	C
9-12	B
13 or more	A

Outposts

If the world is an outpost, roll 1d on the Outpost Starport Table. *Modifiers:* +4 if the outpost was *not* placed as the result of a random die roll in Step 7 (that is, the GM deliberately placed it because the world is on a military border, or because it is a likely transit point for starship traffic).

Outpost Starport Table

Roll (1d)	*Starport Class*
2 or less	E
3-5	D
6-8	C
9 or more	B

Naval Bases

Once the starport class is determined for each world in the region, naval bases can be placed. Naval bases should not be placed at random.

For each subsector or similar-sized region of Imperial or Terran space, there will usually be one to three naval bases – one per subsector in areas far from any frontier, but two to three per subsector in areas close to a frontier. Naval bases will preferably be placed on worlds with Class A starports and PR of 7 or higher.

Naval bases are usually placed on worlds with the highest population in their region. However, naval bases should usually be separated by at least three parsecs; if the highest populations in the region are clustered close together, second or third naval bases will usually be placed at some distance even if this means placing one on a relatively low-population world.

Step 9: Government Type

Once the population of each world has been established, use this step to determine their government types. Vilani worlds will usually have a very different government type than Terran worlds. If a world is Neutral (i.e. it is inhabited by a population not part of either major civilization) then the GM should determine its government type in accordance with its role in his campaign; he may use types from pp. B509-510 that do not normally appear on Imperial or Terran worlds.

Roll 3d on the Vilani or Terran Government Type Table, and refer to the column that is appropriate for the world. *Modifiers:* Add the PR of the world to the die roll.

Vilani Government Type Table

Roll (3d)	Imperial Vilani Colony	Imperial Vilani Outpost
10 or less	Anarchy	Anarchy
11-13	Clan/Tribal	Corporate State
14-16	Caste	Caste
17-20	Feudal	Caste
21-23	Feudal	Feudal
24 or more	Theocracy	Theocracy

Terran Government Type Table

Roll (3d)	Terran Colony	Conquered Vilani Colony	Terran Outpost
10 or less	Anarchy	Anarchy	Anarchy
11-13	Technocracy	Technocracy	Corporate
14-16	AthDem	Technocracy	Corporate
17-20	RepDem	RepDem	Corporate
21-23	RepDem	Caste	RepDem
24 or more	Dictatorship	Dictatorship	Dictatorship

Step 10: Control Rating

Once the population of each world has been established, this step determines the Control Rating prevalent on each world.

Roll 4d on the Control Rating Table. *Modifiers:* Add the PR of the world to the die roll.

Control Rating Table

Roll (4d)	Control Rating
14 or less	0
15-16	1
17-18	2
19	3
20-21	4
22	5
23 or more	6

Step 11: Base Technology Level

Once Steps 1-10 have been completed for each world, this step determines the base Tech Level prevalent on each world.

Begin by determining the maximum possible Tech Level for the campaign situation. The maximum possible Tech Level for a given world depends on whether it is an Imperial Vilani world or not, and on the period in history. For an Imperial Vilani world, the maximum possible Tech Level is always TL10. For a Conquered Vilani or Terran world, the maximum possible level is TL9 before 2128, TL10 from 2128 to 2235, and TL11 after 2235.

Roll 1d on the Tech Level Table. *Modifiers:* +6 if a Class A starport is present, +4 for a Class B starport; +2 for a Class C starport, -4 for a Class X starport; +2 if the world's diameter is less than 1,500 miles (or the world is an asteroid belt), +1 if the world's diameter is between 1,500 miles and 4,500 miles; +1 for any atmosphere other than a Thin, Standard, or Dense one; +1 for hydrographic coverage between 85% and 94%, +2 for hydrographic coverage of 95% or higher; +1 for PR 1-5, +2 for PR 9, +4 for PR 10; +1 for a political type of Anarchy or Technocracy, -2 for a political type of Theocracy.

Regardless of the result on the Tech Level Table, the TL for a given world cannot exceed the maximum possible for its culture and the time period. If the TL from the table exceeds the maximum, reduce the world's TL to match the maximum. Meanwhile, if the world is not a Garden world, or is a Garden world with a Very Thin atmosphere, then the world must be at least TL8; raise the TL to 8 if the result from the table is less than 8.

Tech Level Table

Roll (1d)	Tech Level
1 or less	TL3 or less (GM's choice)
2	TL4
3-4	TL5
5-6	TL6
7	TL7
8	TL8
9	TL9
10-11	TL10
12 or more	TL11

Step 12: Trade Classifications

Trade classifications note clusters of economically meaningful world characteristics. These are important natural or demographic features that can influence a world's preferred imports or exports. They can also influence the real wealth available to citizens of the world.

The following trade classifications are significant. For each world being generated, note which classifications are applicable.

Agricultural (Ag): The world's atmosphere must be Thin, Standard, Dense, or Very Dense, the hydrographic coverage must be 35%-84%, and the local PR must be 5-7.

Extreme (Ex): A world is Extreme if *any* of the following conditions holds: there is no atmosphere, or the

Port Modifier Table

UWTN	Class A	Class B	Class C	Class D	Class E	Class X
5 or more	0	0	-0.5	-1	-1.5	-4
4-4.5	+0.5	0	0	-0.5	-1	-3.5
3-3.5	+0.5	+0.5	0	0	-0.5	-3
2-2.5	+1	+0.5	+0.5	0	0	-2.5
1-1.5	+1	+1	+0.5	+0.5	0	-2
0.5 or less	+1.5	+1	+1	+0.5	+0.5	-1.5

atmosphere is Trace, Very Dense, Suffocating, Toxic, Corrosive, or Insidious; the climate is Frozen or Infernal; or hydrographic coverage is less than 5%.

Industrial (In): The world must have no atmosphere, a Trace atmosphere, or a Very Thin, Thin, Standard, Dense, or Very Dense atmosphere that is Tainted (p. 125); the world's PR must be 9 or higher.

Non-Agricultural (Na): The world has no atmosphere, or has a Trace or Very Thin atmosphere, the hydrographic coverage is less than 35%, and the PR is 6 or more.

Non-Industrial (Ni): The world's PR is 6 or less.

Poor (Po): The world has a Very Thin or Thin atmosphere, and has hydrographic coverage in the range of 5%-34%.

Rich (Ri): The world has a Standard, Dense, or Very Dense atmosphere that is not Tainted; the world's PR is 6-8; and the local Control Rating is 2-5.

Step 13: World Trade Number

The World Trade Number of a world is a measure of the size and activity of its economy, as modified by the level to which its population is interested in interstellar trade. A world with no population has a WTN of 0 – otherwise, computing a world's WTN requires two steps.

Unmodified World Trade Number (UWTN)

The UWTN measures the size of the world's economy. It is dictated by the size of the world's workforce (which in turn depends on the world's population) and the productivity of that workforce (which is determined by the world's TL). Refer to the TL Modifier and PR Modifier tables; add the TL Modifier and the PR Modifier for the world together to get the world's UWTN.

TL Modifier Table

World TL	TL Modifier
2 or less	-0.5
3-5	0
6-8	0.5
9 or higher	1.0

PR Modifier Table

World PR	PR Modifier
0	0
1	0.5
2	1
3	1.5
4	2
5	2.5
6	3
7	3.5
8	4
9	4.5

Port Modifier and Final WTN

The *port modifier* measures the importance of trade to the world's economy. A better starport encourages trade by attracting merchants and visitors. Conversely, a small or run-down starport discourages trade (and may indicate that the world's population has little interest in outside contact).

Refer to the Port Modifier Table, using the world's UWTN and its Starport Class to get the port modifier. Add the Port Modifier to the UWTN to get the final WTN for the world. The minimum WTN is 0.

Step 14: Trade Routes

Once the WTN is known for each world in the region of interest, then trade routes can be mapped out.

Throughout the Interstellar Wars era, commercial traffic tends to follow a "main and branch" system of trade routes. The most populous and prosperous planets are designated as *hub worlds*. These hub worlds are connected to one another by *main routes*. Main routes are divided into *major* and *minor* routes, depending on the amount of traffic that normally follows them. Minor worlds trade only with the network of main routes, not with each other – the routes that carry goods to and from such worlds are *branch routes*. The process of drawing these routes is more art than science, but the following guidelines will help produce a rational network.

Home Rule

For each world under Terran control, the GM may wish to determine whether the world has *home rule* or not. A world with home rule has its own sovereign government, and is a full member of the Terran Confederation. A world without home rule is politically a colony of Terra, governed by the Confederation's Colonial Bureau or by the Confederation military.

Any Conquered Vilani or Terran world with a PR of 6 or more may have home rule. Roll 3d. *Modifiers:* +4 for every level of PR above 6; -4 if the world is Conquered Vilani; -4 if the world is within 6 parsecs of the current Imperial border. On a result of 15 or higher, the world has home rule.

Per-Capita Income

Although it is not relevant to later steps in the world design process, the GM may wish to determine the *per-capita income* for citizens of the world. This indicates the amount of disposable income an average citizen of that world will have on hand.

To determine per-capita income for a given world, refer to the following table. The planet's TL determines the *base* per-capita income, which is then modified by the world's trade classifications (if any).

Base Per-Capita Income

Tech Level	*Base Per-Capita Income (Solars)*
TL11	$96,000
TL10	$60,000
TL9	$38,000
TL8	$24,000
TL7	$15,000
TL6	$9,200
TL5	$5,600
TL4	$3,600
TL3	$2,200
TL2	$1,400
TL1	$880
TL0	$560

Multiply the base per-capita income by *all* of the modifiers required by the world's trade classifications, according to the Trade Classification Modifiers Table. The trade classifications indicate that planetary conditions make the population more or less productive than the world's technological base would otherwise indicate.

Trade Classification Modifiers

Trade Classification	*Modifier*
Rich	1.6
Industrial	1.4
Agricultural	1.2
Extreme	0.8
Non-Industrial	0.8
Poor	0.8

The final per-capita income for a world can indicate the most typical Wealth level (p. B517) for citizens of that world. Refer to the Typical Wealth Table.

Typical Wealth

True Per-Capita Income	*Wealth Level*
$84,000 or more	Comfortable
$44,000 to $84,000	Average
$19,000 to $44,000	Struggling
$6,000 to $19,000	Poor
Less than $6,000	Dead Broke

In general, whenever two worlds are to be connected by a trade route, use the smallest number of hops from one world to the next on the map, with no single hop stretching more than two parsecs. If there is a choice of equally short routes between a given pair of worlds, choose the route that touches at the best starports. Whenever a *distance* between two worlds is to be determined, measure it along such a jump route, not necessarily along a straight line.

First, identify hub worlds. Any world with a WTN of 5.5 or higher and an A-class starport is a hub world.

Next, connect the hub worlds with a network of main routes (major and minor). Any two hub worlds that are no more than 6 parsecs apart along a jump-2 route are connected by a major route. Draw these routes, using jump-2 hops where necessary.

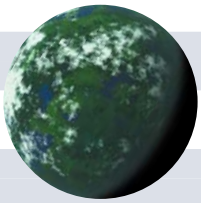
Once the major routes have been drawn, the map will have small groups of interconnected hub worlds. Such groups may themselves be connected to one another by minor routes. If a pair of hub worlds, one in one group and one in another, are no more than 10 parsecs apart, they may be connected by a minor route. Any given pair of hub-world groups will normally be connected by only one minor route, which will pass between the two hub worlds that are closest together by jump count. Draw these routes, again using jump-2 hops where necessary.

Now consider all worlds that are not yet on a major or minor route. Some of these worlds will be connected to the network of main routes by a branch route. The possible length of the branch route for any given world depends on the world's WTN, as indicated on the following table.

For each world not already on a major or minor route, determine the length of the potential branch route to the *nearest* hub world. If the length is no greater than the maximum length given on the table for the world's WTN, then a branch route will exist connecting that world to the network. For this purpose only, if the hub world being considered is Industrial and the other world is Non-Industrial, add 0.5 to the WTN of the lesser world.

Draw branch routes beginning with the minor worlds that are closest to their hub worlds. Branch routes will tend to meet existing routes, merging with the mains or with other branch routes as they approach the hub world.

Branch Route Table



Minor World WTN	*Maximum Route Length (pc)*
2.5 or less	No route possible
3	2
3.5	5
4	9
4.5	19
5 or more	29

Chapter Six
Characters

January 28, 2170 – High Frontier Consortium offices, Nusku highport:

William Blake rose from behind his desk and went to the viewport. A hundred miles below, Nusku's night face swam by, arcology-city lights sparkling in breaks between the clouds. Suddenly the limb of the planet caught fire, glowing gold and white, and 61 Cygni A rose in glory.

"I never get tired of that," Blake murmured to himself.

Then he turned back to the desk, where the pile of dossiers still stood two feet high. Somewhere in there were the crewmen he would lead a hundred light-years into Imperial space. All he had to do was find them.

Point Totals

Interstellar Wars characters can be built on a variety of power levels. A campaign centered on "ordinary people" caught up in great events can work with characters built on 50 points or less. More typical low-powered adventurers with a skilled background should be built on 100 or 150 points – most of the occupational templates later in this chapter will work well at this power level. A high-level "movers and shakers" campaign would require characters built on 200 points or more.

Gender Roles

Imperial Vilani culture imposes very little distinction between the social roles of men and women. Both sexes have the same civil and political rights, and both can rise to the highest levels of corporate or military power. In noble families, female children are just as likely as males to inherit a title. Although a few dissident subcultures within the Imperium practice gender inequality, this is far outside the Imperial norm, and such subcultures are often subject to harsh treatment from the authorities.

In theory, the Terran Confederation encourages the same kind of sexual equality. The Confederation itself makes no distinction between men and women in its civil and military institutions. Most multinational corporations follow a policy of strictly enforcing equality in the workplace. Women's rights are a cornerstone of the Confederation's human-rights policy, and serious inequities are likely to attract economic sanctions or military action. This stance is supported by most Terrans, who feel that it would be suicidal to exclude half of the population from the struggle against the Imperium.

In practice, some traditional Terran societies still practice gender inequality despite strong Confederation disapproval. Such isolated societies survive in rural areas, in the poor sections of large cities, and in the colonies.

In summary, male and female characters can be designed to fill the same roles, in either Imperial or Terran society. Adventurers who have experienced gender discrimination will be from an unusual social background, and may have other social disadvantages as well (below-average Wealth, a Social Stigma, and so on).

Advantages, Disadvantages, and Skills

A number of character traits require some special handling in the ***Interstellar Wars*** setting.

Advantages

Appearance *see p. B21*

Terran and Vilani attitudes about physical attractiveness are quite similar, aside from a few cultural quirks that will rarely come into play. The Appearance advantages (and their corresponding disadvantages) are interchangeable between Terrans and Vilani – and at the GM's option, among other Human minor races subject to Imperial rule.

Clerical Investment *see p. B43*

Priests or holy men from one of the hundreds of Terran religions may take this advantage. The most common organized Terran religions are Christianity, Islam, Hinduism, Buddhism, Sikhism, and Judaism. Many Terran ethnic groups (notably the Chinese) still maintain "traditional" forms of religion that include loosely organized priesthoods. Of course, a substantial minority of Terrans are secularists, agnostics, or atheists.

Some dissident subcultures among Imperial Vilani have organized priesthoods. Vilani also take Clerical Investment if they are members of the *shugilii* caste. This caste is not identical to a Terran religious order, but it has a number of similar features. *Shugilii* have an important role in the rituals of food preparation, and they also serve as guardians of the Imperial ethical traditions.

In either case, consider taking some level of the Religious Rank advantage as well (see p. 141).

Cultural Familiarity *see p. B23*

In most ***Interstellar Wars*** campaigns, the only two "cultures" that are likely to come into play are *Terran* and *Imperial*.

If a campaign centers on Terran society, then the GM may wish to break the Terran culture into several subcultures for the purpose of this advantage. If a given Imperial subject race is likely to come into play, the GM may likewise wish to break the Imperial culture into two or more subcultures.

Vilani and other Imperial Humans pay 1 point for familiarity with Terran culture, but a non-Human Imperial citizen will pay 2 points. Terrans pay 1 point for familiarity with Imperial culture, as do members of non-Human Imperial subject races. Non-Humans who come from outside the Imperium will pay 2 points for Cultural Familiarity (Imperial).

Gadgeteer *see p. B56*

The 25-point level of this advantage may be appropriate for Terran characters in some campaigns, especially those centering on technological advancement. Imperial characters should *never* take this advantage – at least not without taking a Secret ("tinkers with machinery in unauthorized and non-traditional ways") or an Enemy!

High TL *see p. B23*

The baseline technology available throughout the Interstellar Wars era is TL10. Late in the period, Terran characters may have access to TL11 equipment. If a Terran character with access to such equipment is spending most of his time among those who don't, he may be required to take one level of this advantage.

Languages *see p. B23*

Most Terran characters would be advised to learn English, as that is increasingly becoming the common language of the Terran Confederation. Aside from English, the most important Terran languages are Arabic, French, German, Hindi (including Urdu), Japanese, Mandarin Chinese, Portuguese, Russian, Spanish, and Turkish.

The *High Vilani* language is the official language of the Imperium, and is spoken or understood by almost every Vilani on all but the most isolated worlds. *Low Vilani* is a simplified dialect, which is spoken in spaceports and by many of the subject races, and which sometimes serves as the Imperium's "common tongue." Subject-race languages often heard in regions close to Terra include *Bawapab* (the language of the Bwaps), *Geonee*, *Oynprith* (the language of the Nugiiri), *Suerrat*, and *Vegan*.

Legal Immunity *see p. B65*

Both Terran and Imperial societies apply this advantage in certain circumstances. In particular, Terran diplomats traveling in Imperial space can use the Diplomatic Immunity form of this advantage. Imperial law recognizes even "barbarian" envoys as being in a protected class.

Social Regard *see p. B86*

Vilani who are over 120 years of age may take one level of Social Regard. Even Terran visitors to the Imperium receive similar respect; any Terran character at least 70 years of age who spends most of his time in Imperial society can take the same level of this advantage. All such characters are considered "venerated."

Talent *see p. B89*

The following talents are suggested for use in the ***Interstellar Wars*** setting.

Born Tactician: Covers Expert Skill (Military Science), History (Military), Intelligence Analysis, Leadership, Savoir-Faire (Military), Soldier, Strategy (Land), and Tactics. *Reaction bonus:* anyone you serve with (or command) in the Army or Marines. *10 points/level*.

Intuitive Admiral: Covers Crewman (Spacer), Expert Skill (Military Science), History (Military), Intelligence Analysis, Leadership, Savoir-Faire (Military), Shiphandling (Spaceship), Shiphandling (Starship), and Strategy (Space). *Reaction bonus:* anyone you serve with (or command) in the Navy. *10 points/level*.

Disadvantages

Addiction *see p. B122*

Both Terran and Imperial societies must deal with the problem of addiction.

The Terran Confederation is somewhat puritanical about the use of addictive or "recreational" drugs. Confederation law permits the use of alcohol, caffeine, *qat*, tobacco, and the imported Vilani drug *shardu* (a mildly addictive stimulant and euphoric). National or local law may impose additional restrictions on the use of these drugs. Other drugs may only be used for legitimate medical purposes. Any drug that is "highly" or "totally" addictive is carefully controlled, and usually illegal without a physician's supervision.

Imperial society is even more restrictive. Alcohol and *shardu* are the only drugs that are legal and widely used. All other drugs are carefully controlled, to be used only for legitimate medical purposes. On the other hand, a dizzying variety of substances is *available*. Many of these drugs have potential recreational applications, and some dissident or subject-race subcultures use them despite official disapproval.

Psionics

Psionic powers exist in the ***Traveller*** universe – but during the Interstellar Wars era, they are almost unknown and very poorly understood.

Most Imperial citizens know nothing about psionics, and would react with fear and suspicion if anyone demonstrated psionic talent in their presence. A few dissident subcultures, especially those with a mystical or religious basis, may cultivate mental disciplines that are conducive to psionic development. No one in the Imperium has ever made a serious scientific study of psionic phenomena.

Terran society is also unfamiliar with psionics. The prevailing opinion in the scientific community is that psionic abilities aren't real; no serious scientist would risk his reputation by trying to study them. Only a few explorers, encountering strange phenomena out among the Imperial worlds, are beginning to suspect that psionic powers might exist.

Psionic characters should be *very rare* in the Interstellar Wars setting, and should only be designed with the GM's explicit permission. Being a latent psi (having Talent, but no abilities) has an Unusual Background cost of 10 points. Being a fully capable psi (having functional powers), has an Unusual Background cost of 25 points.

The following psionic powers and Talents are available in the Interstellar Wars setting:

Awareness: This is the psi talent of mind-over-body. Awareness Talent costs 5 points/level and the Awareness power can provide the following abilities: Additional ST (Costs Fatigue -5%), Additional HT (Costs Fatigue, -5%), Metabolism Control (p. B68), and Regeneration (p. B80, Costs Fatigue -5%). Awareness abilities apply a -10% psionic power modifier.

ESP (p. B255): The following abilities are available: Clairsentience, Danger Sense, Detect (for psis and psionic activity), Para-Radar, and Penetrating Vision.

Psychokinesis (p. B256): Only the Telekinesis ability is available.

Telepathy (p. B257): The following abilities are available: Animal Empathy, Empathy, Mind Probe, Mind Reading, Mind Shield, Mindlink, Telesend, and "Mental Assault" (Affliction 1, Will; Based on Will, +20%; Malediction 2, +150%; Secondary Unconsciousness +40%; Telepathic -10%; 30 points).

Teleportation (p. B257): Only the Warp ability is available, and it must have the Modifier: Range Limit (300 miles on a planet's surface, 400 yards up or down, -25%) due to issues of conservation of momentum and potential energy.

Other psi powers and abilities are allowed only at the GM's discretion. Some races (like the Droyne) also have innate psi powers, but these are likely rare and poorly understood even by the races possessing them!

Code of Honor *see p. B127*

Code of Honor (Professional) and Code of Honor (Soldier's) are both very appropriate for the ***Interstellar Wars*** setting.

Many Imperial citizens follow an *Imperial Code of Honor*, which is defined as follows: Never break your word. Follow the traditions. Defer to your superiors in the social hierarchy, and obey their orders so long as those are within the bounds of tradition. Expect deference from Imperial citizens of lesser rank, but always work to protect and defend them. Always solve problems yourself as they arise, without depending on higher authority to help you (it is acceptable to call on your *subordinates* for aid). Code of Honor (Imperial) is worth -10 points.

Curious *see p. B129*

This disadvantage is *very* rare among Vilani, and is uncommon even among non-Vilani subject races of the Imperium. Imperial society strongly discourages curiosity.

Disciplines of Faith *see p. B132*

Some Terrans with a strong religious background carry some version of this disadvantage. Vilani of the *shugilii* caste must observe a wide variety of rituals, especially surrounding the preparation and consumption of food, and are required to take Ritualism.

Duty *see p. B133*

This disadvantage should be carried by anyone who has more than a very modest level of Rank (except for Courtesy Rank, which does not carry any obligation). People with Rank at level 6 or higher should probably have a Duty requiring their presence "quite often" (12 or less) or "all the time" (15 or less).

Honesty *see p. B138*

This disadvantage is very common, but not required, for Vilani characters living in Imperial society.

Intolerance *see p. B140*

The Interstellar Wars era is a time of grand conflict between empires, races, and political ideologies. Any character can justify taking some level of Intolerance.

Many Terran characters have Intolerance toward all non-Terrans; this is considered Total Intolerance and is worth -10 points. On the other hand, most Vilani are quite tolerant toward non-Vilani (or even non-Humans) who have accepted Imperial law and customs. The most common form of Intolerance in the Imperium is aimed at "barbarians," those who stand outside the Imperial social system; this form of Intolerance is worth only -5 points.

Low TL *see p. B22*

This disadvantage is almost never appropriate in the ***Interstellar Wars*** setting. Even worlds with a technological base below TL10 will usually have access to TL10 import goods and the corresponding skills. Late in the period, Imperial characters who spend most of their time inside Terran-controlled space may be at a disadvantage due to their unfamiliarity with TL11 goods and techniques. At the GM's option, such characters may be required to take one level of this disadvantage.

Overconfidence *see p. B148*

This advantage is fairly common among Terran adventurers, and forms part of the Imperial stereotype of Terrans . . .

Social Stigma *see p. B155*

Terran society is fairly egalitarian, and few groups within it are labeled as inferior. The *Criminal Record*, *Ignorant*, *Minor*, and *Uneducated* Social Stigmas are appropriate for some Terran characters. The *Minority Group* Stigma would only apply to a few ethnic groups that are far outside the mainstream of Terran society. The *Second-Class Citizen* and *Valuable Property* Stigmas are almost impossible to find, given the Terran concern with universal Human rights.

Within Imperial society, there is a significant ranking of citizens along racial and species lines. Vilani, and those subject races that have fully accepted Vilani culture, suffer under no Social Stigma. Subject races that resist Vilani customs, or that are restless under Imperial rule, are treated as *Second-Class Citizens*. A few subject races and dissident subcultures are known for open resistance to Imperial rule, and are considered *Minority Groups*. Meanwhile, the *Criminal Record*, *Ignorant*, *Minor*, and *Uneducated* Social Stigmas are just as applicable in the Imperium as in Terran society.

Susceptible *see p. B158*

Early in the Interstellar Wars era, many Human citizens of the Imperium found themselves to be susceptible to certain Terran viral diseases. Imperial Human characters that have not had much previous exposure to Terrans may take this disadvantage to reflect this weakness in their evolved immunity. The frequency of the noxious substance is "occasional" if exposure to Terrans is infrequent, or "common" if the character is going to be dealing with Terrans on a regular basis.

At the GM's option, an Imperial character that has associated with Terrans for a long period (and has possibly survived one or more attacks of viral disease) may buy off this disadvantage.

Workaholic *see p. B162*

This disadvantage is quite common, but is not required, among Vilani characters.

Skills

Computer Hacking *see p. B184*

This skill is not appropriate for the ***Interstellar Wars*** setting. Experts in computer intrusion should acquire the "realistic" skills mix described under this skill's entry in the ***Basic Set***.

Computer Programming *see p. B184*

Imperial characters may not take this skill unless they have become familiar with Terran computer technology. Likewise, Terran characters may not *use* this skill when working with computers of Imperial manufacture. Imperial computers are not reprogrammable – they are designed and built for a specific purpose.

Gunner *see p. B198*

Starships use several specialized onboard weapons. The Gunner specialties that apply include *Beam Weapons* (used for lasers, plasma guns, particle accelerators, or meson cannon), *Missiles* (used for shipboard missiles), *Repulsors* (used for gravitic repulsors), and *Sandcasters* (used for sandcasters).

Navigation *see p. B211*

Navigation (Space) covers navigation through normal space, between planets or between a jump point and

a nearby world. Navigation (Hyperspace) can also be called Navigation (Jumpspace), and covers use of the jump drive.

Philosophy *see p. B213*

Aside from the various Terran and minor-race philosophies that are available, characters may study Philosophy (Imperial). This covers the body of knowledge and traditions that forms the ideological basis for the *Ziru Sirka*. It includes an ethical tradition, a complete political theory, and a set of scientific theories regarding the organization of very large societies. It has been thoroughly documented, and can be studied even by outsiders who wish to better understand how Imperials behave.

Piloting *see p. B214*

The most common versions of this skill are Piloting (Aerospace) and Piloting (High-Performance Spacecraft). Most starship or spaceship pilots will learn *both* specializations, covering every situation that a normal spacecraft will encounter. Truly capable pilots also learn Piloting (High-Performance Airplane), covering atmospheric travel for ships with airframe hulls, and Pilot (Contragrav), covering common ship's vehicles, such as air/rafts and G-Carriers.

Savoir-Faire *see p. B218*

In the ***Interstellar Wars*** setting, an additional specialty exists: Savoir-Faire (Merchant). This specialty covers the customs, traditions, and regulations of interstellar mercantile society. It includes knowledge of the unwritten customs governing behavior on board ship and in a starport. Administrative Rank (for Imperial merchants) or Merchant Rank (for Terrans) determines relative standing.

Savoir-Faire (Merchant) and Savoir-Faire (Military) default to each other at -2, since many of the customs of merchant service are derived from military practice.

Shiphandling *see p. B220*

The most common versions of this skill are Shiphandling (Spaceship) and Shiphandling (Starship). In the ***Interstellar Wars*** setting these two specializations are quite similar; they default to one another at -2.

Status, Influence, and Wealth

Whether a campaign is centered on the doings of "ordinary" adventurers, or whether it focuses on the activities of their rich and powerful patrons, sooner or later the GM and players will need to know how social influence works in the ***Interstellar Wars*** setting. The following rules examine social influence in detail, to the highest levels of both Terran and Imperial society.

Status

Status works very differently in the two major societies of the Interstellar Wars era. A character should buy Status according to one or the other of the following sets of rules, depending on where he currently spends most of his time.

Terran Status

Terran society is a "classless" one. Spreading democratic ideals have discredited the notion of inherent social status almost everywhere on Terra. Terran characters follow the rule from *Classless Meritocracies*, p. B28. They may not normally buy more than two levels of Status (but see *Courtesy Rank*, p. 143). Refer to the Terran Status Table to determine what level of Status is appropriate for a character's family or personal background.

Terran characters may acquire more levels of "free" Status from various forms of Rank, or from Wealth.

Terran Status Table

Status	*Notes*
2	Extremely wealthy citizen family, famous or highly respected professional status
1	Wealthy citizen family, respected professional status
0	Ordinary citizen family
-1	Struggling citizen family, citizen of bottom-tier nation
-2	Poor citizen family, outcast, criminal, or vagrant

Terran characters that are from a social underclass can take up to two levels of negative Status as a disadvantage. Terrans with negative Status are probably from a background of poverty – urban poor from a wealthy nation, or citizens of one of the developing nations that still has an extensive class of rural poor.

Imperial Status

The role of birth is much stronger in the Imperium than in Terran society. Refer to the Imperial Status Table to determine what level of Status is appropriate for a character's family background. Characters can also be promoted to a higher class, in which case they hold higher base Status than their parents.

Imperial characters may acquire more levels of "free" Status from various forms of Rank. In fact, they must often hold a minimum level of Status to be eligible for high Rank. Imperial characters *do not* get "free" Status from Wealth.

Imperial society does not include negative Status. All Imperial characters (*and* foreigners operating within Imperial society) are considered to have at least Status 0. On the other hand, many outsiders, notably dissidents and "barbarians," carry a Social Stigma (see p. 136).

Imperial Status Table

Status	*Notes*
5	Ancient and venerated *enshii* ("noble" or executive-class) family
4	Respected *enshii* family
3	Ordinary *enshii* family Highly respected *damgarii* ("merchant" or manager-class) family
2	Respected *damgarii* family Highly respected *engarii* ("commoner" or worker-class) family
1	Ordinary *damgarii* family Respected *engarii* family
0	Ordinary *engarii* family Foreigner

Administrative Rank

Administrative Rank is available for both Terran and Imperial characters. The Terran Confederation only applies the advantage to civilian government officials, whether they work for the Confederation, or for a national or local government. In Imperial space, almost everyone has some level of Administrative Rank, since most citizens are employed in some capacity by one of the *shangarim* pseudo-governments.

PCs from either culture should generally have Administrative Rank no higher than 5. Individuals with higher levels of rank are generally too powerful (and too tied to their jobs) to make good adventurers.

In many cases, someone will work at a high level in the hierarchy without having direct command authority – for example, a member of a powerful administrator's staff, or a highly placed technical assistant. Such a character will have Administrative Rank two to three levels lower than that of his boss.

Terran Administrative Rank

Terran Administrative Rank affects Status according to the rule on p. B29. It supplements but does not replace Status, and therefore costs 5 points per level. Refer to the following table to determine what level of Administrative Rank may be appropriate.

Terran governments often include judicial or legislative officials who don't directly control large sections of the bureaucracy, but who still carry considerable influence. These officials will normally have Administrative Rank 2-3 levels below that of an executive-branch official at the same level. For example, the President of the United States has Administrative Rank 11; a senator or a member of the Supreme Court might have Rank 9, while a congressman or federal District Court justice might have Rank 8.

Imperial Administrative Rank

Imperial Administrative Rank affects Status according to the rule on p. B29. It supplements but does not replace Status, and therefore costs 5 points per level. Refer to the following table to determine what level of Administrative Rank may be appropriate.

Citizens with Administrative Rank 0-2 are drawn from the worker class. Junior managers (Rank 3-6) come from the "merchant" class, and must

Terran Administrative Rank Table

Rank	*Notes*
12	Secretary-General of the Terran Confederation
11	Member of the Advisory Board of the Secretariat Elected leader of a powerful nation-state (China, European Union, United States)
10	Head of a major Confederation government agency (about 5 million subordinates) Elected leader of a second-tier nation-state (Argentina, Nusku Republic, Russia)
9	Head of a typical Confederation government agency (about 1 million subordinates) Elected leader of a third-tier nation-state (Australia, Netherlands, Thailand)
8	Head of a very large national government agency (about 200,000 subordinates) Head of a small Confederation government agency Elected leader of a large province or a small nation-state
7	Head of a large national government agency (about 50,000 subordinates) Elected leader of a megalopolis, a medium province, or a very small nation-state Governor or elected leader of a major colony world
6	Head of a small national government agency (about 10,000 subordinates) Elected leader of a major city or a small province Governor or elected leader of a minor colony world
5	Chief of a large department (about 2,000 subordinates) Head of a large urban or provincial government agency Elected leader of a large town
4	Chief of a large office or small department (about 500 subordinates) Head of a small urban or provincial government agency Elected leader of a small town or a county-sized rural political unit
3	Chief of a small office (50-200 subordinates)
2	Branch or division leader (10-50 subordinates) Technical specialist with a large staff
1	Team leader (1-10 subordinates) Technical specialist with a small staff
0	Ordinary rank-and-file worker (no subordinates)

Imperial Administrative Rank Table

Rank	*Notes*
18	*Ishimkarun* (ruler of the entire Imperium)
17	Speaker for one of the *shangarim* on the *Igsiirdi*
16	*Apkallu kibrat arban* (overseeing several sectors)
	Minor civilian member of the *Igsiirdi*
15	*Saarpuhii* (overseeing about 100 worlds)
14	*Sarriiu* (overseeing 10-15 worlds)
13	*Shakkanakhu* (overseeing several worlds)
12	*Iishakku* (overseeing an entire minor world, or a large region on a major world)
11	Planetary *shangarim* department executive (about 20 million subordinates)
	Influential *kiduunuuzii* with great freedom of action
10	Planetary *shangarim* department executive (about 5 million subordinates)
	Typical *kiduunuuzii*
9	Planetary *shangarim* department executive (about 1 million subordinates)
	Minor *kiduunuuzii* with limited privileges
8	Major *shangarim* executive (about 200,000 subordinates)
7	Minor *shangarim* executive (about 50,000 subordinates)
6	Chief of a very large department (about 10,000 subordinates)
	Leader of a large *shangarim* subsidiary
5	Chief of a large department (about 2,000 subordinates)
	Leader of a medium *shangarim* subsidiary
4	Chief of a large office or small department (about 500 subordinates)
	Leader of a small *shangarim* subsidiary
3	Chief of a small office (50-200 subordinates)
2	Branch or division boss (10-50 subordinates)
	Technical specialist with a large staff
1	Team boss (1-10 subordinates)
	Technical specialist with a small staff
0	Ordinary rank-and-file worker (no subordinates)

have at least Status 1 *before* any "free" Status from Rank is considered. Executives (Rank 7 and higher) are drawn from the aristocracy, and must have at least Status 3 before any "free" Status is considered.

Military Rank

Military Rank is available for both Terran and Imperial characters. Terrans with Military Rank are from the Confederation's Army, Marine Corps, or Navy. Imperial characters with Military Rank are from the Imperial Army or Navy.

PCs from either culture should generally have Military Rank no higher than 5. Individuals with higher levels of rank are generally too powerful (and too tied to their jobs) to make good adventurers.

The tables below associate levels of Military Rank with actual rank titles, but this assumes someone with direct command authority. A serviceman who holds less direct authority than his title would indicate might have a lower level of Military Rank as well. For example, a Terran Army lieutenant who leads a platoon of infantrymen has a position of great responsibility, and carries the full level of Military Rank (Rank 3) appropriate for his title. On the other hand, a lieutenant who works as a junior staff officer in a rear-echelon office probably spends his day writing reports and making coffee; at the GM's discretion, he may only have Military Rank 1-2.

Terran Military Rank

Terran Military Rank affects Status according to the rule on p. B29. It supplements but does not replace Status, and therefore costs 5 points per level. When designing a character with a Terran military background, refer to the following tables to decide what level of Military Rank is most appropriate.

The Terran Army and Marine Corps both incorporate units that are raised and maintained by many Terran nations. Many of these units retain national traditions; although they tend to use English as a common language, they sometimes retain their own rank titles. The rank titles presented here are drawn from the American and British models. GMs (or players) interested in military history are encouraged to research rank titles used by other Terran cultures.

In the Army, there are a few generals who hold Military Rank 9-10. These officers normally work on the Confederation's highest military staff, and have great influence over military planning and deployment. They rarely take the field, although they are sometimes sent to command the invasion or occupation of major Imperial worlds. The highest Army officer in the Confederation is the General of the Army. He holds Military Rank 10, and reports directly to the Minister of War.

The Terran Marine Corps normally uses no flag rank higher than that of Brigadier or Brigadier General. The Corps occasionally appoints a *Marshal* to command very large Marine operations, usually involving the invasion of major Imperial worlds. A Marshal holds Military Rank 8. The highest Marine officer in the Confederation is the Commandant of the Marine Corps. He holds Military Rank 9, and reports to the Grand Admiral of the Navy.

Although the Terran Navy was first raised by multiple Terran nations, it has since been reorganized so that all naval units follow a rank hierarchy based on the original American model. The rank titles given above are used throughout the Navy.

A few admirals hold Military Rank 9-10. Admirals with Military Rank 9 are either members of the Confederation's highest military staff, or are sent to the field to take command of large fleet formations during active hostilities. The highest Navy officer in the Confederation is the Grand Admiral of the Navy. He holds Military Rank 10, and reports directly to the Minister of War. The Grand Admiral spends most of his time on Terra, but the office has a tradition of "activist" officers who take the field during wartime.

Imperial Military Rank

The Imperial Army follows a system of rank that vaguely resembles the Terran model, with "enlisted men" drawn from the worker class, "junior officers" drawn from the manager class, and "flag officers" drawn from the executive class. The Navy follows a much more convoluted scheme, with a plethora of functional titles that Terrans find very confusing. Terrans often refer to Imperial naval officers in purely descriptive terms. For a full discussion of the Imperial military, see Chapter 4.

Imperial Military Rank affects Status according to the rule on p. B29. It supplements but does not replace Status, and therefore costs 5 points per level. When designing a character with an Imperial military background, refer to the following tables to decide what level of Military Rank is most appropriate.

Imperial Army personnel with Military Rank 0-2 are always drawn from the worker class. Junior officers (Military Rank 3-6) are drawn from the manager class, and must have at least Status 1 *before* any "free" Status from Rank is considered. Flag officers (Military Rank 7 and higher) are drawn from the executive class, and must have at least Status 3 before any "free" Status is considered.

Above Military Rank 8 are officers who oversee all Army activities across wide reaches of Imperial space. Such officers are very rare, and normally play little part in battlefield command. Instead, they implement general policy and spend their time with long-range strategic planning. In general, one of these Army officers holds the title of *kueardaishi* or *sukauuaashdugishi*, possibly with an additional title indicating over what region he holds overall responsibility. Although he does not report directly to anyone in the corporate hierarchy, his region of responsibility is usually about the same size as that held by a titled nobleman whose Administrative Rank is *four levels higher*. For example, an Army officer with Military Rank 11 oversees all Army activities in several subsectors, about the same region as that ruled by a *saarpuhii* (Administrative Rank 15).

Terran Army and Marines Military Rank Table

Rank	*Titles*	*Notes*
8 +	Field Marshal General Lieutenant General	Theater, field army, or corps commander
7	Major General Brigadier General Brigadier	Division or brigade commander
6	Colonel	Regiment or brigade commander
5	Lieutenant Colonel	Battalion commander
4	Major Captain	Company commander
3	Lieutenant 1st Lieutenant 2nd Lieutenant	Platoon commander
2	Warrant Officer Sergeant Major First Sergeant Master Sergeant Staff Sergeant	Senior staff at the company or higher level
1	Sergeant Lance Corporal Corporal	Platoon senior squad leader, or team leader
0	Private First Class Private	Ordinary soldier

Terran Navy Military Rank Table

Rank	*Titles*	*Notes*
8 +	Admiral Vice Admiral	Fleet or theater commander
7	Rear Admiral Commodore	Commander of a capital-ship squadron (dreadnoughts or battleships), a division of smaller ships, or an important naval base
6	Captain	Commander of a large-ship squadron (heavy or attack cruisers, or a carrier wing), a capital warship, or a naval station
5	Commander	Commander of a medium-ship squadron (light cruisers or cruisers) or a large warship
4	Lieutenant Commander	Commander of a small-ship squadron (destroyers, corvettes, or frigates) or a medium warship
3	Lieutenant Lieutenant, Junior Grade Ensign	Commander of a small warship or a crew section
2	Master Chief Petty Officer Senior Chief Petty Officer Chief Petty Officer	Senior staff for a large ship or crew section
1	Petty Officer, 1st Class Petty Officer, 2nd Class Petty Officer, 3rd Class	Senior staff for a small ship
0	Able Spacehand Spacehand Spacehand Recruit	Ordinary spacehand

Vilani Army Military Rank Table

Rank	*Titles*	*Notes*
8 +	*Sukauuaashdugishi*	Army group or theater commander
	Kueardaishi	Corps or army group commander
7	*Lurkugiishi*	Division commander
6	*Kerkiishi*	Regiment or brigade commander
5	*Kupuishi*	Battalion commander
4	*Ishdarishi*	Company commander
3	*Pirasishi*	Full platoon commander
	Khiipishi	Section or light-platoon commander
2	*Uurshugkhir*	Battalion senior staff
	Askam	Company senior staff
1	*Sharsha*	Platoon senior staff
	Shuukishi	Team or squad leader
0	*Dakhaki*	Experienced soldier
	Khali	Ordinary soldier or raw recruit

The highest Army officer in the Imperium is the Army's single spokesman on the *Igsiirdi*. He holds Military Rank 12, and is probably the least influential member of the Imperium's ruling council.

As with the Army, Navy personnel with Military Rank 0-2 are always drawn from the worker class. Junior officers (Military Rank 3-6) are drawn from the manager class, and must have at least Status 1 *before* any "free" Status from Rank is considered. Flag officers (Military Rank 7 and higher) are drawn from the executive class, and must have at least Status 3 before any "free" Status is considered.

Naval officers with Military Rank of 8 and higher are usually lumped together under a title that translates as "great fleet commander." They spend most of their time on administration and grand strategy, but they do take the field to fight campaigns when necessary. Although such an officer does not report directly to anyone in the corporate hierarchy, his region of responsibility is usually about the same size as that held by a titled nobleman whose Administrative Rank is *two levels higher*. For example, a naval officer with Military Rank 13 oversees all naval activities in the domain of one *saarpuhii* (Administrative Rank 15).

The highest naval officer in the Imperium is the Navy's spokesman on the *Igsiirdi*. He holds Military Rank 14. He is supported by a number of senior staffers, some of whom also sit on the *Igsiirdi* and hold Military Rank 13.

Merchant Rank

Terran characters *only* may have Merchant Rank, indicating position within a corporate hierarchy. This especially includes characters who are serving aboard a Free Trader or other merchant starship. Imperial characters within one of the pseudo-corporate *shangarim* hold Administrative Rank instead.

For Terrans, Merchant Rank affects Status according to the rule on p. B29. It supplements but does not replace Status, and therefore costs 5 points per level. Refer to the following table to determine what level of Merchant Rank may be appropriate.

As with government bureaucrats, a corporate employee will sometimes work at a high level in the hierarchy without having direct command authority. Such a character will have Administrative Rank two to three levels lower than that of his boss.

Vilani Navy Military Rank Table

Rank	*Notes*
8 +	Fleet admiral or theater commander
7	Commander of a capital-ship squadron (dreadnoughts or battleships)
	Commander of a division of smaller ships
	Commander of an important naval base
6	Commander of a large-ship squadron (heavy or attack cruisers, or a carrier wing)
	Commander of a capital warship
	Commander of a naval station
5	Commander of a medium-ship squadron (light cruisers or cruisers)
	Commander of a large warship
4	Commander of a small-ship squadron (destroyers, corvettes, or frigates)
	Commander of a medium warship
3	Commander of a small warship
	Large crew section commander
2	Senior "enlisted" assistant on a medium or large warship
	Small crew section leader
1	Senior "enlisted" assistant on a small warship
	Senior "enlisted" assistant in a crew section on a medium or large warship
	Team leader
0	Ordinary spacehand

Religious Rank

Religious Rank is available for both Terran and Imperial characters. Religious Rank affects Status according to the rule on p. B29. It supplements but does not replace Status, and therefore costs 5 points per level. It would be very uncommon for an adventurer to hold high Religious Rank; PCs should probably not be permitted to hold more than Religious Rank 1-2 (the level of an ordinary priest).

Terran Religious Rank

Terrans with this advantage are priests or holy men in one of the many Terran religious organizations. Religious Rank 0 is typical of a "novice" or priest in training. Religious Rank 1-2 is normal for a low-ranking priest, one who is permitted to teach and conduct religious rituals but has no authority to change or interpret

Merchant Rank Table

Rank	*Notes*
10	CEO of a very large corporation (about 5 million employees)
9	CEO of a large corporation (about 1 million employees)
8	CEO of a medium-sized corporation (about 200,000 employees)
7	CEO of a small corporation or subsidiary (about 50,000 employees)
6	CEO of a very small corporation or subsidiary (about 10,000 employees)
5	Chief of a large department (about 2,000 employees) Line Commodore of an extensive or prosperous merchant line
4	Chief of a large office or small department (about 500 employees) Line Commodore of a typical merchant line Senior Captain (commanding a large freighter)
3	Chief of a small office (50-200 employees) Captain (commanding a small freighter)
2	Branch or division leader (10-50 employees) Technical specialist with a large staff First Officer or Second Officer on a merchant ship (navy officer equivalent)
1	Team leader (1-10 employees) Technical specialist with a small staff Third Officer or Fourth Officer on a merchant ship (navy petty officer equivalent)
0	Ordinary rank-and-file worker (no subordinates) Spacehand or Apprentice on a merchant ship (ordinary deckhand)

theological doctrine. In many religious communities, higher rank than this is not even *possible* – there is no organized hierarchy to confer greater levels of authority.

Very influential priests, who hold higher titles and have real authority over other priests, normally have Religious Rank 3-5. Leading officials of a large and well-organized religious organization might have even more Rank. In general, consider how many other ordained priests are subject to a character's authority, and compare that to the "number of subordinates" on the Administrative Rank or Merchant Rank tables to get some idea of the appropriate level of Religious Rank.

The Roman Catholic Church is the largest and most centrally organized religious body on Terra. As head of the Church, the Pope has Religious Rank 10.

Vilani Religious Rank

The Vilani *shugilii* caste operates as a kind of priesthood within Vilani society. Imperial characters with Religious Rank are usually from that caste, or are members of a dissident subculture's religious establishment.

The *shugilii* caste is not organized at any level higher than that of a single world. Vilani with Religious Rank higher than 4 are extremely rare; even on high-population worlds, there are none with Rank higher than about 8. A *shugilii* with Religious Rank that high is probably the leading *shugilii* for a very important noble family. All *shugilii* are drawn from the "noble" or executive class, and must have at least Status 3 before any "free" Status is considered.

Many dissident subcultures have a religious component, but these splinter cults have very "flat" hierarchies, lacking prominent leaders who might come into conflict with the Imperial system. Priestly characters from dissident cultures almost never have Religious Rank higher than 2. They can be from any class and hold any level of Status.

Wealth

The Terran and Imperial economies are structured quite differently from one another. As a result, personal wealth is treated slightly differently in the two major societies.

Terran Wealth

The Terran economic system of the Interstellar Wars era would be familiar to any visitor from one of the leading nation-states of the early 21st century. Free-market capitalism dominates the system, although there is a lot of government intervention and regulation. Money is regarded as a commodity, which citizens can earn and freely exchange for any goods or services they want.

Although most nation-states still issue their own currencies, the Terran Confederation issues one as well – the *solar*. In 2170, one solar is roughly equal in buying power to $2.80 in 2000-era United States dollars. All prices in this book are given in solars (abbreviated $).

The average starting wealth for a Terran character is $50,000. Note that Terran society is strongly stratified along economic lines; it is quite common for Terran citizens to have wealth below Average, especially if they come from second-tier or poverty-stricken nations. Wealth brings Terran characters Status according to the usual rules: Wealthy gives one free level of Status, while the first two levels of Multimillionaire give one free level of Status each.

Imperial Wealth

The Imperium runs on a "command" economy. Executives and senior managers make all significant economic decisions. Money exists as an abstract indicator of resources, but it is normally used only as an accounting convenience for the *shangarim*. Ordinary citizens are not normally free to purchase from or offer their labor to whomever they wish. They rarely have control over any money; instead, they earn *credit* from their employer and can use that to draw upon their employer's resources for their own use.

Despite this relatively money-free economy, Imperial characters in the ***Interstellar Wars*** game are assumed to have a Wealth level, and can measure their accumulated credit as if it were "money" in the Terran sense. Indeed, an Imperial character's wealth will be measured in Terran solars ($), but this represents a combination of *shangarim* credit, local "underground market" currencies, barter goods, and other commodities. The average starting wealth for an Imperial character is $50,000.

Wealth does not bring Imperial characters any extra Status. If an Imperial citizen has a different level of personal wealth than is expected for his social position and rank, this is considered unusual. However, to the Imperial mind wealth comes from social position, not the other way around.

Courtesy Rank

Adventurers who are "out on their own" may have prior experience in civilian administration, the military, or a corporate hierarchy. Both Terran and Imperial cultures tend to treat people who have held such office with respect, even after they retire or otherwise move on. Characters may buy Courtesy Rank (p. B29) to match the level of authority they once held, at 1 point per level of Courtesy Rank. It is possible for a character to hold more than one kind of Courtesy Rank, affecting different social situations, or to hold Courtesy Rank as well as full Rank in a different institution. Courtesy Rank does *not* provide "free" levels of Status.

In Terran society, people who achieve very high levels of Rank often retain some of the associated Status after they retire. If a Terran character has Courtesy Rank, he may buy additional Status *at full cost* up to the amount of "free" Status the Courtesy Rank would have given him if it were active Rank. If he also has active Rank at a lower level, he may only buy Status to make up the difference between that and his Courtesy Rank. This is an exception to the *Classless Meritocracies* rule (p. B28) that normally restricts Terran characters to buying two levels of Status.

For example, the retired CEO of a major corporation might have Courtesy Rank 8 to reflect his achievements as a business leader. As a Terran, he would normally be permitted to buy only two levels of Status. However, his old Merchant Rank gave him three "free" levels of Status. Therefore, because of his Courtesy Rank, he can buy three more levels of Status at full cost.

Imperial characters can also buy Courtesy Rank to indicate rank once held in the *shangarim* hierarchy or in the military. However, they do not usually retain any extra Status once they have retired. They *may not* buy additional Status (above the normal limit of five levels) because of any Courtesy Rank.

For adventurers, the most serious drawback to the Imperial economic system is that it doesn't permit someone to buy whatever he wants, whenever he wants. Whenever a member of Imperial society wishes to buy an item using his "money," the GM may rule that he has no *right* under Imperial traditions to buy the item. For example, anyone can buy most harmless items of personal equipment, but a Vilani citizen who is not from a military caste may be forbidden to own weaponry or body armor. As another example, no Vilani citizen is permitted to purchase a reprogrammable or digital computer.

Purchases that violate tradition or *shangarim* policy are considered to be illegal, even if the item itself has a fairly high Legality Class (p. B267). The GM should feel free to make a check against the local Control Rating (p. B506) to see whether officials interfere with the purchase or harass the buyer.

Cost of Living

Both Terran and Imperial characters must meet their monthly cost-of-living requirements (see *Cost of Living*, p. B265). The cost of living depends on the Status associated with one's family or personal background, along with any free Status gained from Wealth (Terrans only). Any levels of Status gained for free due to active Rank, or purchased due to Courtesy Rank, *do not count* to determine a character's cost of living. Someone with high Status due to Rank probably lives as well as anyone else with the same level of personal Status, but his employer will support the "extras" in his lifestyle.

Racial Templates

The following templates are available for characters' *racial* backgrounds, and are more or less common in regions of space close to Terra.

Anakundu

7 points

The Anakundu are a minor Human race subject to the Vilani Imperium. Although they suffer under a number of physiological handicaps, they are well-adapted to Imperial society. Since their homeworld is relatively close to Terra, they are often encountered by Terrans traveling in Imperial space.

An Anakundu normally takes the drug *gakinisharra* on a regular basis, in order to prolong his life and control his sleeplessness. This does not constitute a Dependency disadvantage, as an Anakundu without his drug does not begin to take physical damage. The *gakinisharra* drug is somewhat expensive (about $3,500 for one years' treatment regimen), but is easily available wherever Anakundu travel.

An Anakundu ages according to the standard rules, but he is unlikely to live long enough to suffer the effects of age. The template below assumes an Anakundu about 18-22 Terran years of age. For every 10 Terran years of age above that, add another level of the Less Sleep advantage. An Anakundu character with Less Sleep 6-7 will acquire some level of the Terminally Ill disadvantage unless he has carefully kept up with his *gakinisharra* treatments. An Anakundu character with Less Sleep 8+ will acquire the Terminally Ill disadvantage no matter how carefully he has taken his drug. An Anakundu with Terminally Ill may also have one or more mental disadvantages, reflecting the deterioration of his brain and mind.

For more information on the Anakundu, see p. 80.

Advantages: Less Sleep 4 [8].
Quirks: Stoic temperament. [-1]

Answerin

40 points

The Answerin are a Human minor race subject to the Vilani Imperium. Their homeworld is distant from Terra, but individual Answerin are sometimes encountered by Terrans as ground troops – a role in which they have a fearsome reputation.

Answerin are slightly taller and more slender than Terrans, but are well within the normal Human range of build. Answerin have dark brown or black skin tone, dark hair, and deep-set eyes with pronounced epicanthic folds. They age about as quickly as Terrans.

The "Adrenalin Surge" advantage is a meta-trait unique to Answerin. It consists of Basic Speed+1 (Costs Fatigue; 3 FP/minute, -15%) [17] combined with Combat Reflexes (Costs Fatigue; 3 FP/minute, -15%) [13]. The total cost of the ability is 30 points. The two abilities must always be activated *together*; the Answerin pays 6 FP to raise his Basic Speed and acquire Combat Reflexes for one minute, then 3 FP for each additional minute. Naturally, few Answerin can maintain the Adrenalin Surge for more than one or two minutes, but in a tight situation it can be very useful.

For more information on the Answerin, see p. 81.

Advantages: Adrenalin Surge [30]; Fearlessness 3 [6]; High Pain Threshold [10].
Disadvantages: Odious Racial Habit 1 (Arrogant demeanor) [-5].
Quirks: Vegetarian. [-1]

Bwap

-10 points

The Bwaps, or "Newts," are one of the most successful subject races in the Vilani Imperium. Their natural bent toward order and attention to detail makes them ideal administrators; individuals often perform quite well within the Imperial social order.

A typical Bwap stands 4' 6" in height and weighs about 120 pounds. They age about as quickly as Terrans. Bwaps are upright and bipedal in stance, but they otherwise resemble Humans very little. They have long, snouted faces, stumpy tails, and lightly scaled amphibious skin. Their skin is patterned in a variety of colors, usually greens, browns, yellows, and blues. Bwap skin must always be kept moist, so they often wear a loose hooded garment designed to carry and distribute cool water.

For more information on the Bwaps, see p. 82.

Attribute Modifiers: ST-2 [-20]; HT-1 [-10].
Secondary Characteristic Modifiers: SM -1.
Advantages: Acute Taste and Smell 1 [2]; Acute Vision 1 [2]; Amphibious [10]; Flexibility (Double-Jointed) [15]; Peripheral Vision [15].
Disadvantages: Honesty (12) [-10]; Weakness (Dry air; 1d/30 minutes) [-10].
Quirks: Attentive; Careful; Hates to hurry; Likes complex tasks. [-4]

Dishaan

-2 points

The Dishaan are an Imperial subject race, thoroughly disliked by both the Vilani and by those Terrans who have encountered them. Their racial psychology makes them viciously deceitful, not to be trusted unless the situation makes honesty clearly to their advantage.

A typical Dishaan is about 5' in length. Their forelimbs are long and claw-tipped, used for hanging and swinging from forest-canopy branches. Dishaan hind-limbs are stubby, used as manipulative organs when hanging or as clumsy legs on the ground. The head is broad and somewhat vulturine. Dishaan have lifespans somewhat shorter than the Terran norm, with aging thresholds at 40, 60, and 80 years; this is not enough of a handicap to require any levels of the Short Lifespan disadvantage.

Due to their unusual psychology, Dishaan may not normally take the Code of Honor, Honesty, or Selfless disadvantages.

For more information on the Dishaan, see p. 83.

Attribute Modifiers: ST+1 [10]; DX+1 [20].
Secondary Characteristic Modifiers: Per+2 [10]; Basic Move -1 [-5].
Advantages: Brachiator [5]; Claws (Talons) [8].
Disadvantages: Greed (9) [-22]; Reputation -2 (To all non-Dishaan, all the time, as dishonest cheats) [-6]; Selfish (12) [-5]; Social Stigma (Minority Group) [-10]; Trickster (15) [-7].

Geonee

29 points

The Geonee are a minor Human race subject to the Vilani Imperium, renowned for their ability as engineers, technicians, and merchants. They are nomadic by preference, and can be found almost anywhere in Imperial space. They have been under Imperial rule for thousands of years, but are still stubbornly independent of mind, likely to resist Vilani policy if they get the chance.

Geonee are short and very stocky, averaging about 5' tall and 160 pounds. Geonee facial features are thick and heavy, with wide lips and noses. Skin tones tend to be light, with hair color ranging from white to dark brown. They wear clothing made of tough, damage-resistant materials cut in angular shapes. Geonee men often wear a hat-helmet which features long cloth "sideburns" hanging from the temples. Geonee age about as quickly as Terrans.

Geonee society is extremely patriarchal. Although the Vilani have imposed a measure of sexual equality on the Geonee, women are still treated as inferiors wherever the men think they can get away with it. Geonee men tend to look down on the females of other Human races, treating them with disdain and preferring to deal only with males.

For more information on the Geonee, see p. 84.

Attribute Modifiers: ST+2 [20]; DX+1 [20].

Secondary Characteristic Modifiers: HP-2 [-4].

Advantages: Improved G-Tolerance (0.5 G increment) [10].

Disadvantages: Odious Racial Habit (Treat Human females as near-property) [-5]; Social Stigma (Minority Group) [-10].

Quirks: Proud; Strong sense of group and racial identity. [-2]

Nugiiri

-5 points

The Nugiiri of Kilennur are another non-Human race originating relatively close to Terra. Few of them ever venture away from their homeworld, and those that do are usually from one or two leading castes. The racial template given here describes such individuals; the race exhibits a great deal of diversity among its various castes, so a variety of atypical Nugiiri might be encountered.

Nugiiri are winged, but are unable to fly on worlds with close to Terran gravity. On worlds with surface gravity of 0.6 Gs or less, they can fly normally. On worlds with surface gravity between 0.61-0.65 Gs, they can engage in controlled gliding (see p. B56). On worlds with surface gravity between 0.66-0.7 Gs, they can glide (p. B56). If the local gravity is higher than 0.7 Gs, the wings are of little use except to help slow a fall. Denser atmospheres can give the Nugiiri a slight boost, while thin atmospheres make flying harder; the GM should decide exactly how effective Nugiiri wings are on any given world.

Nugiiri tails are capable of aimed blows, doing crushing damage. Nugiiri warriors sometimes fit mace-like projections on their tails, using them in battle.

Nugiiri have psionic abilities – a fact that is not clearly understood by any outsider, Vilani or Terran. Almost all Nugiiri have the Invisibility and Mind Reading advantages given in the template. A few Nugiiri, especially those who are sent out into the non-Nugiiri universe on missions for the community, develop more elaborate telepathic abilities.

Nugiiri are devoted to their community, or *oytrip*, and find their sole purpose in life in service to that community. A Nugiiri who is cut off from the community often falls into a life-threatening physiological syndrome similar to withdrawal from addiction. Treat this as a cheap, legal Addiction. Most Nugiiri who are likely to venture into the outside world can "recover" from this Addiction with an unmodified Will roll, making it a 0-point trait. Worker castes find the Addiction to be "highly" or "totally" addictive, and may take the disadvantage at the -5 or -10 level. Meanwhile, most Nugiiri have the Gregarious and Selfless disadvantages. For more information on the Nugiiri, see p. 85.

Attribute Modifiers: ST-3 [-30]; DX-1 [-20]; IQ-2 [-40].

Secondary Characteristic Modifiers: HP-3 [-6]; SM-1.

Advantages: Claim to Hospitality (Nugiiri communities) [5]; Flight (Winged, -25%; Gravity restrictions, -15%) [24]; Invisibility (Can Carry Objects, Medium encumbrance, +50%; Switchable, +10%; Telepathic, -10%) [60]; Mind Reading (Racial, -10%; Telepathic, -10%) [24]; Night Vision 4 [4]; Peripheral Vision [15]; Reduced Consumption 2 [4]; Striker (Crushing) [5].

Disadvantages: Hidebound [-5]; Short Lifespan 1 [-10]; Social Stigma (Second-Class Citizen) [-5]; Vulnerability (Crushing damage, ×2 damage) [-30].

Suerrat

2 points

The Suerrat are a minor Human race subject to the Imperium. They are renowned for their ability as environmental scientists and technicians, and can be found on thousands of Imperial worlds.

Suerrat are small but muscular in build, averaging about 5' tall and 130 pounds. They have retained several ape-like features unusual among Human subspecies, notably prehensile toes and long body hair. Their eyes are well adapted to dark and to long wavelengths – in fact, they are uncomfortable in the bright sunlight found on Terra, Vland, and many other Human-inhabited worlds. Suerrat age about as quickly as Terrans.

Suerrat are very sociable, with aliens and animals as well as each other. They are well known for their natural affinity for other living things. Many Suerrat have levels in the Animal Friend or Green Thumb talents (see p. B90).

For more information about the Suerrat, see p. 86.

Advantages: Animal Empathy [5]; Fur [1]; Night Vision 6 [6]; Plant Empathy [5].

Disadvantages: Bad Sight (Near-sighted; Only in full G-class sunlight, Mitigated by sunglasses or protective gear, -80%) [-5]; Chummy [-5]; Xenophilia (15) [-5].

Terran

0 Points

Terrans are "baseline" Humans, defining the norm for ***Interstellar Wars*** characters. They receive no special advantages or disadvantages. For a detailed overview of Terran society, see Chapter 3.

Vegan

28 points

Vegans are a vaguely humanoid alien species, native to a region a few parsecs coreward of Terra. As the Imperial subject race closest to the Terran Confederation, they are the most frequently encountered by Terran explorers. The Vegans are restive under Imperial rule, and many of them are likely to want to work with Terrans to gain their independence.

Vegans are tall and frail, unable to stand up to Terran-standard gravity for long periods of time. They have a sensory hood that vaguely resembles a Terran's head. They have a bundle of tentacles at the end of each arm; these appendages are sensitive manipulators, but are inferior to Human hands in gripping strength. Their voices are peculiar by Human standards, rich with rasping and buzzing sounds. Vegans live a very long time, maturing at about 70 Terran years of age and routinely living into their fourth century.

Vegans evolved in a gravity field of about 0.5 G, and are unusually sensitive to variations in gravity (see the G-Intolerance disadvantage). Because of the construction of their sensory hood, Vegans may not take the Peripheral Vision advantage.

An adult Vegan will usually have a Code of Honor or a related disadvantage, reflecting commitment to the ideals of his *tuhuir*. Anyone playing a Vegan should work out the details of this Code of Honor with the GM. A typical *tuhuir* will impose *at least* -10 points of disadvantages. While the advantage is not mandatory for Vegan characters, many Vegans have the equivalent of Common Sense.

For more information about the Vegans, see p. 88.

Attribute Modifiers: DX+1 [20].
Secondary Characteristic Modifiers: SM+1.
Advantages: Acute Hearing 1 [2]; Empathy (Sensitive) [5]; Extended Lifespan 2 [4]; Fearlessness 1 [2]; Infravision [10]; Nictitating Membrane 1 [1]; Protected Vision [5]; Reduced Consumption 2 (Water only, -50%) [2].
Disadvantages: Bad Grip 1 [-5]; G-Intolerance (0.1G increment) [-10]; Social Stigma (Second-Class Citizen) [-5].
Quirks: Congenial; Dull; Humble. [-3]

Vilani

-3 points

Vilani are the Humans who founded the *Ziru Sirka*, and who continue to rule it to the present day. They are the foremost rivals (and greatest potential partners) of Terran civilization.

Vilani tend to be slightly shorter and more muscular than Terrans, with heavy bone structure but delicate facial features. Their skin tones and hair color are always dark, although they have light-colored eyes ranging from gray to a golden hazel color. They wear a variety of clothing styles, some of them quite flamboyant. Vilani live much longer than Terrans, maturing at about the same age, but experiencing aging thresholds at 100, 140, and 180 Terran years.

For a detailed overview of Vilani society, see Chapter 4.

Advantages: Extended Lifespan 1 [2]; Less Sleep 2 [4]; Lifting ST 1 [3].
Disadvantages: Hidebound [-5]; Workaholic [-5].
Quirks: Chauvinistic; Humble. [-2]

Occupational Templates

The following templates are particularly useful for Terran characters who are prepared for a life of adventure. Some of them can be adapted for Imperial characters as well.

Academician

85 points

You are a scholar, usually a university professor or private instructor who spends more time teaching than in original research. You are not the sort of person who normally ventures into a conflict zone. Still, there's a galaxy full of interesting things to learn and interesting people to teach, and you're not going to let little things like wars stop you.

Attributes: ST 10 [0]; DX 10 [0]; IQ 13 [60]; HT 10 [0].
Secondary Characteristics: Damage 1d-2/1d; BL 20 lbs.; HP 10 [0]; Will 13 [0]; Per 13 [0]; FP 10 [0]; Basic Speed 5 [0]; Basic Move 5 [0].
Advantages: A total of 20 points selected from Claim to Hospitality (Universities) [variable], Cultural Adaptability [10 or 20], Cultural Familiarity [1 or 2], Eidetic Memory [5 or 10], Favor [variable], Language Talent [10], Languages [variable], Lightning Calculator [2 or 5], Mathematical Ability [10/level], positive Reputation [variable], Single-Minded [5], Tenure [5], Versatile [5], Voice [10], or above-average Wealth [variable].
Disadvantages: A total of -20 points selected from Absent-Mindedness [-15], Clueless [-10], Code of Honor (Professional) [-5], Combat Paralysis [-15], Cowardice [-10*], Curious [-5*], Dependents [variable], Duty (Teaching) [variable], Enemy (Academic rival) [variable], Fearfulness [-2/level], Gluttony [-5*], Honesty [-10*], Indecisive [-10*], Intolerance (Uneducated people) [-5], Jealousy [-10], Laziness [-10], Low Empathy [-20], Low Pain Threshold [-10], No Sense of Humor [-10], Oblivious [-5], Obsession [-5* or -10*], Odious Personal Habits [-5, -10, or -15], Overconfidence [-5*], Pacifism [variable], Phobias [variable], Post-Combat Shakes [-5*], negative Reputation [variable], Secret [-5 to -20], Selfish [-5*], Sense of Duty [-2 to -20], Space Sickness [-10], Squeamish [-10*], Stubbornness [-5*], Truthfulness [-5*], Unfit [-5 or -15], Unluckiness [-10], Workaholic [-5], or Xenophilia [-10*].
Primary Skills: Teaching (A) IQ+1 [4]-14; plus *two* of Anthropology, Archaeology, Astronomy, Chemistry, Computer Programming, Cryptography, Economics, Expert Skill (any), Geography, Geology, History, Law (any), Linguistics, Literature, Mathematics, Paleontology, Philosophy, Physiology, Physician, Psychology, Sociology, or Theology, all (H) IQ [4]-13, or Biology, Physics, Surgery, or Weird Science, all (VH) IQ-1 [4]-12.
Secondary Skills: Computer Operation (E) IQ+1 [2]-14; Public Speaking (A) IQ [2]-13; Research (A) IQ [2]-13; and Writing (A) IQ [2]-13.
Background Skills: Savoir-Faire (High Society) (E) IQ [1]-13; Speed-Reading (A) IQ-1 [1]-12; plus three extra points in primary or secondary skills.

* Multiplied for self-control number; see p. B120.

Athlete

100 points

You are a current or retired professional athlete, trained in a sport of your choice. For some reason, you have left the competition circuit to take to a life of adventure – perhaps

you have suffered an injury, you are on the run from professional gamblers, or you have simply decided to find new challenges.

Attributes: ST 12 [20]; DX 12 [40]; IQ 10 [0]; HT 12 [20].

Secondary Characteristics: Damage 1d-1/1d+2; BL 29 lbs.; HP 12 [0]; Will 11 [5]; Per 10 [0]; FP 12 [0]; Basic Speed 6 [0]; Basic Move 6 [0].

Advantages: A total of 20 points selected from Ambidexterity [5], positive Appearance [variable], Daredevil [15], extra FP [3/level], Fit [5 or 15], Flexibility [5 or 15], High Manual Dexterity [5/level], High Pain Threshold [10], Languages [variable], Rapid Healing [5 or 15], positive Reputation [variable], above-average Wealth [variable], +1 ST or HT [10], or +1 DX [20].

Disadvantages: A total of -20 points selected from Bad Back [-15], Code of Honor (Professional) [-5], Compulsive Behavior [-5 to -15], Enemy (Athletic rival) [variable], Greed [-15*], Honesty [-10*], Impulsiveness [-10*], Incurious [-5*], Intolerance [variable], Jealousy [-10], Lecherousness [-15*], Low Empathy [-20], Obsession [-5* or -10*], Overconfidence [-5*], Phobias [variable], negative Reputation [variable], Secret [-5 to -30], Selfish [-5*], Sense of Duty [-2 to -20], Shyness [-5, -10, or -20], Space Sickness [-10], Stubbornness [-5*], Trademark [-5 to -15], Unluckiness [-10], or Xenophilia [-10*].

Primary Skills: Games (chosen sport) (E) IQ+2 [4]-12; plus any *one* of Bicycling, Brawling Sport, Guns Sport, Jumping, or Thrown Weapon (any), all (E) DX+2 [4]-14, Boating (Unpowered), Boxing, Bow Sport, Climbing, Dancing, Rapier Sport, Riding (Horse), Saber Sport, Smallsword Sport, Sports (any), Staff Sport, Sumo Wrestling, Throwing, or Wrestling, all (A) DX+1 [4]-13, Acrobatics, Judo Sport, or Karate Sport, all (H) DX [4]-12, Swimming (E) HT+2 [4]-14, Hiking, Lifting, or Running, all (A) HT+1 [4]-13, or Skating or Skiing, both (H) HT [4]-12.

Secondary Skills: Any *two* of Acting, Gambling, or Leadership, all (A) IQ [2]-10, Carousing (E) HT+1 [2]-13, Sex Appeal (A) HT [2]-12, or Intimidation (A) Will [2]-11.

Background Skills: Three extra points in primary or secondary skills.

* Multiplied for self-control number; see p. B120.

Attorney

74 points

You are an expert on some field of Terran law, often involved in commercial or political negotiations. With the rapid expansion of the Terran sphere of influence, there is always a call for legal expertise as the Confederation learns how to rule an empire. Your skills may not suit you for a life of danger, but they often command a high price nevertheless.

Attributes: ST 10 [0]; DX 10 [0]; IQ 12 [40]; HT 10 [0].

Secondary Characteristics: Damage 1d-2/1d; BL 20 lbs.; HP 10 [0]; Will 12 [0]; Per 12 [0]; FP 10 [0]; Basic Speed 5 [0]; Basic Move 5 [0].

Advantages: Comfortable Wealth [10] and a total of 20 points selected from Allies [variable], positive Appearance [variable], Charisma [5/level], Contact Group [variable], Contacts [variable], Empathy [5 or 15], Fashion Sense [5], Favor [variable], Honest Face [1], Languages [variable], positive Reputation [variable], Single-Minded [5], Smooth Operator [15/level], high Status [5/level], Voice [10], or more Wealth [variable].

Disadvantages: A total of -20 points selected from Bully [-10*], Callous [-5], Code of Honor (Professional) [-5], Combat Paralysis [-15], Cowardice [-10*], Dependents [variable], Enemy (Former clients or opponents) [variable], Fearfulness [-2/level], Gluttony [-5*], Greed [-15*], Honesty [-10*], Jealousy [-10], Low Pain Threshold [-10], Miserliness [-10*], No Sense of Humor [-10], Obsession [-5* or -10*], Overconfidence [-5*], Pacifism [variable], Phobias [variable], Post-Combat Shakes [-5*], negative Reputation [variable], Secret [-5 to -20], Selfish [-5*], Sense of Duty [-2 to -20], Space Sickness [-10], Squeamish [-10*], Stubbornness [-5*], Unfit [-5 or -15], Unluckiness [-10], Workaholic [-5], or Xenophilia [-10*].

Primary Skills: Law (any) (H) IQ [4]-12; Research (A) IQ+1 [4]-13; and either Diplomacy (H) IQ [4]-12 or Fast-Talk (A) IQ+1 [4]-13.

Secondary Skills: Administration (A) IQ [2]-12; Public Speaking (A) IQ [2]-12; and Writing (A) IQ [2]-12.

Background Skills: Any *three* of Criminology, Interrogation, or Politics, all (A) IQ-1 [1]-11, Accounting or Psychology, both (H) IQ-2 [1]-10, Intimidation (A) Will-1 [1]-11, or Detect Lies (H) Per-2 [1]-10; plus three extra points in any primary or secondary skills.

* Multiplied for self-control number; see p. B120.

Belter

95 points

You are a deep-space prospector, experienced in mining the asteroids and small airless moons that can be found in almost any star system. You may be a crude, rough-and-tumble person who has little interest in Human society . . . or simply an intellectual introvert. You continually search for the great strike that will let you retire to a life of ease.

Attributes: ST 10 [0]; DX 12 [40]; IQ 12 [40]; HT 10 [0].

Secondary Characteristics: Damage 1d-1/1d+1; BL 24 lbs.; HP 10 [0]; Will 12 [0]; Per 12 [0]; FP 10 [0]; Basic Speed 5.5 [0]; Basic Move 5 [0].

Advantages: A total of 20 points selected from 3D Spatial Sense [10], Artificer [10/level], Fit [5 or 15], G-Experience [variable], Gizmos [5/gizmo], Improved G-Tolerance [5 or 10], Languages [variable], Luck [variable], or Single-Minded [5].

Disadvantages: A total of -30 points selected from Debt [-1 to -20], Greed [-15*], Honesty [-10*], Intolerance [variable], Loner [-5*], Low Empathy [-20], Miserliness [-10*], No Sense of Humor [-10], Oblivious [-5], Odious Personal Habits [-5, -10, or -15], Overconfidence [-5*], Phobias [variable], negative Reputation [variable], Secret [-5 to -30], Shyness [-5, -10, or -20], Stubbornness [-5*], Unluckiness [-10], below-average Wealth [variable], Workaholic [-5], or Xenophilia [-10*].

Primary Skills: Piloting (High-Performance Spacecraft) (A) DX+1 [4]-13 and Prospecting (A) IQ+1 [4]-13.

Secondary Skills: Engineer (Mining) (H) IQ-1 [2]-11; Free Fall (A) DX [2]-12; Geology (Ice Worlds or Rock Worlds) (H) IQ-1 [2]-11; Navigation (Space) (A) IQ+1 [2]-12; Spacer (E) IQ+1 [2]-13; and Vacc Suit (A) DX [2]-12.

Background Skills: Brawling (E) DX [1]-12; Carousing (E) HT [1]-10; Guns (any) (E) DX [1]-12; plus two extra points in primary or secondary skills.

* Multiplied for self-control number; see p. B120.

Bureaucrat

65 points

Whether you come from a government or a corporate bureaucracy, you are an experienced administrator. You've spent much of your career doing the paperwork that gets things done. Now you're ready to take up the traveling lifestyle, applying your hard-won skills to the problems of a galaxy.

Attributes: ST 10 [0]; DX 10 [0]; IQ 12 [40]; HT 10 [0].

Secondary Characteristics: Damage 1d-2/1d; BL 20 lbs.; HP 10 [0]; Will 12 [0]; Per 12 [0]; FP 10 [0]; Basic Speed 5 [0]; Basic Move 5 [0].

Advantages: Either Administrative Rank 1 [5] or Merchant Rank 1 [5]; plus a total of 20 points selected from more Administrative Rank [5/level], Allies [variable], Common Sense [10], Contact Group [variable], Contacts [variable], Courtesy Rank [1/level], Favor [variable], Languages [variable], Mathematical Ability [10/level], more Merchant Rank [5/level], Patron (Corporation or bureaucratic agency) [variable], Security Clearance [variable], Single-Minded [5], high Status [5/level], Unfazeable [15], or above-average Wealth [variable].

Disadvantages: A total of -20 points selected from Bully [-10*], Callous [-5], Chummy [-5 or -10], Clueless [-10], Code of Honor (Professional) [-5], Combat Paralysis [-15], Cowardice [-10*], Dependents [variable], Duty [variable], Fearfulness [-2/level], Gluttony [-5*], Hidebound [-5], Honesty [-10*], Incurious [-5*], Intolerance [variable], Low Pain Threshold [-10], Miserliness [-10*], No Sense of Humor [-10], Oblivious [-5], Pacifism [variable], Phobias [variable], Post-Combat Shakes [-5*], negative Reputation [variable], Secret [-5 to -30], Selfish [-5*], Shyness [-5, -10, or -20], Space Sickness [-10], Squeamish [-10*], Stubbornness [-5*], Unfit [-5 or -15], Unluckiness [-10], Workaholic [-5], or Xenophilia [-10*].

Primary Skills: Administration (A) IQ+2 [8]-14.

Secondary Skills: Accounting (H) IQ-1 [2]-11 and any *two* of Merchant or Politics, both (A) IQ [2]-12, or Diplomacy, Economics, Finance, Law (any), or Market Analysis, all (H) IQ-1 [2]-11.

Background Skills: Computer Operation (E) IQ [1]-12; Research (A) IQ-1 [1]-11; Savoir-Faire (any) (E) IQ [1]-12; Writing (A) IQ-1 [1]-11; and two extra points in primary or secondary skills.

* Multiplied for self-control number; see p. B120.

Capitalist

80 points

You are one of Terra's businessmen, devoted to the principle of "doing good by doing well." You travel the galaxy looking for new business opportunities, and incidentally extending Terran influence deep into Imperial space.

Attributes: ST 10 [0]; DX 10 [0]; IQ 12 [40]; HT 10 [0].

Secondary Characteristics: Damage 1d-2/1d; BL 20 lbs.; HP 10 [0]; Will 13 [5]; Per 13 [0]; FP 10 [0]; Basic Speed 5 [0]; Basic Move 5 [0].

Advantages: Comfortable [10] and a total of 30 points selected from Allies [variable], Business Acumen [10/level], Charisma [5/level], Claim to Hospitality (Business allies) [variable], Contact Group [variable], Contacts [variable], Fashion Sense [5], Favor [variable], Independent Income [1 to 20], Intuition [15], Languages [variable], Luck [variable], Mathematical Ability [10/level], Merchant Rank [5/level], Patron (Corporation) [variable], positive Reputation [variable], above-average Status [5/level], or more Wealth [variable].

Disadvantages: A total of -30 points selected from Bully [-10*], Callous [-5], Code of Honor (Professional) [-5], Compulsive Behavior [variable], Dependents [variable], Enemy (Business rival) [variable], Gluttony [-5*], Greed [-15*], Jealousy [-10], Low Pain Threshold [-10], Miserliness [-10*], Obsession [-5* or -10*], Overconfidence [-5*], Phobias [variable], negative Reputation [variable], Secret [-5 to

-30], Selfish [-5*], Space Sickness [-10], Stubbornness [-5*], Unfit [-5 or -15], Unluckiness [-10], Workaholic [-5], or Xenophilia [-10*].

Primary Skills: Merchant (A) IQ+1 [4]-13.

Secondary Skills: Accounting (H) IQ-1 [2]-11; Administration (A) IQ [2]-12; Fast-Talk (A) IQ [2]-12; Leadership (A) IQ [2]-12; and any *three* of Current Affairs (any) (E) IQ+1 [2]-13, Politics (A) IQ [2]-12, or Diplomacy, Economics, Finance, Law (any), or Market Analysis, all (H) IQ-1 [2]-11.

Background Skills: Computer Operation (E) IQ [1]-12; Research (A) IQ-1 [1]-11; Savoir-Faire (High Society) (E) IQ [1]-12; and four extra points in primary or secondary skills.

* Multiplied for self-control number; see p. B120.

Colonist

40 points

You are one of the pioneers who are establishing new civilizations on the Terran Confederation's colony worlds. Few colonists play a grand part in the history of the Interstellar Wars, but there are always some who leave their fields and small towns for the interstellar stage.

Attributes: ST 11 [10]; DX 10 [0]; IQ 10 [0]; HT 11 [10].

Secondary Characteristics: Damage 1d-1/1d+1; BL 24 lbs.; HP 11 [0]; Will 10 [0]; Per 10 [0]; FP 11 [0]; Basic Speed 5.25 [0]; Basic Move 5 [0].

Advantages: A total of 20 points selected from Animal Empathy [5], Animal Friend [5/level], Common Sense [10], Cultural Familiarity [1 or 2], Fit [5 or 15], G-Experience [variable], Green Thumb [5/level], Honest Face [1], Improved G-Tolerance [5 or 10], Languages [variable], Less Sleep [2/level], Outdoorsman [10/level], or Serendipity [15/level].

Disadvantages: A total of -20 points selected from Charitable [-15*], Chummy [-5 or -10], Clueless [-10], Combat Paralysis [-15], Cowardice [-10*], Curious [-5*], Dependents [variable], Easy to Read [-10], Fearfulness [-2/level], Gullibility [-10*], Hidebound [-5], Honesty [-10*], Impulsiveness [-10*], Incurious [-5*], Intolerance [variable], Loner [-5*], Low Self-Image [-10], Odious Personal Habits [-5, -10, or -15], Overconfidence [-5*], Pacifism [variable], Phobias [variable], Post-Combat Shakes [-5*], Selfless [-5*], Sense of Duty [-2 to -20], Shyness [-5, -10, or -20], Space Sickness [-10], Stubbornness [-5*], Truthfulness [-5*], Unluckiness [-10], below-average Wealth [variable], Workaholic [-5], or Xenophilia [-10*].

Primary Skills: Driving (any) (A) DX+1 [4]-11 and Survival (any) (A) Per+1 [4]-11.

Secondary Skills: Guns (any) (E) DX+1 [2]-11; plus any *three* of Sewing (E) DX+1 [2]-11, Riding (any) or Stealth, both (A) DX [2]-10, Camouflage, Carpentry, Gardening, or Masonry, all (E) IQ+1 [2]-11, Animal Handling (any), Electrician, Farming, Machinist, Mechanic (any), Merchant, Meteorologist, Smith (any), or Teamster (any), all (A) IQ [2]-10, Swimming (E) HT+1 [2]-12, Hiking (A) HT [2]-11, Fishing or Scrounging, both (E) Per+1 [2]-11, or Tracking (A) Per [2]-10.

Background Skills: Computer Operation (E) IQ [1]-10; First Aid (E) IQ [1]-10; plus two extra points in primary or secondary skills.

* Multiplied for self-control number; see p. B120.

Dilettante

70 points

You are one of Terra's idle rich. You may have acquired a few useful skills almost by accident, but for the most part the only things you are good at are art, sports, and fun. Adventurers traveling with you will find you useful mainly for your wealth, although in some situations your skills may come in handy.

Attributes: ST 10 [0]; DX 10 [0]; IQ 10 [0]; HT 10 [0].

Secondary Characteristics: Damage 1d-2/1d; BL 20 lbs.; HP 10 [0]; Will 10 [0]; Per 10 [0]; FP 11 [0]; Basic Speed 5 [0]; Basic Move 5 [0].

Advantages: Wealthy [20]; Status 1 [0]*; and a total of 60 points selected from Alcohol Tolerance [1], Allies [variable], positive Appearance [variable], Charisma [5/level], Claim to Hospitality (Family friends) [variable], Contact Group [variable], Contacts [variable], Cultural Familiarity [1 or 2], Daredevil [15], Fashion Sense [5], Favor [variable], Independent Income [1 to 20], Languages [variable], Luck [variable], No Hangover [1], Patron (Family) [variable], positive Reputation [variable], Smooth Operator [15/level], more Status [5/level], Voice [10], or more Wealth [variable].

Disadvantages: A total of -30 points selected form Addiction [variable], Alcoholism [-15 or -20], Combat Paralysis [-15], Compulsive Behavior [-5 to -15], Cowardice [-10*], Curious [-5*], Enemy (Family adversary) [variable], Fearfulness [-2/level], Gluttony [-5*], Greed [-15*], Honesty [-10*], Impulsiveness [-10*], Intolerance [variable], Jealousy [-10], Laziness [-10], Lecherousness [-15*], Low Pain Threshold [-10], Miserliness [-10*], Obsession [-5* or -10*], Odious Personal Habits [-5, -10, or -15], Overconfidence [-5*], Pacifism [variable], Phobias [variable], Post-Combat Shakes [-5*], negative Reputation [variable], Secret [-5 to -30], Selfish [-5*], Short Attention Span [-10*], Slow Riser [-5], Space Sickness [-10], Squeamish [-10*], Stubbornness [-5*], Trademark [-5 to -15], Truthfulness [-5*], Unfit [-5 or -15], Unluckiness [-10], or Xenophilia [-10*].

Primary Skills: Savoir-Faire (High Society) (E) IQ+3 [8]-14.

Secondary Skills: Any *three* of Boating (any), Dancing, Driving (any), Piloting (any), Riding (any), or Sports (any), all (A) DX+1 [4]-11, Current Affairs (any) Games (any), both (E) IQ+2 [4]-12, Connoisseur (any), Cooking, Fast-Talk, Gambling, Poetry, or Writing, all (A) IQ+1 [4]-11, Artist (any) Musical Instrument (any), both (H) IQ [4]-10, Carousing, Singing, or Swimming, all (E) HT+2 [4]-12, or Sex Appeal (A) HT+1 [4]-11.

* Gets one level of free Status from Wealth.

** Multiplied for self-control number; see p. B120.

Diplomat

90 points

You are a current or retired diplomat, whose career was built around smoothing over disputes between Terran factions (or between Terra and the Imperium). Of course, even if you are retired, nobody is *quite* willing to believe that you're not still in the Great Game. You retain a variety of useful skills, and any adventuring party will likely be happy to have your help.

Attributes: ST 10 [0]; DX 10 [0]; IQ 13 [60]; HT 10 [0].

Secondary Characteristics: Damage 1d-2/1d; BL 20 lbs.; HP 10 [0]; Will 13 [0]; Per 13 [0]; FP 10 [0]; Basic Speed 5 [0]; Basic Move 5 [0].

Advantages: A total of 30 points selected from Administrative Rank [5/level], Allies [variable], positive Appearance [variable], Charisma [5/level], Claim to Hospitality (Embassies) [variable], Contact Group [variable], Contacts [variable], Cultural Adaptability [10 or 20], Cultural Familiarity [1 or 2], Empathy [5 or 15], Fashion Sense [5], Favor [variable], Honest Face [1], Language Talent [10], Languages [variable], Legal Immunity (Diplomatic) [20], Patron (Government) [variable], positive Reputation [variable], Security Clearance [variable], Social Chameleon [5], Smooth Operator [15/level], above-average Status [5/level], Voice [10], or above-average Wealth [variable].

Disadvantages: A total of -30 points selected from Charitable [-15*], Chummy [-5 or -10], Combat Paralysis [-15], Cowardice [-10*], Duty [variable], Enemy (Enemy government) [variable], Fanaticism (Patriot) [-15], Fearfulness [-2/level], Gluttony [-5*], Low Pain Threshold [-10], Overconfidence [-5*], Pacifism [variable], Phobias [variable], Post-Combat Shakes [-5*], negative Reputation [variable], Secret [-5 to -30], Selfish [-5*], Selfless [-5*], Sense of Duty [-2 to -20], Squeamish [-10*], Stubbornness [-5*], Unfit [-5 or -15], Unluckiness [-10], Workaholic [-5], or Xenophilia [-10*].

Primary Skills: Diplomacy (H) IQ [4]-13; Public Speaking (A) IQ+1 [4]-14; and Savoir-Faire (High Society) (E) IQ+2 [4]-15.

Secondary Skills: Administration (A) IQ [2]-13; Current Events (any) (A) IQ [2]-13; Politics (A) IQ [2]-13; either Acting (A) IQ [2]-13 or Fast-Talk (A) IQ [2]-13; and any *two* of Economics, Finance, History, Intelligence Analysis, Law (any), Market Analysis, or Psychology, all (H) IQ-1 [2]-12.

Background Skills: Research (A) IQ-1 [1]-12; Writing (A) IQ-1 [1]-12; and four extra points in primary and secondary skills.

* Multiplied for self-control number; see p. B120.

Doctor

95 points

You are a physician, trained to heal the sick and injured. Your skills are in high demand in wartime, as the conflict generates wounded patients by the thousands. Even in peacetime, you are a popular individual anywhere on the galactic frontier.

Attributes: ST 10 [0]; DX 11 [20]; IQ 13 [60]; HT 10 [0].

Secondary Characteristics: Damage 1d-2/1d; BL 20 lbs.; HP 10 [0]; Will 13 [0]; Per 13 [0]; FP 10 [0]; Basic Speed 5.25 [0]; Basic Move 5 [0].

Advantages: A total of 20 points selected from Cultural Familiarity [1 or 2], Eidetic Memory [5 or 10], Empathy [5 or 15], Healer [10/level], High Manual Dexterity [5/level], Higher Purpose [5], Languages [variable], Less Sleep [2/level], Resistant (Disease) [variable], Single-Minded [5], above-average Status [5/level], or above-average Wealth [variable].

Disadvantages: A total of -30 points selected from Addiction [variable], Charitable [-15*], Code of Honor (Professional) [-5], Combat Paralysis [-15], Dependents [variable], Guilt Complex [-5], Honesty [-10*], Nightmares [-5*], Pacifism [variable], Phobias [variable], Secret [-5 to -30], Selfish [-5*], Selfless [-5*], Sense of Duty [-2 to -20], Stubbornness [-5*], Unfit [-5 or -15], Unluckiness [-10], Workaholic [-5], or Xenophilia [-10*].

Primary Skills: Diagnosis (H) IQ [4]-13; Electronics Operation (Medical) (A) IQ+1 [4]-14; and Physician (H) IQ [4]-13.

Secondary Skills: Physiology (H) IQ-1 [2]-12; plus any *two* of Hypnotism, Pharmacy, Poisons, Psychology, or Veterinary, all (H) IQ-1 [2]-12, or Surgery (VH) IQ-2 [2]-11.

Background Skills: Administration (A) IQ-1 [1]-12; Computer Operation (E) IQ [1]-13; Diplomacy (H) IQ-2 [1]-11; Teaching (A) IQ-1 [1]-12; plus three extra points in primary or secondary skills.

* Multiplied for self-control number; see p. B120.

Entertainer

90 points

You work in the entertainment industry, and although you don't contribute directly to the war effort,

you certainly help out with morale. Whether you work on the stage or behind it, you make people happy and lift their spirits. As a bonus, you normally find yourself able to earn a little extra cash no matter where you go – even the most backwater colony or isolated military unit will gladly pay to see what you have to offer.

Attributes: ST 10 [0]; DX 11 [20]; IQ 12 [40]; HT 11 [10].

Secondary Characteristics: Damage 1d-2/1d; BL 20 lbs.; HP 10 [0]; Will 12 [0]; Per 12 [0]; FP 11 [0]; Basic Speed 5.5 [0]; Basic Move 5 [0].

Advantages: A total of 20 points selected from Alcohol Tolerance [1], positive Appearance [variable], Charisma [5/level], Claim to Hospitality (Fans) [variable], Cultural Familiarity [1 or 2], Empathy [5 or 15], Fashion Sense [5], Flexibility [5 or 15], Languages [variable], Luck [variable], Musical Ability [5/level], No Hangover [1], Penetrating Voice [1], positive Reputation [variable], Smooth Operator [15/level], Versatile [5], Voice [10], or above-average Wealth [variable].

Disadvantages: A total of -20 points selected from Addiction [variable], Alcoholism [-15 or -20], Combat Paralysis [-15], Compulsive Behavior [-5 to -15], Cowardice [-10*], Fearfulness [-2/level], Greed [-15*], Honesty [-10*], Impulsiveness [-10*], Incurious [-5*], Jealousy [-10], Lecherousness [-15*], Low Pain Threshold [-10], Miserliness [-10*], Overconfidence [-5*], Pacifism [variable], Phobias [variable], Post-Combat Shakes [-5*], negative Reputation [variable], Secret [-5 to -30], Selfish [-5*], Short Attention Span [-10*], Squeamish [-10*], Stubbornness [-5*], Trademark [-5 to -15], Unfit [-5 or -15], Unluckiness [-10], Workaholic [-5], or Xenophilia [-10*].

Primary Skills: Any *two* of Dancing (A) DX+1 [4]-12, Acting, Performance, or Public Speaking, all (A) IQ+1 [4]-13, Musical Instrument (any) (H) IQ [4]-12, or Singing (E) HT+2 [4]-13.

Secondary Skills: Any *three* of Stage Combat (A) DX [2]-11, Acrobatics or Sleight of Hand, both (H) DX-1 [2]-10, Makeup or Savoir-Faire (any), both (E) IQ+1 [2]-13, Group Performance (any), Poetry, or Writing, all (A) IQ [2]-12, Artist (Scene Design) or Musical Composition, both (H) IQ-1 [2]-11, or Sex Appeal (A) HT [2]-11.

Background Skills: Carousing (E) HT [1]-11; Fast-Talk (A) IQ-1 [1]-11; plus four extra points in any primary or secondary skills.

* Multiplied for self-control number; see p. B120.

Journalist

65 points

Even in a time of war, the public has a right to know what's going on. You travel throughout the galaxy, digging up stories that keep the worlds informed (and, incidentally, boost your reputation). Traveling with a group of adventurers, you will doubtless gather more than enough material for your work – if you aren't the driving force behind the group yourself. Of course, Imperials often react *very* badly to pesky journalists . . .

Attributes: ST 10 [0]; DX 10 [0]; IQ 12 [40]; HT 10 [0].

Secondary Characteristics: Damage 1d-2/1d; BL 20 lbs.; HP 10 [0]; Will 12 [0]; Per 13 [5]; FP 10 [0]; Basic Speed 5 [0]; Basic Move 5 [0].

Advantages: A total of 20 points selected from positive Appearance [variable], Charisma [5/level], Contact Group [variable], Contacts [variable], Cultural Adaptability [10 or 20], Cultural Familiarity [1 or 2], Empathy [5 or 15], Fashion Sense [5], Favor [variable], Honest Face [1], Intuition [15], Language Talent [10], Languages [variable], Patron (News agency) [variable], positive Reputation [variable], Serendipity [15/level], Single-Minded [5], Smooth Operator [15/level], or Voice [10].

Disadvantages: A total of -20 points selected from Bully [-10*], Code of Honor (Professional) [-5], Curious [-5*], Delusion ("While I'm carrying this camera, nothing can hurt me") [-5 or -10], Impulsiveness [-10*], Jealousy [-10], Low Pain Threshold [-10], Obsession [-5* or -10*], Overconfidence [-5*], Pacifism [variable], Phobias [variable], Post-Combat Shakes [-5*], negative Reputation [variable], Secret [-5 to -30], Sense of Duty [-2 to -20], Stubbornness [-5*], Unfit [-5 or -15], Unluckiness [-10], below-average Wealth [variable], Workaholic [-5], or Xenophilia [-10*].

Primary Skills: Research (A) IQ+1 [4]-13 and Writing (A) IQ+1 [4]-13.

Secondary Skills: Electronics Operation (Media) (A) IQ [2]-12; and any *three* of Savoir-Faire (E) IQ+1 [2]-13, Electronics Operation (Communications), Fast-Talk, Interrogation, Photography, or Public Speaking, all (A) IQ [2]-12, Intimidation (A) Will [2]-12, or Detect Lies (H) Per-1 [2]-12.

Background Skills: Computer Operation (E) IQ [1]-12; Speed-Reading (A) IQ-1 [1]-11; and two extra points in primary or secondary skills.

* Multiplied for self-control number; see p. B120.

Marine

130 points

You are a serving member (or a retired veteran) of the Terran Confederation Marines. As such, you enjoy a fearsome reputation – but you also remember many a comrade lost in action. You have spent much of your career in deep space, and are very likely to remain a footloose adventurer after leaving the military.

Attributes: ST 11 [10]; DX 12 [40]; IQ 11 [20]; HT 11 [10].

Secondary Characteristics: Damage 1d-1/1d+1; BL 24 lbs.; HP 11 [0]; Will 11 [0]; Per 11 [0]; FP 11 [0]; Basic Speed 5.75 [0]; Basic Move 5 [0].

Advantages: A total of 30 points selected from Born Tactician [10/level], Combat Reflexes [15], Courtesy Rank [1/level], Danger Sense [15], Fearlessness [2/level], Fit [5 or 15], G-Experience [variable], High Pain Threshold [10], Improved G-Tolerance [5 or 10], Languages [variable], Military Rank [5/level], Penetrating Voice [1], positive Reputation [variable], or Security Clearance [variable].

Disadvantages: A total of -30 points selected from Bloodlust [-10*], Callous [-5], Chummy [-5 or -10], Code of Honor (Soldier's) [-10], Duty [variable], Enemy (Military rival) [variable], Fanaticism (Patriot) [-15], Flashbacks [variable], Honesty [-10*], Incurious [-5*], Intolerance [variable], Jealousy [-10], Nightmares [-5*], No Sense of Humor [-10], Overconfidence [-5*], Sense of Duty [-2 to -20], Stubbornness [-5*], Trickster [-15*], Unluckiness [-10], or Workaholic [-5].

Primary Skills: Free Fall (A) DX+1 [4]-13; Gunner (any) (E) DX+1 [4]-14; Guns (any) (E) DX+2 [4]-14; Savoir-Faire (Military) (E) IQ+2 [4]-13; Soldier (A) IQ+1 [4]-12; and Vacc Suit (A) DX+1 [4]-13.

Secondary Skills: Armoury (A) IQ [2]-11; Brawling (E) DX+1 [2]-13; either Driving (any) (A) DX [2]-12 or Piloting (any) (A) DX [2]-12; Knife (E) DX+1 [2]-13; Leadership (A) IQ [2]-11; Tactics (H) IQ-1 [2]-10; and Throwing (A) DX [2]-12.

Background Skills: Computer Operation (E) IQ [1]-11; Electronics Operation (Communications) (A) IQ-1 [1]-10; Electronics Operation (Sensors) (A) IQ-1 [1]-10; First Aid (E) IQ [1]-11; Gesture (E) IQ [1]-11; Lip Reading (A) Per-1 [1]-10; and Stealth (A) DX-1 [1]-11; plus five extra points in primary or secondary skills.

* Multiplied for self-control number; see p. B120.

Policeman

110 points

Policemen have many reasons for traveling: pursuit of fugitives, vengeance for denied justice, flight from implacable enemies, even a simple urge to bring their skills to the lawless frontier. Law enforcers who travel the stars often find their hands full – Terran colonies are often unruly places, and conquered Imperial worlds present their own social problems.

Attributes: ST 10 [0]; DX 11 [20]; IQ 12 [40]; HT 10 [0].

Secondary Characteristics: Damage 1d-2/1d; BL 20 lbs.; HP 10 [0]; Will 12 [0]; Per 13 [5]; FP 10 [0]; Basic Speed 5.25 [0]; Basic Move 5 [0].

Advantages: A total of 20 points selected from Administrative Rank [5/level], Combat Reflexes [15], Contact Group [variable], Contacts [variable], Courtesy Rank [1/level], Danger Sense [15], Favor [variable], Fearlessness [2/level], Fit [5 or 15], Higher Purpose [5], Languages [variable], greater Legal Enforcement Powers [5 to 15], Patron (Police agency) [variable], or Security Clearance [variable].

Disadvantages: A total of -20 points selected from Bully [-10*], Charitable [-15*], Chummy [-5 or -10], Code of Honor (Professional) [-5], Dependents [variable], Duty [variable], Enemy (Criminal) [variable], Honesty [-10*], Intolerance [variable], No Sense of Humor [-10], Obsession [-5* or -10*], Overconfidence [-5*], Pacifism (Cannot Harm Innocents) [-10], Secret [-5 to -20], Selfless [-5*], Sense of Duty [-2 to -20], Space Sickness [-10], Stubbornness [-5*], Unluckiness [-10], below-average Wealth [variable], or Workaholic [-5].

Primary Skills: Area Knowledge (Beat) (E) IQ+2 [4]-14; Brawling (E) DX+2 [4]-13; Guns (any) (E) DX+2 [4]-13; and Law (any) (H) IQ [4]-12.

Secondary Skills: Criminology (A) IQ [2]-12; Observation (A) Per [2]-13; Search (A) Per [2]-13; Stealth (A) DX [2]-11; Shadowing (A) IQ [2]-12; any *two* of Bicycling (E) DX+1 [2]-12, Driving (any), Piloting (any), or Riding (any), all (A) DX [2]-11, or Running (A) HT [2]-10; plus any *three* of Interrogation, Leadership, or Streetwise, all (A) IQ [2]-12, Diplomacy, Forensics, Psychology, or Tactics, all (H) IQ-1 [2]-11, Intimidation (A) Will [2]-12, or Detect Lies (H) Per-1 [2]-12.

Background Skills: Administration (A) IQ-1 [1]-11; Computer Operation (E) IQ [1]-12; Electronics Operation (Communications) (A) IQ-1 [1]-11; Electronics Operation (Sensors) (A) IQ-1 [1]-11; First Aid (E) IQ [1]-12; Research (A) IQ-1 [1]-11; plus three extra points in primary or secondary skills.

* Multiplied for self-control number; see p. B120.

Politician

70 points

You are a professional politician, using the democratic institutions of your nation-state to climb to the highest levels of national (or even Confederation) power. You spend at least as much time gathering votes as you do exercising power – but between election campaigns, you are busy making policy and passing laws. Even after you retire from active political life, you will have considerable indirect influence from the contacts and reputation you made while in office.

Attributes: ST 10 [0]; DX 10 [0]; IQ 12 [40]; HT 10 [0].

Secondary Characteristics: Damage 1d-2/1d; BL 20 lbs.; HP 10 [0]; Will 13 [5]; Per 12 [0]; FP 10 [0]; Basic Speed 5 [0]; Basic Move 5 [0].

Advantages: A total of 30 points selected from Administrative Rank [5/level], Allies [variable], Appearance [variable], Charisma [5/level], Claim to Hospitality (Political allies) [variable], Contact Group [variable], Contacts [variable], Courtesy Rank [1/level], Cultural Familiarity [1 or 2], Empathy [5 or 15], Fashion Sense [5], Favor [variable], Honest Face [1], Independent Income [1 to 20], Language Talent [10], Languages [variable], positive Reputation [variable], Security Clearance [variable], Social Chameleon [5], Smooth Operator [15/level], above-average Status [5/level], Voice [10], or above-average Wealth [variable].

Disadvantages: A total of -30 points selected from Bully [-10*], Chummy [-5 or -10], Enemy (Political rival) [variable], Fanaticism (Political ideology) [-15], Gluttony [-5*], Greed [-15*], Hidebound [-5], Incurious [-5*], Intolerance [variable], Jealousy [-10], Lecherousness [-15*], Low Pain Threshold [-10], Obsession [-5* or -10*], Overconfidence [-5*], Phobias [variable], Post-Combat Shakes [-5*], negative Reputation [variable], Secret [-5 to -30], Selfish [-5*], Sense of Duty [-2 to -20],

Space Sickness [-10], Squeamish [-10*], Stubbornness [-5*], Unfit [-5 or -15], Unluckiness [-10], Workaholic [-5], or Xenophilia [-10*].

Primary Skills: Politics (A) IQ+1 [4]-13 and Public Speaking (A) IQ+1 [4]-13.

Secondary Skills: Acting (A) IQ [2]-12; Administration (A) IQ [2]-12; Law (any) (H) IQ-1 [2]-11; Savoir-Faire (High Society) (E) IQ+1 [2]-13; and any *two* of Accounting, Economics, Expert Skill (Military Science), Expert Skill (Political Science), Finance, History, Intelligence Analysis, Market Analysis, or Psychology, all (H) IQ-1 [2]-11.

Background Skills: Research (A) IQ-1 [1]-11; Writing (A) IQ-1 [1]-11; and three extra points in primary or secondary skills.

* Multiplied for self-control number; see p. B120.

Rogue

90 points

"Rogue" is a more romantic term for "criminal." You are one of society's outcasts, either a romantic criminal-hero or a brutish criminal-thug. You survive outside the law, which may well be one of the reasons you travel among the stars – after all, the law is thinner out here.

Attributes: ST 10 [0]; DX 11 [20]; IQ 12 [40]; HT 10 [0].

Secondary Characteristics: Damage 1d-2/1d; BL 20 lbs.; HP 10 [0]; Will 12 [0]; Per 12 [0]; FP 10 [0]; Basic Speed 5.25 [0]; Basic Move 5 [0].

Advantages: A total of 30 points selected from Alcohol Tolerance [1], Alternate Identity (Illegal) [15], positive Appearance [variable], Charisma [5/level], Combat Reflexes [15], Contacts [variable], Cultural Adaptability [10 or 20], Danger Sense [15], Daredevil [15], Fashion Sense [5], Favor [variable], Fearlessness [2/level], Flexibility [5 or 15], High Manual Dexterity [5/level], Language Talent [10], Languages [variable], Luck [variable], Night Vision [1/level], No Hangover [1], Smooth Operator [15/level], Versatile [5], Voice [10], above-average Wealth [variable], or Zeroed [10].

Disadvantages: A total of -30 points selected from Addiction [variable], Alcoholism [-15 or -20], Bad Temper [-10*], Bloodlust [-10*], Bully [-10*], Callous [-5], Code of Honor (Pirate's) [-5], Compulsive Behavior [-5 to -15], Debt [-1 to 20], Enemy (Police) [variable], Fearfulness [-2/level], Gluttony [-5*], Greed [-15*], Impulsiveness [-10*], Incurious [-5*], Intolerance [variable], Jealousy [-10], Kleptomania [-15*], Laziness [-10], Lecherousness [-15*], Light Sleeper [-5], Loner [-5*], Miserliness [-10*], Obsession [-5* or -10*], Odious Personal Habits [-5, -10, or -15], Overconfidence [-5*], Paranoia [-10], Phobias [variable], negative Reputation [variable], Secret [-5 to -30], Selfish [-5*], Shyness [-5, -10, or -20], Slow Riser [-5], Social Stigma (Criminal Record) [-5], Space Sickness [-10], below-average Status [-5/level], Stubbornness [-5*], Trademark [-5 to -15], Trickster [-15*], Unfit [-5 or -15], Unluckiness [-10], below-average Wealth [variable], Workaholic [-5], or Xenophilia [-10*].

Primary Skills: Area Knowledge (any) (E) IQ+2 [4]-14 and Streetwise (A) IQ+1 [4]-13.

Secondary Skills: Carousing (E) HT+1 [2]-11; either Survival (any) *or* Urban Survival, both (A) Per [2]-12; Stealth (A) DX [2]-11; and any *six* of Beam Weapons (any), Brawling, Fast-Draw (any), Guns (any), Knife, or Thrown Weapon (Knife), all (E) DX+1 [2]-12, Erotic Art, Climbing, or Filch, all (A) DX [2]-11, Escape, Pickpocket, or Sleight of Hand, all (H) DX-1 [2]-10, Computer Operation or Panhandling, both (E) IQ+1 [2]-13, Acting, Electronics Operation (Communications), Electronics Operation (Security), Electronics Operation (Surveillance), Fast-Talk, Fortune-Telling (any), Gambling, Holdout, Lockpicking, Merchant, Shadowing, or Traps, all (A) IQ [2]-12, Forgery (H) IQ-1 [2]-11, Running or Sex Appeal, both (A) HT [2]-10, or Intimidation (A) Will [2]-12.

Background Skills: Four extra points in primary or secondary skills.

* Multiplied for self-control number; see p. B120.

Scientist

90 points

You may work at or for a university, like an academician (see p. 146), but you are more devoted to research and discovery than to teaching. Contact with the Imperium has given you thousands of new worlds to explore, and access to Imperial records has given you thousands of years' worth of data to examine. Of course, your job is to advance *beyond* anything the Imperium has managed to attain . . .

Attributes: ST 10 [0]; DX 10 [0]; IQ 13 [60]; HT 10 [0].

Secondary Characteristics: Damage 1d-2/1d; BL 20 lbs.; HP 10 [0]; Will 13 [0]; Per 13 [0]; FP 10 [0]; Basic Speed 5 [0]; Basic Move 5 [0].

Advantages: A total of 20 points selected from Allies [variable], Claim to Hospitality (Universities) [variable], Cultural Adaptability [10 or 20], Cultural Familiarity [1 or 2], Eidetic Memory [5 or 10], Favor [variable], Language Talent [10], Languages [variable], Lightning Calculator [2 or 5], Mathematical Ability [10/level], positive Reputation [variable], Single-Minded [5], above-average Status [5/level], Tenure [5], Versatile [5], or above-average Wealth [variable].

Disadvantages: A total of -20 points selected from Absent-Mindedness [-15], Clueless [-10], Code of Honor (Professional) [-5], Curious [-5*], Dependents [variable], Duty (Teaching) [variable], Enemy (Academic rival) [variable], Honesty [-10*], Intolerance (Uneducated people) [-5], Jealousy [-10], Low Empathy [-20], No Sense of Humor [-10], Oblivious [-5], Obsession [-5* or -10*], Odious Personal Habits [-5, -10, or -15], Overconfidence [-5*], Pacifism [variable], Phobias [variable], Post-Combat Shakes [-5*], negative Reputation [variable], Secret [-5 to -20], Selfish [-5*], Sense of Duty [-2 to -20], Space Sickness [-10], Stubbornness [-5*], Truthfulness [-5*], Workaholic [-5], or Xenophilia [-10*].

Primary Skills: Research (A) IQ+1 [4]-14; and any *two* of Anthropology, Archaeology, Astronomy, Chemistry, Computer Programming, Cryptography, Economics, Expert Skill (any), Geography, Geology, History, Law (any), Linguistics, Literature, Mathematics, Paleontology, Philosophy, Physiology, Physician, Psychology, Sociology, or Theology, all (H) IQ [4]-13, or Biology, Physics, Surgery, or Weird Science, all (VH) IQ-1 [4]-12.

Secondary Skills: Computer Operation (E) IQ+1 [2]-14; Electronics Operation (any) (A) IQ [2]-13; Electronics Operation (any other) (A) IQ [2]-13; Public Speaking (A) IQ [2]-13; Teaching (A) IQ [2]-13; and Writing (A) IQ [2]-13.

Background Skills: Leadership (A) IQ-1 [1]-12; Savoir-Faire (High Society) (E) IQ [1]-13; Speed-Reading (A) IQ-1 [1]-12; plus three extra points in primary or secondary skills.

* Multiplied for self-control number; see p. B120.

Soldier

130 points

You are a member of the Terran Confederation Army, either currently serving or retired. You may not have as much deep-space experience as your counterpart in the Marines, but you have probably seen more *action*, on Terra if not against the Vilani. After you retire, your skills will likely be much in demand in your home nation, in the colonies, or in one of the Terran mercenary units that are being organized in Imperial space.

Attributes: ST 11 [10]; DX 12 [40]; IQ 11 [20]; HT 11 [10].

Secondary Characteristics: Damage 1d-2/1d; BL 24 lbs.; HP 11 [0]; Will 11 [0]; Per 11 [0]; FP 11 [0]; Basic Speed 5.75 [0]; Basic Move 5 [0].

Advantages: A total of 30 points selected from Born Tactician [10/level], Combat Reflexes [15], Courtesy Rank [1/level], Danger Sense [15], Fearlessness [2/level], Fit [5 or 15], High Pain Threshold [10], Languages [variable], Military Rank [5/level], Penetrating Voice [1], positive Reputation [variable], or Security Clearance [variable].

Disadvantages: A total of -30 points selected from Bloodlust [-10*], Callous [-5], Chummy [-5 or -10], Code of Honor (Soldier's) [-10], Duty [variable], Enemy (Military rival) [variable], Fanaticism (Patriot) [-15], Flashbacks [variable], Honesty [-10*], Incurious [-5*], Intolerance [variable], Jealousy [-10], Nightmares [-5*], No Sense of Humor [-10], Overconfidence [-5*], Sense of Duty [-2 to -20], Stubbornness [-5*], Trickster [-15*], Unluckiness [-10], or Workaholic [-5].

Primary Skills: Guns (any) (E) DX+2 [4]-14; Gunner (any) (E) DX+2 [4]-14; Savoir-Faire (Military) (E) IQ+2 [4]-13; Soldier (A) IQ+1 [4]-12.

Secondary Skills: Armoury (A) IQ [2]-11; Brawling (E) DX+1 [2]-13; Camouflage (E) IQ+1 [2]-13; either Driving (any) (A) DX [2]-12 or

Piloting (any) (A) DX [2]-12; Hiking (A) HT [2]-11; Knife (E) DX+1 [2]-13; Leadership (A) IQ [2]-11; NBC Suit (A) DX [2]-12; Navigation (Land) (A) IQ [2]-12; Survival (any) (A) IQ [2]-12; Tactics (H) IQ-1 [2]-10; and Throwing (A) DX [2]-12.

Background Skills: Computer Operation (E) IQ [1]-11; Electronics Operation (Communications) (A) IQ-1 [1]-10; Electronics Operation (Sensors) (A) IQ-1 [1]-10; First Aid (E) IQ [1]-11; Gesture (E) IQ [1]-11; Scrounging (E) Per [1]-11; and Stealth (A) DX-1 [1]-11; plus three extra points in primary or secondary skills.

* Multiplied for self-control number; see p. B120.

Spy

90 points

The life of a Terran undercover agent can be very interesting, and also very short. Naturally, the job is not one from which it's possible to completely retire – even after you have returned to a "civilian" life you may find yourself caught up in world-spanning intrigues.

Attributes: ST 10 [0]; DX 11 [20]; IQ 12 [40]; HT 10 [0].

Secondary Characteristics: Damage 1d-2/1d; BL 20 lbs.; HP 10 [0]; Will 12 [0]; Per 13 [5]; FP 10 [0]; Basic Speed 5.25 [0]; Basic Move 5 [0].

Advantages: A total of 30 points selected from Alternate Identity [5 or 15], Charisma [5/level], Combat Reflexes [15], Contact Group [variable], Contacts [variable], Cultural Adaptability [10 or 20], Cultural Familiarity [1 or 2], Danger Sense [15], Eidetic Memory [5 or 10], Empathy [5 or 15], Fashion Sense [5], Favor [variable], Honest Face [1], Language Talent [10], Languages [variable], Patron (Government) [variable], Security Clearance [variable], Social Chameleon [5], Smooth Operator [15/level], Versatile [5], Voice [10], or Zeroed [10].

Disadvantages: A total of -30 points selected from Curious [-5*], Duty [variable], Enemy (Enemy government) [variable], Fanaticism (Patriot) [-15], Flashbacks [variable], Insomniac [-10 or -15], Intolerance [variable], Light Sleeper [-5], Loner [-5*], Nightmares [-5*], No Sense of Humor [-10], Overconfidence [-5*], Paranoia [-10], Secret [-5 to -30], Sense of Duty [-2 to -20], Stubbornness [-5*], Trickster [-15*], Unluckiness [-10], Workaholic [-5], or Xenophilia [-10*].

Primary Skills: Area Knowledge (any) (E) IQ+2 [4]-14.

Secondary Skills: Intelligence Analysis (H) IQ-1 [2]-11; Research (A) IQ [2]-12; plus any *six* of Climbing or Stealth, both (A) DX [2]-11, Escape (H) DX-1 [2]-10, Savoir-Faire (any) (E) IQ+1 [2]-13, Acting, Disguise, Electronics Operation (Communication), Electronics Operation (Security), Electronics Operation (Sensors), Explosives (Demolition), Fast-Talk, Holdout, Interrogation, Lock-picking, Photography, Shadowing, or Traps, all (A) IQ [2]-12, Cryptography (H) IQ-1 [2]-11, Carousing (E) HT+1 [2]-11, Sex Appeal (A) HT [2]-10, Body Language or Lip Reading, both (A) Per [2]-13, or Detect Lies (H) Per-1 [2]-12.

Background Skills: Computer Operation (E) IQ [1]-12; either Driving (any) or Piloting (any), both (A) DX-1 [1]-10; Guns (any) (E) DX [1]-11; plus two extra points in primary or secondary skills.

* Multiplied for self-control number; see p. B120.

Starship Bridge Officer

100 points

Whether you serve aboard a Terran Navy vessel or a commercial ship, you are one of the officers who manage critical ship functions from its nerve center – the bridge. You are trained in a set of highly technical skills, and will doubtless find yourself in great demand once you are ready to begin adventuring on your own behalf.

Attributes: ST 10 [0]; DX 12 [40]; IQ 12 [40]; HT 10 [0].

Secondary Characteristics: Damage 1d-2/1d; BL 20 lbs.; HP 10 [0]; Will 12 [0]; Per 12 [0]; FP 10 [0]; Basic Speed 5.5 [0]; Basic Move 5 [0].

Advantages: Either Merchant Rank 1 [5] *or* Military Rank 1 [5]; plus a total of 20 points selected from 3D Spatial Sense [10], Combat Reflexes [15], Courtesy Rank [1/level], Cultural Familiarity [1 or 2], Fit [5 or 15], G-Experience [variable], Improved G-Tolerance [5 or 10], Intuitive Admiral [10/level], Languages [variable], Mathematical Ability [10/level], more Merchant Rank [5/level] *or* Military Rank [5/level], positive Reputation [variable], above-average Status [5/level], Voice [10], or above-average Wealth [variable].

Disadvantages: A total of -30 points selected from Chummy [-5 or -10], Code of Honor (Professional) [-5], Curious [-5*], Duty [variable], Enemy (Military or commercial rival) [variable], Fanaticism (Patriot) [-15], Flashbacks [variable], Greed [-15*], Honesty [-10*], Intolerance [variable], Jealousy [-10], Lecherousness [-15*], Miserliness [-10*], Nightmares [-5*], No Sense of Humor [-10], Overconfidence [-5*], Sense of Duty [-2 to -20], Squeamish [-10*], Stubbornness [-5*], Trickster [-15*], Unluckiness [-10], Workaholic [-5], or Xenophilia [-10*].

Primary Skills: Spacer (E) IQ+2 [4]-14.

Secondary Skills: Free Fall (A) DX [2]-12; Leadership (A) IQ [2]-12; Savoir-Faire (Merchant or Military) (E) IQ+1 [2]-13; Vacc Suit (A) DX [2]-12; and any *three* of Piloting (Aerospace) or Piloting (High Performance Spacecraft), both (A) DX [2]-12, Computer Operation (E) IQ+1 [2]-13, Electronics Operation (Communications), Electronics Operation (Sensors), Navigation (Hyperspace), or Navigation (Space), all (A) IQ [2]-12.

Background Skills: Administration (A) IQ-1 [1]-11; Brawling (E) DX [1]-12; Carousing (E) HT [1]-10; Guns (A) DX-1 [1]-11; and three extra points in primary or secondary skills.

* Multiplied for self-control number; see p. B120.

Starship Commander

140 points

Whether you command a tiny scout ship or a multi-kiloton battlewagon, you are the final authority on board a starship. You are one of the freest people in the Confederation – and yet, you are also deeply bound by responsibility. It's your job to make the decisions that make or break fortunes, or that mean life and death for your crewmen.

Attributes: ST 10 [0]; DX 12 [40]; IQ 13 [60]; HT 10 [0].

Secondary Characteristics: Damage 1d-2/1d; BL 20 lbs.; HP 10 [0]; Will 13 [0]; Per 13 [0]; FP 10 [0]; Basic Speed 5.5 [0]; Basic Move 5 [0].

Advantages: Either Merchant Rank 3 [15] *or* Military Rank 3 [15]; plus a total of 25 points selected from 3D Spatial Sense [10], Combat Reflexes [15], Courtesy Rank [1/level], Cultural Familiarity [1 or 2], Fit [5 or 15], G-Experience [variable], Improved G-Tolerance [5 or 10], Intuitive Admiral [10/level], Languages [variable], Mathematical Ability [10/level], more Merchant Rank [5/level] *or* Military Rank [5/level], positive Reputation [variable], above-average Status [5/level], Voice [10], or above-average Wealth [variable].

Disadvantages: A total of -30 points selected from Chummy [-5 or -10], Code of Honor (Professional) [-5], Curious [-5*], Duty [variable], Enemy (Military or commercial rival) [variable], Fanaticism (Patriot) [-15], Flashbacks [variable], Greed [-15*], Honesty [-10*], Intolerance [variable], Jealousy [-10], Lecherousness [-15*], Miserliness [-10*], Nightmares [-5*], No Sense of Humor [-10], Overconfidence [-5*], Sense of Duty [-2 to -20], Squeamish [-10*], Stubbornness [-5*], Trickster [-15*], Unluckiness [-10], Workaholic [-5], or Xenophilia [-10*].

Primary Skills: Spacer (E) IQ+2 [4]-15.

Secondary Skills: Administration (A) IQ [2]-13; Free Fall (A) DX [2]-12; Leadership (A) IQ [2]-13; Savoir-Faire (Merchant or Military) (E) IQ+1 [2]-14; Shiphandling (H) IQ-1 [2]-12; Vacc Suit (A) DX [2]-12; and any *four* of Piloting (Aerospace) or Piloting (High Performance Spacecraft), both (A) DX [2]-12, Computer Operation or Savoir-Faire (Servant), both (E) IQ+1 [2]-14, Electronics Operation (Communications), Electronics Operation (Sensors), Freight Handling, Navigation (Hyperspace), or Navigation (Space), all (A) IQ [2]-13, or Strategy (Space) (H) IQ-1 [2]-12.

Background Skills: Brawling (E) DX [1]-12; Carousing (E) HT [1]-10; Guns (A) DX-1 [1]-11; and three extra points in primary or secondary skills.

* Multiplied for self-control number; see p. B120.

Starship Deckhand

80 points

Every starship is a technological miracle, but even so it requires plenty of skilled labor to stay in operation. You are a "deckhand," one of the general-service crewmen who keep any ship running. You perform routine maintenance, do damage control in battle, help handle freight, and assist passengers. You may not be high in the social hierarchy of merchant service, but you are still a necessary part of starship life.

Attributes: ST 10 [0]; DX 11 [20]; IQ 12 [40]; HT 10 [0].

Secondary Characteristics: Damage 1d-2/1d; BL 20 lbs.; HP 10 [0]; Will 12 [0]; Per 12 [0]; FP 10 [0]; Basic Speed 5.25 [0]; Basic Move 5 [0].

Advantages: A total of 30 points selected from 3D Spatial Sense [10], Combat Reflexes [15], Courtesy Rank [1/level], Cultural Familiarity [1 or 2], Fit [5 or 15], G-Experience [variable], Improved G-Tolerance [5 or 10], Intuitive Admiral [10/level], Languages [variable], Mathematical Ability [10/level], Merchant Rank [5/level] *or* Military Rank [5/level], positive Reputation [variable], above-average Status [5/level], Voice [10], or above-average Wealth [variable].

Disadvantages: A total of -30 points selected from Chummy [-5 or -10], Code of Honor (Professional) [-5], Curious [-5*], Duty [variable], Enemy (Military or commercial rival) [variable], Fanaticism (Patriot) [-15], Flashbacks [variable], Greed [-15*], Honesty [-10*], Intolerance [variable], Jealousy [-10], Lecherousness [-15*], Miserliness [-10*], Nightmares [-5*], No Sense of Humor [-10], Overconfidence [-5*], Sense of Duty [-2 to -20], Squeamish [-10*], Stubbornness [-5*], Trickster [-15*], Unluckiness [-10], Workaholic [-5], or Xenophilia [-10*].

Primary Skills: Spacer (E) IQ+2 [4]-14.

Secondary Skills: Free Fall (A) DX [2]-11; Savoir-Faire (Merchant or Military) (E) IQ+1 [2]-13; Vacc Suit (A) DX [2]-11; and any *three* of Brawling, Gunnery (any), or Guns (any), all (E) DX+1 [2]-12, First Aid or Housekeeping, both (E) IQ+1 [2]-13, Piloting (Aerospace) or Piloting (High Performance Spacecraft), both (A) DX [2]-11, Computer Operation or Savoir-Faire (Servant), both (E) IQ+1 [2]-13, or Cooking, Electronics Operation (Communications), Electronics Operation (Sensors), or Freight Handling, all (A) IQ [2]-12.

Background Skills: Administration (A) IQ-1 [1]-11; Carousing (E) HT [1]-10; and two extra points in primary or secondary skills.

* Multiplied for self-control number; see p. B120.

Starship Engineer

100 points

The captain and the bridge officers may run the ship, the other crewmen have their jobs and do them well, but *you* are the one who makes sure she keeps going – even after someone else blows holes in her. You may be underpaid and underappreciated, but you're the most important member of the crew, and in crisis time everyone remembers it.

Attributes: ST 10 [0]; DX 11 [20]; IQ 13 [60]; HT 10 [0].

Secondary Characteristics: Damage 1d-2/1d; BL 20 lbs.; HP 10 [0]; Will 13 [0]; Per 13 [0]; FP 10 [0]; Basic Speed 5.25 [0]; Basic Move 5 [0].

Advantages: A total of 25 points selected from 3D Spatial Sense [10], Artificer [10/level], Combat Reflexes [15], Courtesy Rank [1/level], Cultural Familiarity [1 or 2], Fit [5 or 15], G-Experience [variable], Gizmos [5/gizmo], High Manual Dexterity [5/level], Improved G-Tolerance [5 or 10], Intuitive Admiral [10/level], Languages [variable], Mathematical Ability [10/level], Merchant Rank [5/level] *or* Military Rank [5/level], positive Reputation [variable], above-average Status [5/level], Voice [10], or above-average Wealth [variable].

Disadvantages: A total of -30 points selected from Chummy [-5 or -10], Code of Honor (Professional) [-5], Curious [-5*], Duty [variable], Enemy (Military or commercial rival) [variable], Fanaticism (Patriot) [-15], Flashbacks [variable], Greed [-15*], Honesty [-10*], Intolerance [variable], Jealousy [-10], Lecherousness [-15*], Miserliness [-10*], Nightmares [-5*], No Sense of Humor [-10], Overconfidence [-5*], Sense of Duty [-2 to -20], Squeamish [-10*], Stubbornness [-5*], Trickster [-15*], Unluckiness [-10], Workaholic [-5], or Xenophilia [-10*].

Primary Skills: Spacer (E) IQ+2 [4]-15.

Secondary Skills: Computer Operation (E) IQ+1 [2]-14; Free Fall (A) DX [2]-11; Vacc Suit (A) DX [2]-11; and any *four* of Armoury (Heavy Weapons), Armoury (Vehicular Armor), Electrician, Electronics Repair (Communications), Electronics Repair (Computers), Electronics Repair (Medical), Electronics Repair (Sensors), Machinist, Mechanic (Aerospace Craft), Mechanic (High Performance Spacecraft), Mechanic (Jump Drive), all (A) IQ [2]-13, or Computer Programming or Engineer (Starships), both (H) IQ-1 [2]-12.

Background Skills: Administration (A) IQ-1 [1]-11; Carousing (E) HT [1]-10; Guns (any) (E) DX [1]-11; Savoir-Faire (Merchant or Military) (E) IQ [1]-13; and three extra points in primary or secondary skills.

* Multiplied for self-control number; see p. B120.

Jobs

The GM and players should feel free to define jobs for their own ***Interstellar Wars*** game, applying the rules found on pp. B516-518. Some suggested jobs are described here.

Corporate Official

Many business managers or executives spend at least part of their time adventuring, especially if their business takes them to the colonial frontier or into Imperial space. The *Bureaucrat* or *Capitalist* templates are most appropriate for this job.

Prerequisites: Corporate officials need Accounting, Administration, Leadership, and Merchant, all at 12+. They also need Merchant Rank 2+.

Job Roll: Roll against the *best* prerequisite skill held. A critical success will add a 10% bonus to the base pay scale described below, while a critical failure will impose a 10% penalty. Critical successes and failures do not normally cause changes in Merchant Rank.

Salary: The monthly salary paid varies from employer to employer. A typical corporation might pay $1,200 + ($1,800 × Merchant Rank) + ($600 × best prerequisite skill) for Merchant Rank 2-5, and $12,000 + ($18,000 × Merchant Rank) + ($6,000 × best prerequisite skill) for Merchant Rank 6+.

Wealth Level: Assuming typical pay scales and levels of the best prerequisite skill, a corporate official's job is Comfortable for Merchant Rank 2-3, Wealthy for Merchant Rank 4-5, Very Wealthy for Merchant Rank 6-8, and Filthy Rich for Merchant Rank 9+.

Government Official

Many government officials spend time on the colonial frontier, or otherwise involve themselves in situations where adventures might happen. The *Bureaucrat* or *Politician* templates are most appropriate for this job.

Prerequisites: Government officials need Administration, Diplomacy, Law, and Politics, all at 12+.

Job Roll: Roll against the *best* prerequisite skill held. A critical success will sometimes lead to a promotion in Administrative Rank, which in turn affects monthly salary. Likewise, a critical failure may lead to a loss of Rank.

Salary: The monthly salary paid depends on the government or agency that employs the official. The Terran Confederation bureaucracy is fairly typical, and pays $800 + ($2,000 × Administrative Rank) + ($400 × best prerequisite skill).

Wealth Level: Assuming typical pay scales and levels of the best prerequisite skill, a government official's job is Average for Administrative Rank 0, Comfortable for Administrative Rank 1-4, and Wealthy for Administrative Rank 5+.

Scientist

From humble lab assistants to Nobel-winning scholars, scientists are often at the forefront of Terran expansion. The *Academician* and *Scientist* templates are most appropriate for this job.

Prerequisites: All scientists need Computer Operation and Research at 12+.

For any given scientist, the GM and player should choose one more skill, matching the character's scientific specialty, to be a prerequisite skill for the scientist's specific job. For ideas, refer to the lists of secondary skills for the *Academician* and *Scientist* templates. This additional prerequisite skill must also be held at 12+.

A scientist must have no negative Reputation associated with his scientific work.

Job Roll: Roll against the *best* prerequisite skill held. A critical success will sometimes lead to increases in positive Reputation, which in turn affects monthly salary. Likewise, a critical failure may lead to a loss of Reputation.

Salary: The monthly salary paid varies from employer to employer. A typical employer might pay $600 + ($300 × worst prerequisite skill) + ($1,200 for every point in positive Reputations associated with the scientist's work).

Wealth Level: Assuming typical pay scales and levels of the worst prerequisite skill, a scientist's job is Average for 0-2 points in positive Reputations, Comfortable for 3-9 points in positive Reputations, and Wealthy for 10+ points in positive Reputations. It would be extremely unusual for any scientist to have such an amazing reputation as to merit a Very Wealthy or greater income . . .

Scrounger

If all else fails, anyone in an urban area or near a starport can get a "job" working as a beggar or scrounger.

Prerequisites: Panhandling and Scrounging, both at 10+.

Job Roll: Roll against the *best* prerequisite skill.

Salary: A typical income for a scrounger is about $1,000 per month, with much of the "salary" coming in kind or in the form of stolen items. Use the freelancing rules for this job, increasing or decreasing each month's pay according to the outcome of the job roll.

Wealth Level: Poor.

Soldier

The Terran Army is a major employer – *billions* of Terran citizens have spent at least a few years in uniform. Even when a Terran adventurer is out of active service, he may find a position with one of the mercenary units that are beginning to spring up on the frontier. The *Soldier* template is associated with a job with any of these employers.

Prerequisites: All soldiers need at least Guns (Rifle) and Soldier skill. Soldiers with Military Rank 2+ need Leadership and Tactics as well. All prerequisite skills must be held at 12+.

Job Roll: Roll against the *worst* prerequisite skill held. A critical success will sometimes lead to a promotion in Military Rank, which in turn affects monthly salary. Likewise, a critical failure may lead to a loss of Rank.

Salary: The monthly salary paid varies from employer to employer. A typical mercenary unit might pay $500 + ($750 × Military Rank) + ($250 × worst prerequisite skill). The Terran Army pays $400 + ($600 × Military Rank) + ($200 × worst prerequisite skill).

Wealth Level: Assuming typical pay scales and levels of the worst prerequisite skill, a mercenary's job is Average for Military Rank 0-5 and Comfortable for Military Rank 6+. The job of a soldier in the Terran Army is usually Struggling for Military Rank 0-1, Average for Military Rank 2-7, and Comfortable for Military Rank 8+.

Starship Crewman

Starships need crewmen with a wide variety of occupational specialties. The *Starship Bridge Officer*, *Starship Commander*, *Starship Deckhand*, and *Starship Engineer* templates are the most appropriate for this set of jobs.

Prerequisites: All starship crewmen need Free Fall, Spacer, and Vacc Suit skills at 12+.

For any given crewman, the GM and player should choose *three* more skills to be prerequisites for the crewman's specific job on board. For ideas, refer to the starship-related occupational templates. Good prerequisites will usually come from the lists of primary and secondary skills in the most pertinent template for the job. If a character changes jobs, a new set of prerequisite skills should be defined. These additional prerequisite skills must also be held at 12+.

A starship crewman will also need to have sufficient Merchant or Military Rank to justify his specific job position.

Job Roll: Roll against the *best* prerequisite skill held. A critical success will sometimes lead to a promotion in Merchant or Military Rank, which in turn affects monthly salary. Likewise, a critical failure may lead to a loss of Rank.

Salary: The monthly salary paid varies from employer to employer. A typical commercial firm might pay $600 + ($900 × Merchant Rank) + ($300 × best prerequisite skill). The Terran Navy pays $500 + ($750 × Military Rank) + ($250 × best prerequisite skill).

Wealth Level: Assuming typical pay scales and levels of the best prerequisite skill, a starship crewman's job is Average for Merchant Rank 0-3 or Military Rank 0-5, and Comfortable for Merchant Rank 4+ or Military Rank 6+.

Unskilled Laborer

Anyone can find work as an unskilled laborer, especially in urban areas, near starports, or on a rapidly growing colony world.

Prerequisites: ST 10+.

Job Roll: Roll against ST. A critical success will yield a permanent 10% pay raise, while a critical failure may lead to a 10% pay cut or firing.

Salary: A typical pay rate for unskilled labor is about $2,500 per month. Use the freelancing rules for this job, increasing or decreasing each month's pay according to the outcome of the job role.

Wealth Level: Struggling.

Chapter Seven
Technology

December 24, 2169 – Gukhidda downport, in Imperial space:

Gen Christie sat at the officer's lounge table, head bent over a scatter of papers and a hand computer. Across from her, Mukhad Laragii, the Vilani navigator she had befriended in the starport watering hole, frowned with concentration.

"Perhaps I am still not understanding how to use this computer," Laragii complained. "I can find no procedure for solving the equations you describe."

Christie took the computer back from him, tapped at the keyboard, and nodded. "You're right."

Laragii sighed in frustration. "I fear you must find another way to explain, then. I do not understand the purpose of this mathematics."

"Just a moment." Christie opened the program-development environment on her computer, and began to punch furiously at the keyboard. "It's just a matter of applying a Fourier transform to this other set of functions . . ."

Christie's voice faded off as she worked, oblivious to the physical universe as she entered the world of mathematical abstraction. Laragii noticed one of her Terran crewmates, casting an indulgent smile at the navigator as he obtained food from the galley. Laragii deduced that she behaved this way often, and decided to wait patiently.

"There!" Christie exclaimed a few minutes later. "Look at this."

Laragii peered at the computer's display, mentally translating the unfamiliar Terran mathematical notation. Suddenly inspiration struck. "Yes. Yes, I see now."

"Good. Then . . ."

Laragii held up a hand. "Wait. Your computer could not solve this problem a few minutes ago. Now it can? How is this accomplished?"

Christie sat back, a puzzled look on her face. "I wrote a program to solve the problem."

"Yes? And a 'program' is what, precisely?"

She thought for a moment, struggling for words for a concept she had taken for granted since childhood. "I used a special language that the computer understands, to describe the problem and how to solve it. Once I had done that, the computer could do the work much faster than I could. That's a program."

Laragii peered at the machine. "The computer . . . ***learns****?"*

"I suppose you could say that," Christie agreed.

The Vilani navigator stared at her, his eyes alight with interest. "Tell me more."

Overview

The ***Traveller*** universe makes certain assumptions about future technology. In ***GURPS*** terms, the fundamental technologies listed in the ***Basic Set*** (see *Tech Level by Field*, p. B512) never advance any further than TL9 (or in some cases TL10). However, at TL9 a number of superscience technologies appear and begin to advance. ***Interstellar Wars*** uses TL11+ to represent advanced levels of these superscience fields, layered over the stable TL9-10 situation.

Terran Technology

Terran civilization has been in a state of rapid technological advancement for centuries. The most advanced nations on Terra first reached TL9 about 2050. After contact was established with the Vilani Imperium, Terran scientists copied more sophisticated Vilani technologies and were stimulated to develop new ones of their own. This progress caused a transition to TL10, which took place during the 2120s and 2130s. The next major set of advances, breaking through into TL11, took place in the 2230s and 2240s. By the end of the Interstellar Wars era, Terra had pushed well past the Imperial technological standard and had become the leading technological center in Charted Space.

Terran Biotechnology

In Terran society, one exception to the standard ***GURPS*** TL progression is in the area of medicine and biotechnology. Terrans were late to reach TL9 in this field, attaining it only about 2100. During the Interstellar Wars era, they never reached TL10 in medicine or biotechnology – except in the area of "uplift" of animal species, in which a number of successful experiments were made in the 22nd and 23rd centuries.

Terran medical technology, as it affects aging rolls and medical care, should be considered TL9 throughout the Interstellar Wars era.

Terran Cybernetics

Terran society is also somewhat behind the ***GURPS*** TL progression in the area of artificial intelligence, cybernetic implants, and brain-to-machine interface. As with biotechnology and medical science, Terrans reached TL9 in cybertechnology about 2100, and never attained TL10 during the war era.

Self-aware artificial intelligence appears in the ***Traveller*** setting, but only at very high TL. Computers and robots at TL9-11 may be quite intelligent, but will not be self-aware or self-motivated. This is true even for Terran equipment.

Cybernetic implants are generally limited to *prosthetics* – artificial replacements for damaged or defective body parts. These may provide a small advantage in strength, durability, or capability when compared to the original organ, but prosthetics that provide a large enhancement in performance are quite rare.

Neural interfaces, which permit a Human to operate machines through a direct connection to the nervous system, are possible but rare. Direct brain-computer interfaces are not possible under current Terran technology. At most, a hideously expensive experimental interface might connect to an operator's senses and peripheral nerves, giving him a particularly vivid form of "virtual reality" experience.

Imperial Technology

In contrast to the Terrans, the Vilani were technologically stagnant throughout the Interstellar Wars era. They had attained early TL10 as early as 900 BC, they were still at TL10 when the new *Ziru Sirka* put an end to all technological innovation about 500 AD, and they remained at that level when they came into contact with Terra.

Over the centuries, Imperial technology *matured* rather than advanced. New techniques were not discovered – instead, familiar techniques were slowly honed to the highest possible level of reliability and sophistication. The result was *Imperial Standard Technology*, a vast array of well-defined techniques and manufactured items. The Imperial Standard included specifications and plans for everything, from a tenth-solar penlight up to a billion-solar warship, from the proper method for applying *merdesh* paint up to the definition of elaborate telecommunications protocols.

Poor or backward worlds could not *use* all of the Imperial Standard. Knowing how to build a given item was useless if the local infrastructure could not support the process. Besides, every item in the compilation was owned by one of the *shangarim*, which controlled its legal use and could collect licensing fees. Still, the Standard was consistent throughout Imperial space, giving every Imperial world the same potential technological base.

Imperial Biotechnology and Cybernetics

The primitive Vilani were not entirely uninterested in biological science. Most food items had to be extensively processed before they could be eaten, a requirement that encouraged the shugilii caste to carefully study the plant and animal species around them. However, since native disease organisms were almost unable to affect the Human body, the Vilani were never motivated to delve deep into the biological sciences. Even today, the Vilani have only a limited understanding of cellular biology or the germ theory of disease.

The Imperial Standard Technology is at an early TL7 level for biotechnology and most areas of medical science. Through trial and error, the Vilani have developed advanced surgical techniques, including the ability to perform safe blood transfusions and some major-organ transplants. Their understanding of biochemistry is primitive, and they have not discovered the structure or role of DNA.

The Vilani can make prosthetics, especially to replace limbs or assist the natural function of some organs (auxiliary lenses for the eyes, pacemakers for the heart, and so on). True bionic replacement organs or significant enhancements are not possible.

Biotechnology and Cybernetics

Terran society is only backward in biotechnology in terms of the standard ***GURPS*** TL progression. In fact, Terran society is quite *advanced* in biotechnology and medical science when compared to the Vilani Imperium. Terran biotech and medical equipment are among the first export items to find large markets within Imperial space.

Similarly, Terran cybernetic technology is behind its expected point on the ***GURPS*** TL progression, but is well in advance of the corresponding Vilani achievements. Terran cybertech is not as well received within Vilani space, but even it finds a ready market on a few Imperial worlds.

One of the basic assumptions of the ***Traveller*** universe is that no technology advanced enough to transform the fundamental nature of human beings will ever be widely available in the game. ***Traveller*** has its roots in science fiction of the so-called "Golden Age," before the consequences of highly advanced biotechnology or cybernetics became a common theme. Hence, societies in the ***Traveller*** universe will tend to lag behind the standard ***GURPS*** TL progression in these specific areas – exactly the technologies that do have the greatest potential for changing human nature.

One *advantage* that the Vilani enjoy in medical science is access to pharmaceuticals derived from thousands of worlds. Vilani pharmacists can provide a wide variety of naturally occurring drugs, some of which have nigh-miraculous effects on the Human body. Several of these drugs are listed on p. 166.

Imperial medical technology, as it affects aging rolls and medical care, should be considered TL7 throughout the Interstellar Wars era.

Nanotechnology

The standard TL progression in ***GURPS Fourth Edition*** includes applications of nanotechnology at TL10 and above. ***Interstellar Wars*** assumes that nanotechnology is viable at high TL, but that the results are subtle, blending into the background in such a way that most people are never aware of them.

Nanotech devices ("nanites") are assumed to be very delicate and expensive, useful in certain manufacturing processes or medical treatments, but by no means ubiquitous in daily life. Nanites are also assumed to be incapable of self-replication, so they can't exist "unsupervised" or become wildly destructive. Adventurers will almost never own or use nanites themselves, and they can be assumed to be an invisible part of the background for most adventures.

Imperial Electronics

Vilani electronic systems are efficient, reliable, and cheap. They provide capabilities similar to those designed by Terrans. However, because Vilani technological development took a significantly different path millennia ago, Imperial electronic devices seem quite strange to a Terran encountering them for the first time.

The fundamental difference is that Vilani electronic devices are designed for a specific task, and are not easily applied to any other task. Even Vilani computers are not flexible machines – each computer is "hard-wired" for a specific kind of calculation or data manipulation, and can't be reprogrammed to perform any other job. This fact makes the relationship between a Vilani and his machines quite different from that between a Terran and his.

For example, a Terran starship might have a central mainframe computer, which performs all the routine computation on board, provides entertainment media to the crew and passengers, and can be reprogrammed to handle any new tasks that might arise. Within the limits imposed by onboard security, any crewman can access any of the computer's functions through any terminal. The starship crew almost certainly includes one or more people skilled in computer programming that can easily redirect the mainframe's resources as needed.

In contrast, a Vilani starship has a computer dedicated to computing jump coordinates, another computer dedicated to processing sensor data, a third dedicated to handling on-board communications, a fourth dedicated to gunnery control, and so on. Each of these computers, by itself, is at least as effective and reliable for its task as the Terran mainframe. However, the various computers are separate devices, which might not even be networked together. A crewman who knows how to operate one computer might have no idea how to operate a different one. If any truly new task arises that requires massive computational power, the crew is out of luck; none of the existing ship's computers can be rebuilt to handle the new task without an almost complete redesign (which no one on board knows how to do).

Another example: almost every Terran owns a personal computer, which can easily be connected to the local planetary network. Using this computer, he can speak or send a text message to anyone else on the network, skim the news, download books or music, manage his finances, play games, process images or scientific data, or perform any of a thousand other tasks. Every program he runs is infinitely customizable, permitting him to fit his experience to his own individual tastes. The only limit is the programmable capacity of his computer and the availability of software.

Almost every Vilani also owns a household computer. Using this device, he can speak or send text messages to anyone else on the same planet, but the messages are always presented the same way, and they can only be sent using predefined protocols. He can skim the news, but only the news that the single planetary news service provides, and only in the format the service chooses to present. He can download entertainment from the available broadcast services, but only what those services choose to make available to him. If he wishes to play electronic games, he will have to buy additional devices to play them on – possibly one device per game. If he needs to process images or scientific data in the course of his job, his employer will provide him with yet another device on which that can be done. The Vilani can customize his interactions with the machines to a certain extent, but he is always forced to choose items from a predefined menu; he can never rebuild his tools to suit his personal taste.

In short, although the Vilani citizen has access to very sophisticated electronics, the way in which he interacts with his devices is very rigid and inflexible. Vilani who come into contact with Terran electronics are often extremely attracted to them, if they are able to appreciate their sheer flexibility. Of course, they can also get into serious trouble with the Imperial authorities for owning or using such devices!

Vilani computers, sensors, communicators, and other electronic devices are all considered to be at TL(6+4), roughly equivalent to Terran TL10 but based on completely different principles. The major exception is in the area of *robotics*, where the Imperial Standard is limited to about TL(6+1), or equivalent to Terran TL7. Vilani use crude, single-purpose industrial robots, but they do not build general-purpose robots, nor do they produce computers with any degree of self-programming ability.

Personal Gear

The following lists of gear build on the ***Basic Set***, adding items and rules specific to the ***Traveller*** universe. With certain exceptions listed below, anything in Chapter 8 of the ***Basic Set*** is available.

Armor and Protective Gear

The lists of armor and protective equipment found in the ***Basic Set*** (pp. B282-287) are adequate for the ***Interstellar Wars*** setting. The Imperium does not use "battlesuits" (powered armor), but the Terran Confederation begins to use them after reaching TL11. Use the Battlesuit from the table on p. B285, adjusting its DR for TL11 as indicated in the notes.

Communications

All communications equipment listed here uses the rules referenced under *Communicators*, p. B471.

Communicator, Short Range (TL8): A small two-way radio, often built into a helmet or worn on a belt. The standard model has a base range of 10 miles. $100, negligible weight, 15 days. Can be disguised in an earring, wristwatch, or other small accessory for +50% cost.

Communicator, Medium Range (TL8): A palm-sized radio, with a base range of 100 miles. $200, 1 lb., 15 days. A video display is available at double cost.

Communicator, Long Range (TL8): A book-sized or backpack unit, with a base range of 1,000 miles. Capable of reaching ships in low planetary orbit. $500, 10 lbs., 4 days. A video display is available for an extra $100.

Com Scrambler (TL8): Attached to any communicator, scrambles messages so that only another scrambler with the same cryptologic key can decode the transmission. An eavesdropper with access to a Terran mainframe (or better) computer *might* be able to decode the transmission with a Cryptography skill roll. $500, negligible weight, draws negligible power from the attached communicator.

Digital Camera (TL8): Takes full-color still or motion pictures, recording them on a computer disk. $500, 2 lbs., 4 days.

Computers

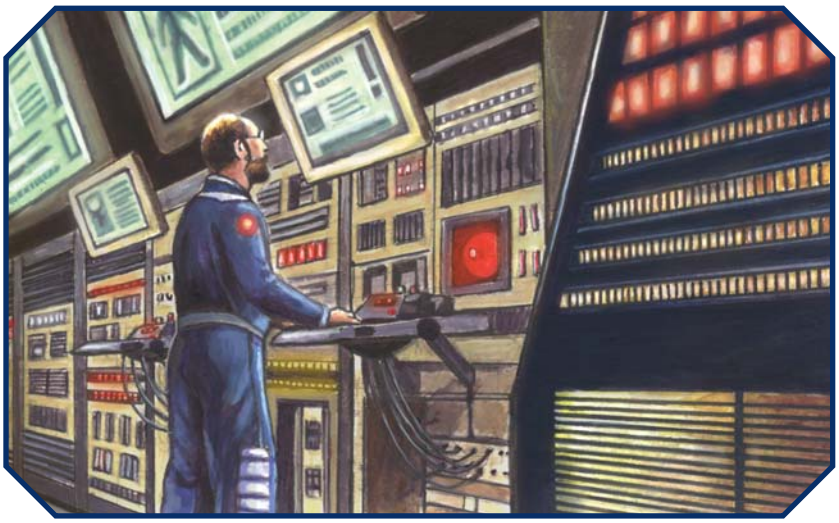
Computers come in a bewildering variety during the Interstellar Wars era, from the small hand-carried devices used by many Terrans as personal data assistants, to the powerful mainframes used to run Terran starships, to the myriad single-purpose machines produced by strange Vilani technology. Computers use the rules found on p. B472.

Cheap: The computer is less sophisticated than usual, and is therefore much cheaper. This option can be used to describe older hardware.

Compact: The computer is substantially reduced in size and weight, but is much more expensive as a result.

Dedicated (Imperial Required): A dedicated computer can only run a single software program, designated when the computer is built. The primary characteristic of Imperial computers is that they are *all* built with the Dedicated option.

Genius: The computer uses state-of-the-art processing technology. This greatly increases its price. Imperial computers may only use this option if they are designed to run an Expert System program (p. 164).



Computer Types

The available computers are listed in the table below. Each type's weight, cost, and Complexity are given. Computers are usually run on building or shipboard power, although Minicomputers and smaller devices can also be run from battery power (provided by a computer terminal; see p. 163).

Several options may be added to any computer to alter its capabilities. An option that is "Imperial Required" must *always* be built into Imperial computers; an option that is "Terran Only" may *never* be built into Imperial computers.

Hardened: The computer is built with optical systems, or with more sophisticated forms of hardening at TL10+. The effect is to make the computer more resistant to attacks such as electromagnetic pulses or power surges.

High Capacity: The computer's software and data storage capacity is increased by 50%. The computer can run *three* programs of its own Complexity, and so forth.

Robot Brain (Terran Only): The computer has a brain optimized to control a mobile robot. This option gives it a built-in operating system that permits it to move, control its

Computer Table

Type	*Weight*	*Cost*	*Complexity*
Mainframe	1,000	$250,000	TL-3
Microframe	100	$50,000	TL-4
Minicomputer	10	$10,000	TL-5
Small	1	$2,000	TL-6
Tiny	0.1	$400	TL-7
Options			
Cheap	×1	×0.05	-1
Compact	×0.5	×2	–
Dedicated	×0.5	×0.2	–
Genius	×1	×20	+1
Hardened	×3	×5	–
High Capacity	×1	×1.5	–
Robot Brain	×1	×1	–
Synaptic Processing	×1	×2	–

limbs (if any), run built-in equipment, process sensor information, understand orders to the limits of its IQ, and so on. The computer has an effective DX of (Complexity/2)+8 (rounded down), and an effective IQ of Complexity+3. It is programmed to obey its owner and will follow orders literally. The main drawback of this option is that it *halves* the number of programs the computer can run (one of its own Complexity, 10 of one Complexity lower, and so on).

Synaptic Processing (Terran Only – TL10): The computer is built to imitate the way an animal's brain structure works. This gives the computer a limited ability to "learn," altering its own programming in response to input. The computer gains an IQ of Complexity+4 for learning purposes, but no DX; the computer cannot learn DX-based skills. Combined with the robot brain option, this makes the computer semi-sentient, with limited initiative. However, it has no interest in anything beyond following its user's orders – it is not "self-aware." Treat this like a normal robot brain, but on that can *learn*; it has its normal DX but an IQ of Complexity+4.

The Computer Table gives the weight, cost, and Complexity of each computer type. If any options are applied, change the statistics by *all* of the factors given for the selected options. Options can only be selected once each.

Computer Terminals

The equipment described on the Computer Table above is only the *processing element* of the computer – the portion that manipulates data. Unless the computer is intended strictly for an unmanned vehicle, a battlesuit, or a robot, it should have at least one *terminal*.

A terminal includes a keyboard or touchpad, a "mouse" or other pointing device, one or more cameras, a holodisk reader, a screen or holodisplay, a printer – in short, a variety of equipment used to either provide the computer with data input or present data output to the user. Each terminal allows one person to use the computer at a time. A single terminal can be connected to multiple computers, possibly through an extensive network.

Adding a terminal to a computer does not increase its capacity in any way. If multiple users try to exceed its capacity by running more programs of a given Complexity than the computer can handle, then they will simply be unable to do so.

Terminals come in several different levels of size and complexity. GMs and players should feel free to mix and match terminals and computers. For example, a Palmtop terminal attached to a Tiny computer would be a useful "data assistant" for almost any Terran starship crewman; a Mainframe computer might be connected to *dozens* of Desktop terminals to form a science lab's computer network. Terminals have internal batteries and can support the power requirements of a computer as well as their own; they can also be run from building or shipboard power.

Palmtop Terminal (TL8): Includes a small screen and touchpad, plus a microphone and speaker for spoken interaction. Also includes a small radio modem for "wireless" connection to nearby computer networks (range about 10 yards). Internal batteries can support a Tiny computer's power requirements. $100, 0.5 pounds, 6 hours.

Desktop Terminal (TL8): Includes the full range of input and output devices, but lacks a printer or a high-quality holovisual display. Includes a small radio modem for wireless connection (range about 30 yards). Internal batteries can support a Small computer's power requirements. $500, 10 pounds, 6 hours. A compact version of the terminal (a "laptop") has half the weight but +50% cost.

Workstation Terminal (TL8): Includes the full range of input and output devices, at higher quality, plus a printer. At TL9+ it includes a high-quality holovisual display. Includes a radio modem (range about 100 yards). Internal batteries can support a Minicomputer's power requirements. This is the typical shipboard computer workstation. $1,000, 40 pounds, 6 hours.

Data Storage and Databases

A computer always has data storage capacity (for the basic data storage rules, see p. B472). A Complexity 1 computer has a base storage capacity of 100 MB; this capacity increases by a factor of 10 per level of Complexity (hence a Compexity 2 computer has a capacity of 1 GB, a Complexity 3 computer a capacity of 10 GB, and so on).

Portable data storage is in the form of *holodisks*. These are dime-sized disks that can easily be interfaced with any computer terminal. At TL9, a holodisk contains 100 GB of data; this capacity increases by a factor of 10 per TL (so a disk contains 1 TB at TL10, and 10 TB at TL11). A holodisk costs $5 and has negligible weight.

Databases store information on various subjects (see *Data Storage*, p. B472, for examples of how large various databases need to be). The cost of a database varies dramatically; a standard reference encyclopedia may be nearly free, while a database of military starship designs may be completely unavailable except to a licensed naval architect. Typical costs are $1 to $100 per GB, depending on supply and demand.

Although Imperial computers do not use *programs* in the same sense that Terran computers do, the Imperium does use holodisks and databases. The two civilizations use different protocols to store and transfer information, but translation is relatively easy and most Terran computers are able to read Imperial storage media.

Software

Software programs are purchased and run using the rules on p. B472. The cost of a given piece of software depends on the TL of purchase and the Complexity of the program, as given by the following table. Highly specialized programs may cost two to five times the value in the table; some such cases are noted below, but the GM should feel free to impose higher costs. A program designated as "Free" is available for negligible cost, as "shareware," or bundled into packages with other software.

Software Costs Table

Complexity	*Cost (TL9)*	*Cost (TL10)*	*Cost (TL11)*
1	Free	Free	Free
2	$50	Free	Free
3	$200	$50	Free
4	$1,000	$200	$50
5	$5,000	$1,000	$200
6	$20,000	$5,000	$1,000
7	$100,000	$20,000	$5,000
8	–	$100,000	$20,000
9	–	–	$100,000

Imperial computers do not use software, as such; each computer is "hardwired" to run a single program and cannot be reprogrammed. The program to be run is designated when the computer is purchased.

Accounting (TL8): Used to manipulate numbers, perform financial projections, and so on. The GM may consider this to be *required* for normal use of the Accounting or Finance skills. Complexity 2.

Damage Control (TL8): This program monitors system status throughout a starship, helping engineers diagnose damage and repair it. It gives a +2 bonus to rolls to repair ship damage. The program is Complexity 2 for a ship less than 100 dtons in size, Complexity 3 for a ship 100-999 dtons in size, Complexity 4 for a ship 1,000-9,999 dtons in size, and Complexity 5 for a ship 10,000 dtons or larger. The computer must also have an installed database of the ship's blueprints and technical specifications (1 GB, $1,000).

Datalink (TL8): This program enables any computer to link (through a cable or communicator) with another electronic device. The computer can now display data from the other device, and can be used to give instructions through the link. This is also the software used to communicate with other computers through a network. Complexity 1.

Entertainment (TL8): A full Entertainment program scans news channels, provides visual or musical entertainment, and presents computer games. Complexity 2. Entertainment databases must be available as well; 1 GB of database can include dozens of musical performances, a few movies, or a single computer game of moderate complexity.

Expert System (TL8): An Expert System program encodes the knowledge of an expert in a given field, and can assist untrained individuals to use the skill. They can be asked what-if questions, but they will not bring any new insights to a problem, and can't be used for original research or invention. Expert Systems are available for almost any skill that requires a lot of "book learning" or specialized technical knowledge (medicine, theoretical or applied science, engineering, starship systems operation, accounting or finance, wilderness survival, and so on). They are *not* available for most skills that require physical performance (most athletic or combat skills). The GM should determine whether an Expert System is available for any given skill. A basic Expert System has skill-12; it is Complexity 3 for an Easy skill, Complexity 4 for an Average skill, Complexity 5 for a Hard skill, and Complexity 6 for a Very Hard skill. Higher skill levels are available (+1 to skill for +1 Complexity).

Gunner (TL8): This program permits the ship's computer to work as a gunner. The computer has skill-12 with a Gunner program of Complexity 4, +1 to skill for every +1 to Complexity. The skill bonus is not cumulative with any bonus (or penalty) from a Targeting program – use the *lower* of the Gunner or Targeting program bonus. One copy of the Gunner program running on the ship's computers will replace one human gunner.

Internal Security (TL8): This program monitors and controls a building's or ship's security systems. It has an Electronics Operation (Security Systems) skill on its own, or can add a bonus to an operator's skill. If someone is attempting to fool security sensors, a Quick Contest of Skill in Electronics Operation (Security Systems) may be required. A Complexity 3 program has a skill of 14 or adds a +2 bonus to an operator's skill; +1 to skill and bonus for every +1 Complexity.

Interpreter (TL8): This program can translate from any language to any other language, so long as both of the appropriate language databases are on line. Written or nonverbal languages can be handled so long as the appropriate sensors and "speakers" are available. A program that can provide Broken-level translations is Complexity 3, a program capable of Accented-level translation is Complexity 4, and a program capable of Native-level translation is Complexity 5. Language databases are usually 1 GB, $1,000.

Jump Navigation (TL9): This program is necessary in order to use the Navigation (Hyperspace) skill. It comes in several levels, depending on the range of the jump to be performed. A Jump-0 program is Complexity 4, a Jump-1 program is Complexity 5, a Jump-2 program is Complexity 6, and a Jump-3 program is Complexity 7.

Jump Planning (TL9): This is not a program, but a database; it includes pre-computed values for many of the parameters necessary to plot a jump

Example of Computer Design: Imperial Expert Systems

Most Terrans are accustomed to carrying a flexible personal computer around, and have heard that Imperials don't enjoy such a technological amenity. When they first encounter Vilani technicians, they're often surprised to see them carrying around small devices, very similar in appearance to the Terran "perscomp."

In fact, many Vilani carry a small personal device, dedicated to running a single Expert System program (p. 164) that supports their own technical specialty. These expert systems are *very* good, if somewhat inflexible, and have been carefully refined over centuries or millennia. They embody not only the technical knowledge of Vilani civilization, but also information on who owns each piece of technology and therefore controls any further innovation affecting it.

Young Vilani, just starting out on their careers, will tend to lean on their expert systems for guidance even in the simplest technical tasks. Older, more experienced Vilani can get along without their expert systems – but they tend to continue referring to them, if only to know what "tinkering" might expose them to charges of illicit innovation. Since Imperial expert systems are so refined and extensive, they are often intelligence targets for Terran operatives, at least early in the Interstellar Wars era before Terran technology attains parity with the Imperial Standard.

Imperial expert-systems devices can support a very wide variety of skills. Two examples are described below – the GM is encouraged to design more.

Technician's Aide: This is a Small computer, designed with the Dedicated and Genius options, attached to a compact Desktop terminal. It runs a Complexity 5 Expert System program, usually providing a skill level of 13 in an Average skill such as Electrician, Electronics Repair, or Mechanic. A Technician's Aide is often issued to a new technician when he embarks on his career, and he may rely on it heavily for many years. $9,750 (including software cost), 5.5 lbs., 6 hours (when not attached to ship or building power).

Administrator's Aide: This is a Minicomputer, designed with the Dedicated and Genius options, attached to a normal Workstation terminal. It runs a Complexity 6 Expert System program, usually providing a skill level of 14 in an Average skill such as Administration or Merchant, or a skill level of 13 in a Hard skill such as Accounting or Law. Many low-level or mid-level administrators in Imperial society make use of an Administrator's Aide. $46,000 (including software cost), 45 lbs., 6 hours (when not attached to ship or building power).

between a specific pair of star systems. If an appropriate Jump Planning database is available, the Navigation (Hyperspace) skill roll to plot the jump safely is at +4. Imperial navigators *always* use Jump Planning databases. Terran navigators use them for added safety but are often willing to do without. Jump Planning databases are sometimes called "jump tapes," although they are stored on holodisks like any other database. A Jump Planning database is 100 GB in size, and normally costs $1,000. Databases for most destinations within three to four parsecs can usually be bought at any Class C or better starport.

Personality Simulation (Terran Only – TL10): This program lets the computer simulate emotions, quirks, and so on, and also permits the use of highly idiomatic speech. In a robot, it can also simulate gestures and physical mannerisms. It can be programmed with a specific personality (even duplicating a real or fictional person) or left to develop its own (generally based on those around it). A simulation good enough to seem "real" to those interacting with it for long periods is Complexity 5, while a simulation of near-Human depth of personality is Complexity 6.

Routine Vehicle Operation (TL8): This program enables the computer to control a vehicle for *routine* travel – no combat driving or dangerous maneuvers. A program with effective Driving or Piloting skill of 12 is Complexity 2; +1 skill for +1 Complexity. The vehicle must have been designed for computer control and must be fitted with the appropriate electronic sensors.

Targeting (TL8): A starship gunner may use this program to predict target positions and aim heavy weaponry. The program can be purchased at any desired Complexity, and grants a bonus (or penalty) to Gunner skill equal to Complexity-5. Firing a starship's weapons without a Targeting program imposes a -6 penalty to Gunner skill. One copy of this program must be running on ship's computers for each gunner.

Technical Reference (TL8): This program serves as a design system and diagnostic tool for a single technical skill (such as Armoury, Electrician, Electronics Repair, Engineer, Machinist, or Mechanic). It grants a +2 to any skill roll to design or repair a piece of equipment using the supported skill. Complexity 3.

Word Processing (TL8): A complete, state-of-the-art desktop publishing system, used to create and manipulate text and image files. Complexity 2.

Medical Equipment and Care

Physicians use the rules from the ***Basic Set*** to determine how effective they are (see *Recovery*, p. B423). Throughout the Interstellar Wars era, Terran physicians are considered to be working at TL9. Vilani physicians are considered to be at TL7, *but* they have access to all the unusual drugs listed below, and they know how to use them. As a result, they can often obtain more impressive results than their technical base might suggest.

Available Drugs

The following are examples of the kind of "miracle drugs" that are available in the Imperium (or, via trade, in Terran space). The GM should feel free to design more, using the rules on p. B425.

Gakinisharra: Used to treat the sleep-deprivation syndrome suffered by the Anakundu race (p. 80), this drug can also be used to counteract insomnia and other sleep disorders. It is very effective, non-habit-forming, cheap, and widely available everywhere in Imperial space. *Gakinisharra* cancels up to three levels of Less Sleep, and also gives a +2 to HT when making a roll to avoid an episode of the Insomniac disadvantage. It is taken as a pill, with a dose lasting one day; multiple doses have no added effect. LC 4, cost per dose $10.

Kash: Simply called "fast," this substance triggers a kind of hibernation state in Humans. Many Vilani use it as a short-term substitute for the risky process of suspended animation. Upon taking the drug, the patient immediately falls into a deathlike trance, during which he is considered to have Metabolism Control 5. He uses only half as much oxygen as usual, and the effects of starvation and dehydration take 32 times as long to harm him – thus, after 10 days under the drug, the patient will only feel the effects of one missed meal or about eight hours without water. The drug is administered as a contact agent, usually in the form of a patch, with each dose lasting a week. Multiple doses have no additional effect, so if a patient is to remain in hibernation someone must be present to apply a new patch on a regular basis. LC 3, cost per dose $2,000.

Kulikasu: The "physician's friend," this drug was discovered early in Vilani history and is presently used all over Imperial space. The patient must make a roll against HT-6 or fall unconscious until the drug wears off. While under the influence of the drug, the patient loses the Slow Healing disadvantage and acquires Regeneration (Regular). The drug is administered as an injection, with each dose lasting (25 – HT)/4 hours; multiple doses extend the effect but also multiply the penalty to the HT roll to retain consciousness. LC 3, cost per dose $300.

Sharaddun: This drug is often used by Vilani soldiers in combat, and has appeared on the Terran black market. While under the influence of the drug, the user acquires the Enhanced Time Sense advantage. At the end of the drug's period of effect, he must make a HT-4 roll or take 1d FP and 1d HP. The drug is administered as an injection, with each dose lasting (25 – HT) minutes; multiple doses extend the effect, but the fatigue and hit points lost must be determined for *each* dose. LC 1, cost per dose $1,000.

Urshaggim: Another "combat drug" often used by Vilani soldiers, this drug provides a +1 bonus to ST, DX, and HT for the duration of its effect. At the end of the drug's period of effect, the user must make a HT-4 roll (using his unmodified HT) or take 1d HP. The drug is administered as an injection, with each dose lasting (25 – HT) minutes; multiple doses extend the effect, but the hit points lost must be determined for *each* dose. LC 1, cost per dose $1,000.

Ushkiirga: This anti-bacterial agent is sometimes called the "ultimate antibiotic" by Terran physicians. It not only attacks bacterial infections directly, but it also bolsters the Human immune system and improves resistance even against viral diseases. It provides a +8 bonus to all HT rolls to resist infection or infectious disease. It is administered by injection, with each dose lasting (25 – HT)/4 hours; multiple doses extend the effect. LC 3, cost per dose $250.

Suspended Animation

Imperial and Terran scientists have independently developed ways to suspend Human metabolism for long periods. The process is fairly cheap, but it requires bulky equipment and the care of a skilled physician. The necessary "low berth" equipment is most often found on large-scale passenger transports, lifeboats, and Terran slower-than-light colony ships.

Entering a low berth requires five minutes, or twice as long without assistance. A low berth can be set to

revive its occupant at any fixed time, or when it receives a signal from a linked computer that is programmed to recognize certain external conditions. Revival takes 15 minutes. Success is automatic if the revival process is monitored by someone with Electronics Operation (Medical) skill at 10 or better. Otherwise, roll against HT+6; the patient dies on a failure or critical failure. One person can only monitor four revivals at a time.

Low berths become available at TL9. Throughout the Interstellar Wars era, one low berth (with space for a single passenger) takes up 250 cubic feet, weighs 2 tons, and costs $50,000. A low berth requires an uninterrupted source of power, usually from a city power grid or a ship's power plant. Internal batteries can maintain service for about one day.

Sensors and Scientific Equipment

Atmosphere Tester (TL8): A simplified chemsniffer that tests the atmosphere and displays the composition using a digital readout. A light glows red if the atmosphere is unbreathable for Humans, or green if it is safe. Exotic chemical or biological contaminants may be beyond the tester's ability to assess (use a chemsniffer for these). $400, 1 lb., 3 weeks.

Biosniffer (TL10): An advanced chemsniffer that can recognize and analyze evidence of biological organisms. The biosniffer could determine what type of life forms had previously occupied an area by picking up characteristic molecules produced by their exhalation, skin flakes, and so on. It could then compare them to a database included in the device's computer, helping the user track specific organisms or species. Range is five yards. Previously unknown life forms will impose a penalty to the Electronics Operation (Sensors) roll to successfully use the device. $2,000, 2 lbs., 2 weeks.

Chemsniffer (TL8): Analyzes chemical traces in the atmosphere. Can be used to determine atmospheric composition in greater detail than is available from a standard atmosphere tester. It can also locate contaminants, drugs, explosives, and so on. Range is 5 yards. $700, 2 lbs., 2 weeks.

Densitometer (TL11): This gadget uses gravitic-imaging technology to map the interiors of objects at a range of up to 500 yards. It can also be used to locate water, ores, or other items underground. A clear scan requires one second per 27 cubic feet of volume scanned. When an object has been scanned, the data is stored on standard computer media can be used to produce "cutaway" views of the object. $15,000, 20 lbs., 5 minutes.

Inertial Compass (TL8): Small device that indicates direction and distance traveled from any preset point on a planet, accurate to within a yard per 1,000 miles. Must be calibrated for the planet (takes one hour and a Navigation or Electronics Operation (Sensors) roll). Can be tied into a planet's geolocation satellite system for greater accuracy. $250, 1 lb., 3 weeks.

Survival Gear

Air Mask (TL7): A face mask and air hose. Used on worlds with unbreathable but otherwise harmless atmospheres. If the atmosphere lacks enough oxygen (or has too much) then air tanks are also required, while if it has enough atmosphere but is contaminated or tainted, a filter (but no tanks) is required. $100, 2 lbs. For another $50, add a mini-tank with 10 minutes of air.

Air Tank (TL7): Stores two hours' worth of air. Usable with vacc suits, air masks, sealed armor, and so on. Multiple tanks can be worn. Each tank is $100, 10 lbs. An advanced rebreather (TL8, $200, 1 lb.) added breathing gear multiplies tank duration by 10.

Filter (TL8): Used with any air mask or respirator, a filter allows contaminated air to be breathed without resorting to air tanks. The filter media require replacement every 48 hours. $200, 1 lb. for CBR-rated filter usable against chemical agents, bioweapons, or radiation fallout; $100 for a filter rated only for things like pollution, volcanic fumes, or pollen. Replacement filter media: $40 for CBR-rated, $10 otherwise, 1/4 lbs. Note that to protect against contact agents like nerve gas or bioweapons, a sealed suit will also be necessary.

Pressure Tent (TL8): An airtight tent strong enough to be inflated to one atmosphere in a vacuum. Opening it completely evacuates the air; entering or leaving through the one-man airlock takes a minute. $500, 15 lbs. for a one-man tent; $1,500, 30 lbs. for a two-man tent; $5,000 and 150 lbs. for an eight-man tent.

Respirator (TL9): Makes Thin and Very Thin atmospheres safely breathable. Includes protective goggles and a short-range communicator. $300, 3 lbs., 36 hours.

Reducing Respirator (TL9): Makes Dense and Very Dense atmospheres safely breathable. Includes a short-range communicator. $500, 5 lbs., 36 hours. Requires a chemical recharge every two weeks, costing $50.

Rescue Ball (TL8): This is a book-sized package that inflates into an airtight bubble with a self-sealing flap. It can be inflated in four seconds and holds 15 minutes of air (more if the user carries an air tank). It floats, and is flexible enough to move in (Move 1). A rescue ball is easy for even an untrained individual to use, so many merchant vessels issue them to passengers instead of vacc suits. $800, 5 lbs.

Personal Reentry Kit (TL8): A foamed ablative heat shield, chemical thruster, and parachute allows an individual in a sealed suit (such as a vacc suit or battle dress) to re-enter a planetary atmosphere from low orbit. Safe re-entry requires successful Free Fall and Parachuting skill rolls. $15,000, 30 lbs.

Weapons

The lists of melee and ranged weapons found in the ***Basic Set*** (pp. B267-281) are adequate for the ***Interstellar Wars*** setting. "Blaster" weapons are not available, even at TL11. Beam weapons in the ***Traveller*** universe are usually designed so that the power supply can be carried or worn separately from the working portion of the weapon. The power pack is normally worn on the belt or back, with a sturdy cable running to the weapon. Imperial forces tend to use "slugthrower" weapons, especially the TL9 autopistol and the TL10 Gauss rifle. Terran soldiers follow suit, although at TL10+ Terran forces often use laser weapons as well.

Vehicles

"Grav vehicles" are the main transportation of a high-technology society, replacing almost all other vehicle types except in specialized applications. All gravitic vehicles are controlled using Piloting (Contragravity) skill. There are three grav-vehicle configurations in common use: air/rafts, speeders, and G-carriers. Each of these has an "Imperial Standard" type, which is the most common model manufactured in Imperial space. Various Terran manufacturers also produce varying grav-vehicle models.

Air/Rafts

An "air/raft" is the gravitic equivalent of the personal ground car. They are slow, and can become rather difficult to handle in high or turbulent winds. They are open-topped, and can be covered with a cloth or plastic canopy, but cannot be sealed against vacuum. Air/rafts can be used for surface-to-low-orbit flights, although the trip can take several hours and requires that the passengers wear vacc suits. A standard air/raft has a capacity of one driver, three to five passengers, and four tons of cargo. Air/rafts are often carried by small starships as auxiliary craft; they take up four dtons of space in a vehicle bay or hangar.

Speeders

Speeders are large, overpowered gravitic vehicles, sacrificing passenger and cargo space for streamlining and speed. They are sealed against high winds and vacuum, and can easily be used for surface-to-orbit travel. A standard speeder can carry a driver, one passenger, and up to 200 pounds of cargo. They are sometimes carried by starships as auxiliary craft, although their lack of cargo capacity makes them unpopular in this role. They take up six dtons of space in a vehicle bay or hangar.

G-Carriers

G-Carriers are heavy cargo vehicles, with handling characteristics similar to those of a large air/raft. They are usually designed for light troop transport duties, carrying heavier armor and often mounting a light infantry-support weapon in an open gun mount. They are sealed, but are too slow for travel beyond low planetary orbit. A standard G-Carrier can carry a driver, a gunner, and up to 12 passengers, with two tons of cargo. G-Carriers are sometimes carried by military starships as auxiliary craft; they take up eight dtons of space in a vehicle bay or hangar.

Grav Vehicle Table

TL	Vehicle	ST/HP	Hnd/SR	HT	Move	LWt.	Load	SM	Occ.	DR	Range	Cost	Loc.	Stall
9	General Gravitics													
	Air/Raft	57	+3/2	10	1/25	5.9	4.9	+3	1+3	15	–	$400,000	O	0
10	Imperial													
	Standard Air/Raft	50	+3/3	12	1/30	5.4	4.4	+3	1+3	16	–	$600,000	O	0
10	Hill & Masterson													
	Phoenix Air/Raft	53	+3/3	11	1/30	5.8	4.6	+3	1+5	18	–	$560,000	O	0
10	Kaufmann													
	Diamond Air/Raft	50	+4/3	11	1/40	5.4	4.4	+3	1+3	16	–	$700,000		
11	Hill & Masterson													
	Phoenix II Air/Raft	53	+3/3	11	2/40	5.8	4.6	+3	1+5	22	–	$630,000	O	0
10	Imperial													
	Standard Speeder	57	+4/2	12	10/300	1.8	0.3	+4	1+1	12	–	$1 million	–	0
10	Hill & Masterson													
	Thunderbird Speeder	57	+4/2	11	10/300	2.0	0.5	+4	1+1	10	–	$1 million	–	0
10	Kaufmann													
	Sapphire Speeder	57	+4/3	11	12/360	1.8	0.3	+4	1+1	12	–	$1.2 million	–	0
11	Hellenic Industries													
	OTV Speeder	57	+4/2	11	16/400	1.8	0.3	+4	1+1	16	–	$1.5 million	–	0
9	General Gravitics													
	Heavy Cargo Carrier	72	+2/3	10	1/30	9.4	3.4	+5	2+12	16	–	$750,000	X	0
10	Imperial													
	Standard G-Carrier	63	+2/4	12	1/30	7.4	3.4	+5	2+12	22	–	$1 million	X	0
10	Hill & Masterson													
	Basilisk G-Carrier	67	+2/4	11	1/30	7.4	3.4	+5	2+12	24	–	$1 million	X	0
11	Hill & Masterson													
	Basilisk II G-Carrier	72	+2/4	11	2/40	7.4	3.4	+5	2+12	28	–	$1.2 million	X	0

Chapter Eight
Starships

Wherever we want to go, we go. That's what a ship is, you know. It's not just a keel and a hull and a deck and sails . . . That's what a ship ***needs****. But what a ship* ***is*** *. . . is freedom.*
– Captain Jack Sparrow, "Pirates of the Caribbean"

The fundamental feature of ***Traveller*** is *travel*. A typical ***Traveller*** campaign touches on many worlds, with adventurers voyaging from one world to the next through space.

Starship Systems

A starship is a very complex piece of technology, composed of many component systems. Some of the most important of these systems are described here.

Maneuver Drives

Maneuver drives are devices used to propel spaceships through "normal" space from world to world. They are most often used to move between an inhabited world and a nearby point where the jump drive can be used. They are also used to move between worlds in a single solar system; this is less common, since few solar systems have more than one inhabited world. Finally, maneuver drives can be used for interstellar travel, but this is extremely rare since the distances are so long and the jump drive is a much more convenient method for crossing them.

Most civilizations begin their exploration of space using *reaction* drives, "rockets" that eject mass backward in order to propel a vehicle forward. The main drawback of such drives is that they require vast quantities of reaction mass. This makes them expensive, and strictly limits the velocities they can reach.

Fortunately a better alternative is possible. At late TL8, new drives use power to generate forward thrust without needing to burn fuel or eject reaction mass. Such *reactionless thrusters* violate the laws of physics as understood in the early 21st century, but they make cheap, convenient space travel possible. Reactionless thrusters are the standard maneuver drive used by the Imperium, Terrans, and all other known spacefaring civilizations.

The performance of a maneuver drive is most often expressed in terms of *space acceleration*, which is measured in *gravities* (G). A drive that can deliver 1 G of space acceleration can cause the ship to accelerate as if under standard Terran gravity (32 feet per second per second). Typical maneuver drives deliver between 0.5 G and 6 G.

The Jump Drive

Only one form of faster-than-light travel is available: the *jump drive*.

A jump drive works by projecting the ship through an alternate universe known as *jumpspace*. Once a starship moves to a safe distance from a world, it can activate its jump drive and enter jumpspace.

While the ship is in jumpspace, it exists inside a "bubble" of normal space maintained by the jump drive. Inside that bubble, the laws of physics remain "normal," and the ship and its inhabitants can function normally. Outside the bubble, the laws of physics are very strange – machinery and Humans that are exposed directly to jumpspace tend to malfunction.

Jump space appears to exist in multiple "levels." A jump through the first level will take the starship up to about one parsec in normal space, while a jump through the second level will take the starship up to about twice as far. Each level is reached using a significantly different *kind* of jump drive – thus a starship with two-parsec range uses different machinery (and more of it) than one with only one-parsec range. There are probably more than three levels in deep jumpspace, but no one knows how many might exist, or how to reach them.

The performance of a jump drive is expressed in terms of *jump number*. A jump drive that can cause the starship to jump up to one parsec has a jump number of *one*, and is usually described as a "jump-1" drive. Imperial starships can be designed with jump-1 or jump-2 drives. Terran starships have similar capability through the first half of the Interstellar Wars era, and later become capable of jump-3.

Technical Details

Jump drives operate most reliably at a distance from large, massive objects. Any object more massive than a given starship has the potential to disrupt the ship's drives. If the drive is actuated within 100 times the diameter of such an object, it may malfunction disastrously.

The jump drive operates along a straight line, called a *jump line*, through normal space. If the jump line intersects a 100-diameter sphere around an object larger than the ship, the ship is "precipitated out" of jumpspace, appearing in normal space near the disrupting object. It is an astrogator's job to plot a course that avoids such pitfalls. Of course, the effect prevents a ship from emerging from jumpspace within another object.

Jump navigation requires some very advanced mathematics and a great deal of computer "number crunching." Every jump is different, and a great deal of careful planning and computation has to be done before the jump drive can be turned on.

Terrans and Imperials approach the problem of jump navigation differently. Terrans compute all the details of each jump as they are needed, using highly trained navigators and powerful digital computers to do the necessary work. This makes the job of planning each jump much harder, but it also means that Terran ships can *always* plan a jump, even in unexplored space or after a previous misjump.

On the other hand, Imperial ships use a computational short-cut. If an Imperial ship is following a known travel route, it uses a *jump tape* (p. 164). A jump tape is designed for one origin-destination pair of star systems. It contains some pre-computed parameters that apply to any jump from that origin system to that destination system. Even with a jump tape, some computational work must still be done for each specific jump, but the work is much easier for the navigator. The drawback to this approach is that an Imperial ship can't jump at all without a jump tape. As a result, if an Imperial ship finds itself in unexplored space, or can't get the jump tape for a given origin-destination pair, it's stranded.

Each jump requires a quantity of liquid hydrogen. Some of this hydrogen is converted into energy in the ship's reactor, while some of it is used as reactor coolant. The rest of the fuel is expelled into jumpspace while the ship is in transit, to hold open the "bubble" of normal space that protects it. Although the term is technically inaccurate, all of this expendable hydrogen is referred to as "fuel." Jump fuel is normally consumed at the rate of 10% of the ship's displacement tonnage per parsec jumped (although some jump drives are less efficient; see p. 191). An in-system microjump requires the same amount of fuel as a one-parsec interstellar jump.

Interface Operations

One of the most difficult maneuvers any ship can undertake is to land on or take off from a world with a substantial atmosphere. Maneuver drives are very powerful and can do a great deal to overcome gravity – but passage through a thick atmosphere can itself be very dangerous. The following rules apply to any ship attempting to land on or take off from any world that has more than a Trace atmosphere.

Ships are considered to have *unstreamlined*, *streamlined*, or *airframe* hulls (see *Streamlining*, p. 189). Each type has its own maneuver profile. Landing or taking off in a substantial atmosphere requires a Piloting (Aerospace) roll. Local atmospheric conditions can modify this roll; taking off under perfect conditions might give a +2 bonus, while landing in the middle of a hurricane will give *at least* a -6 penalty!

An airframe-hull ship can actually *fly* to or from orbit, its hull generating lift so that the ship's drive doesn't have to do all the work of overcoming gravity. This will work even if the ship's space acceleration rating is lower than local gravity. The process takes only a few minutes, and requires a single Piloting (Aerospace) roll. On a failure, the takeoff or landing maneuver isn't carried out successfully; either the ship misses its designated takeoff lane, or it overshoots the landing zone and must double back. Such failures sometimes earn fines or criminal penalties, especially in crowded airspace! On a *critical* failure, the ship takes damage from buffeting or collision equal to 10% of its hit points.

A streamlined-hull ship isn't really designed for atmospheric flight, but it is capable of careful takeoff or landing, with the ship's drive doing all the work of opposing gravity. In this case, takeoff or landing is only possible if the ship's space acceleration rating is higher than local gravity. To determine the time required, divide 20 minutes by the difference between the ship's space acceleration and local surface gravity (in Gs). A Piloting (Aerospace) roll is necessary every five minutes; the results of a failed roll are as for an airframe ship.

An unstreamlined ship is not designed to move in an atmosphere at all, and any such maneuvers are very hazardous. Takeoff or landing is only possible if the ship's space acceleration rating is higher than local gravity. The time required is as for a streamlined ship, with a minimum time of 10 minutes. A Piloting (Aerospace) roll is necessary every *minute* during the maneuver. On any ordinary failure, the ship will take damage equal to 10% of its hit points; on a critical failure it will take damage equal to 1d × 10% of its hit points. Most unstreamlined ships are not designed with landing gear, so any but a very gentle landing will do more damage to the hull (GM's discretion).

Jump Operations

A successful jump requires four skill rolls on the part of a ship's crew. These four skill rolls must be made in a specific order. They can be performed by four different people, or (since they must be done one after another) by fewer than four people on a ship with a very small crew.

Attempting a jump using unrefined fuel (p. 192) is -2 to all four rolls. Attempting a jump from within 51-100 diameters of a massive object is -4, within 11-50 diameters is -8, within 10 diameters is -12.

In each case, success on the skill roll means that the operation was successful and the next stage in the process can be attempted; if all four rolls succeed, the jump takes place as planned. A simple failure on a skill roll means that the operation was unsuccessful; that task must be attempted again, at a -1 penalty per subsequent attempt, or the whole process must be started over from the beginning.

A critical failure on any of the four rolls means that a *jump mishap* may take place. Roll again. On a success, the task has experienced a simple failure, as above. On a failure, the jump mishap takes place. On a second critical failure, a *jump disaster* takes place, and the starship is completely destroyed (or simply experiences crippling damage, at the Game Master's option).

If the process of planning and executing a jump is performed under routine conditions (the ship is not under fire, the ship is well-maintained, and there are no penalties to any of the rolls) then skill rolls may not be necessary. Under such circumstances, any crewman with at least 12 in one of the requisite skills can perform the associated task, assuming success without having to make the roll.

The four skill rolls, in the required order, are as follows:

Navigation (Space) is used to locate the proper point at which the ship should enter jumpspace, and plot a course through normal space that will bring the starship to that point.

Piloting is used to maneuver the ship to the proper jump point. The Piloting specialization that is necessary depends on the performance of the starship's maneuver drives; the most likely candidate is Piloting (High-Performance Spacecraft).

Navigation (Hyperspace) is used to "plot a course" through jumpspace. The ship's navigator determines the proper setting for the jump drive controls that will bring the ship out at the desired point at the destination. If the ship is Imperial and has a jump tape for the desired origin and destination systems, then this roll is at +4. If an Imperial ship doesn't have the right jump tape, then the jump drive *cannot be used*.

Mechanic (Jump Drive) is used when the ship reaches the jump point, to activate the jump drive and make sure that it operates within the parameters defined by the Navigation (Hyperspace) skill.

Jump Mishaps

Jump drives are very temperamental machines, and can malfunction spectacularly. Although they are quite reliable when used under ideal conditions, they become less so when used under stress. Many jump-drive technicians are intensely superstitious . . .

Jump drives have several "failure modes," depending on exactly *why* a given jump failed to take place as planned.

No Jump: If a Navigation (Space) or Piloting mishap takes place, the result is "no jump" – the jump drive simply fails to operate. The process of planning and executing the jump must be resumed from the beginning.

Misexit: If a Navigation (Hyperspace) mishap takes place, the ship's navigator has planned the wrong path through jumpspace and the ship fails to return to normal space at the desired location. Roll 1d. On a 1, the ship has exited near a solitary world, comet, or odd chunk of rock in the origin star system. On a 2-3, the ship exits near a world or gas giant in the destination star system, but not the *right* world or gas giant. On a 4-6, the ship exits at a random point on the destination star's 100-diameter limit. Misexit mishaps are usually not dangerous, but they can wreak havoc with the ship's schedule (and can be inconvenient when the ship is trying to make a rendezvous).

Deep Space Jumps

The mathematics of jump navigation is much simpler when there is a large mass, a star or very massive planet, in normal space close to each end of the jump. During the Interstellar Wars era, neither Terran nor Imperial navigators are able to plan a jump that starts or ends in deep interstellar space, far away from any such massive object.

This means that the vast majority of interstellar travel *must* go from one star system to the next. The empty hexes on the maps in Chapter 5 (or on subsector maps generated using the rules in that chapter) are normally off-limits to starships using the jump drive. This means that "gaps" – regions of space containing no star systems – can be so wide as to be impassable!

Of course, interstellar space is not entirely empty. An enterprising astronomer may be able to find massive objects even in the empty hexes on the maps: rogue sunless planets, large comets, "brown dwarf" stars, and so on. Such objects could easily serve as an "anchor" for one end or the other of a jump. Terran navigators call such deep-space objects "jump points," and are willing to use them as needed. On the other hand, the Imperium has not searched for new jump points in centuries, and Imperial navigators rarely use even the ones that are known.

Deep-space jump points are not marked on the maps in this book, and there are no rules for placing them on a newly designed map. The GM should place them as he decides they're needed for his campaign. However, a GM who wishes to use jump points should be aware that they are rare, and that the discovery of a new one can change the course of an entire campaign. In particular, a jump point in the right position could permit whole fleets to move directly across three-parsec gaps – an ability that could change the whole course of the early Interstellar Wars.

Misjump: If a Mechanic (Jump Drive) mishap takes place, the jump drive undergoes a serious malfunction. Roll 1d. On a 1-2, the ship undergoes no jump, as above. On a 3-4, the ship experiences a *failed jump*; it spends a week in jumpspace, and then emerges into normal space at the exact same point from which it departed. On a 5-6, the ship experiences a *misdirected jump* and emerges from jumpspace at a point very distant from its intended destination.

Bridge Systems

A spaceship's control center is usually its *bridge*, a special compartment from which the rest of the ship's systems can be managed. Several major systems are actually centered on the bridge, notably the ship's communicators and computers.

The available bridge systems are described in Chapter 9 (p. 192). Short-range craft can have a *small cockpit* or *large cockpit*. Starships will usually have a *small bridge,* a *standard bridge*, or a *command bridge*. The type of bridge installed determines the level of performance that can be expected from communications and computer systems.

Communications Systems

All ships have several different communications systems installed. These systems operate using the rules for the Telecommunication advantage (p. B91).

Radio: Shipboard radios use the standard rules for that Telecommunication type, and normally have the Video enhancement (p. B91). A cockpit has one radio, a small bridge has two, a standard bridge has five, and a command bridge has 10. A cockpit radio's range is 250,000 miles at TL9 or 500,000 miles at TL10+. A bridge radio's range is 2.5 million miles at TL9 or 5 million miles at TL10+.

Laser: Shipboard laser communicators use the standard Telecommunication rules, with the Laser and Video enhancements. A cockpit or small bridge has one laser communicator, a standard bridge has two, and a command bridge has four. A cockpit laser's range is 500,000 miles at TL9 or 1 million miles at TL10+. A bridge laser's range is 5 million miles at TL9 or 10 million miles at TL10+.

IFF-Transponder: Every ship is required by law to install an IFF-transponder system. This system sends out an automatic identification code by radio communicator. On a civilian ship this system comes factory-sealed; it can be turned on or off, but the identification code can't be altered. Military systems can be reprogrammed to give false identities to enemy ships, or to not respond at all. Cockpits install one IFF-transponder system. Bridges install two to give a backup.

Computer Systems

Every cockpit and bridge system includes *three* identical computers for redundancy. A small cockpit or bridge installs minicomputers, with Complexity equal to TL-5. A large cockpit or standard bridge installs microframes, with Complexity equal to TL-4. A command bridge installs mainframes, with Complexity equal to TL-3.

A Terran ship installs actual digital computers, which can be reprogrammed and are accessed via computer terminals distributed around the ship. Almost every compartment includes a computer terminal – even staterooms have them – that can tap into the ship's computer to run entertainment or news software.

Imperial ships don't install centralized digital computers. Instead, every ship's system has its own dedicated computer. For simplicity's sake, an Imperial ship is treated as having the same type of computer as a Terran ship with the same type of bridge. However, an Imperial ship can't change the "programs" being run by this notional computer network.

For more rules regarding computer use, see Chapter 7 (pp. 162-165) and p. B472.

Sensor Systems

Every ship needs sensor systems to ensure that the crew is aware of its surroundings and any potential threats. All ships have a mix of *active* and *passive* sensors.

An *active* sensor directs radar and other emissions at a target, then analyzes the energy that "bounces" back in order to learn about the distance, direction, size, composition, appearance, and other aspects of the target. Active sensors use the rules for Scanning Sense (p. B81). The basic type is Radar, with the Multi-Mode and Targeting enhancements.

The ship's *passive* sensors use a combination of telescopes, cameras, and similar devices to take in whatever electromagnetic radiation is already present in the environment. Passive sensors use the rules for the Hyperspectral Vision advantage (p. B60) with the Extended High-Band and Extended Low-Band enhancements. They also have Telescopic Vision (p. B92) and Protected Sense (p. B78).

A ship's sensor systems are given a *Scan* rating, which is a measure of their range and power of resolution. The Scan rating is used during space

combat or when a ship's crew simply wishes to detect or track another object. See Chapter 10 for rules governing sensor use.

Life Support Systems

Manned ships always need elaborate systems to provide crew and passengers with clean air, potable water, food, and habitable temperatures, and to deal with biological wastes. These *life-support systems* are much more complex than most non-technicians realize; maintaining and repairing them is one of the most unpopular shipboard duties.

Interstellar Wars starships don't have total-recycling life support systems. Breathable air and water are recycled with high efficiency, but biomass is not. Ships must bring on provisions on a regular basis. Meanwhile, waste matter accumulates in the ship's life support system, and must be dumped from time to time.

Capacity

A life support system is rated for its *capacity*, the number of people that can be supported by the system for long periods of time (assuming that enough provisions are on hand).

A life support system can be overloaded if necessary. Roll 3d after each day of overloading, at +1 per full 10% by which the number of people aboard exceeds system capacity. On an adjusted roll of 13 or more, the system begins to break down, losing 10% of its *current* capacity (rounded up to the nearest full person) for each point by which the roll was exceeded. A Mechanic (High Performance Spacecraft) roll can be attempted once per day; if it succeeds, it will restore 10% of *full* capacity. Note that once the life support begins to fail, the effect snowballs. If the ship remains overloaded, life support will eventually reach 0% and fail. At that point, all the oxygen in the air will be used up within 1d hours, and everyone will die. Those in low berths are unaffected if life support fails . . . as long as the power stays on.

Short-Term Life Support

Some ship components carry short-term life support, and can keep a few crewmen or passengers alive for a matter of hours. Such systems are normally only used in emergencies or on board short-term ships (fighter craft, shuttles, and so on). Refer to the ship design rules in Chapter 9 for specifics.

Starship Operations

Operating a starship requires considerable advance planning. Some of the pertinent considerations are discussed below.

Travel Times

Many travelers, especially merchants, will want to know how long it takes to reach their destination.

Interplanetary Travel

Interplanetary distances are usually measured in thousands or millions of miles (for a world and its satellites) or *astronomical units* (for whole star systems). One astronomical unit (AU) is equal to 93 million miles, the average distance between Terra and its sun.

Spaceships usually follow a nearly straight-line course through space, accelerating halfway to their destination, then "turning over" and decelerating the rest of the way in order to match velocities with the destination upon arrival. This is the most efficient way to reach any destination in normal space, using maneuver drives as powerful as reactionless thrusters.

To determine travel time for such a journey, use this formula: Time (in hours) = 68 × [Square root of (D/A)], where D is the distance in AU, and A is the acceleration of the ship in Gs (the *sAccel* statistic generated in the ship-design sequence in Chapter 9).

For approximate values, refer to the Maneuver Drive Travel Times Table. Travel times are given in hours (h) or days (d).

Maneuver Drive Travel Times Table

Distance	*0.5 G*	*1 G*	*2 G*	*3 G*	*4 G*	*5 G*	*6 G*	*Notes*
0.001	3.0 h	2.2 h	1.5 h	1.2 h	1.1 h	1.0 h	0.9 h	Habitable world to nearby moon
0.002	4.3 h	3.0 h	2.2 h	1.8 h	1.5 h	1.4 h	1.2 h	Habitable world to distant moon
0.005	6.8 h	4.8 h	3.4 h	2.8 h	2.4 h	2.2 h	2.0 h	Habitable world 100D limit
0.01	9.6 h	6.8 h	4.8 h	3.9 h	3.4 h	3.0 h	2.8 h	Gas giant to nearby moon
0.02	14 h	9.6 h	6.8 h	5.6 h	4.8 h	4.3 h	3.9 h	
0.05	22 h	15 h	11 h	8.8 h	7.6 h	6.8 h	6.2 h	Gas giant to distant moon
0.1	30 h	22 h	15 h	12 h	11 h	9.6 h	8.8 h	Gas giant 100D limit
0.2	43 h	30 h	22 h	18 h	15 h	14 h	12 h	
0.5	68 h	48 h	34 h	28 h	24 h	22 h	20 h	
1	4.0 d	68 h	48 h	39 h	34 h	30 h	28 h	Average Terra-to-Venus distance
2	5.7 d	4.0 d	68 h	56 h	48 h	43 h	39 h	Average Terra-to-Mars distance
5	9.0 d	6.3 d	4.5 d	88 h	76 h	68 h	62 h	Average Terra-to-Jupiter distance
10	13 d	9.0 d	6.3 d	5.2 d	4.5 d	4.0 d	88 h	Average Terra-to-Saturn distance
20	18 d	13 d	9.0 d	7.3 d	6.3 d	5.7 d	5.2 d	Distance to outer gas giant worlds
50	28 d	20 d	14 d	12 d	10 d	9.0 d	8.2 d	Distance to inner cometary cloud

Interstellar Travel

The geometry of jumpspace means that a voyage through it almost always takes close to a week (168 hours, plus or minus 10%). The time spent in jump has no relation to the distance traveled in normal space; a 3-AU "microjump" and a multiple-parsec interstellar jump both take about a week.

Although the exact duration of a jump cannot be predicted, a ship can usually detect the onset of emergence a few minutes in advance. Most starships set a 168-hour "jump clock" when the jump engines are turned on, and an alarm sounds when the ship is about to emerge from jumpspace. Some starship crewmen entertain themselves by placing bets on the exact length of each jump . . .

Starship Costs

Starships are expensive pieces of equipment, beyond the means of any but the wealthiest individuals. Most starships in the ***Interstellar Wars*** game are owned by large organizations – the Imperial or Terran Navy, one of the Vilani *shangarim*, or a Terran corporation.

Financing

Most small-scale Terran starship owners purchase their ships with financial backing from larger corporations or the Confederation government. Small Imperial merchant ships, held by individuals or small groups, are subsidized by the appropriate level of the *shangarim* bureaucracy. In either case, the ship's backers expect due diligence from their active partners in pursuing agreed-upon goals, and also expect significant returns on their investment. Owners who consistently fail to meet their objectives may find their ships repossessed.

The details of such a subsidy scheme vary, but a typical arrangement is as follows.

The individual or corporation purchasing the ship must have a good reputation and a well-considered business plan. The financial backer will have goals in mind that the ship is intended to fulfill: maintaining regular contacts among colonies, developing new trade routes into the Imperium, discovering new commodities or markets, conducting astrographic surveys, collecting economic intelligence, performing as naval auxiliary in wartime, and so on. The future owners and backers negotiate until they reach an agreement on how the ship will be used and what kinds of returns are expected.

The purchaser is expected to put up a substantial fraction of his own money to demonstrate his commitment. The amount of this "down payment" varies, up to 20% of the ship's purchase price. The backers will then cover the rest of the cost. The owner's share of net profits (after expenses) is determined by multiplying their down payment by a factor (typically ×4) to represent the active risks they run in operating the ship, and dividing the result by the ship's purchase price. The backers receive the remainder. After a specified period (generally 30 years), full title reverts to the owner, who then retains all of the profits for himself.

For example, a brand-new *Lightning*-class merchant ship costs $250 million out of the shipyard. If the purchaser of such a ship put up $5 million, his share of the profits would be $5 million times 4, divided by $250 million, or 8%. His backers would keep the remaining 92% of net profits.

Maintenance

Starships require constant routine maintenance. Members of the engineering, maintenance, and life support crew sections (p. 196) spend most of their time performing this maintenance. The expected size of these crew sections, as defined in Chapter 9, indicates the amount of maintenance that must normally be performed. Each member of these crew sections is assumed to provide

Sublight Interstellar Travel

Since reactionless thrusters require no fuel, they can be run for long periods of time without interruption. After several months of constant acceleration, a starship can reach a significant fraction of the speed of light – making *interstellar* travel feasible even without using the jump drive.

During the Interstellar Wars, this kind of travel is used on a number of occasions. Terran colony ships use slower-than-light (STL) travel to cross wide "rifts," in which no stars are available to serve as jump points. Other colony ships use STL simply to *hide*, fleeing for distant regions of the galaxy where the Imperium will never find them. The Vilani are not interested in colonization, but the occasional Imperial ship often has to limp home through normal space after being stranded by a misjump or by jump-drive damage.

The usual procedure for STL interstellar travel is for the ship to accelerate at maximum drive capacity until reaching about 0.8 *c* (where *c* is the speed of light, about 186,000 miles per second). This takes about two months for the fastest warships, or between 18 and 24 months for slow merchant vessels and colony ships. Although reactionless thrusters work at even higher velocities, 0.8 *c* is the highest *safe* speed – any faster, and even a heavily armored vessel faces too much risk from interstellar debris and hard radiation.

At this "interstellar cruising speed," a ship takes about four years to travel a single parsec (one hex on the standard subsector maps). The ship shuts down its drives and coasts through interstellar space, only beginning to decelerate when it approaches the target star.

A ship in such a situation usually faces some risk due to the inability to perform annual maintenance at a shipyard (p. 175). Still, a ship has a fair chance of completing an interstellar journey safely if it is in good condition and is well-maintained and well-provisioned to begin with. The most common problem is crew dissatisfaction, much of it arising from simple *boredom*. Many starship crews who are faced with unplanned interstellar STL voyage place as many men as possible in low berths.

eight man-hours per day in maintenance work. At the GM's option, crewmen from races with the Less Sleep advantage or the Workaholic disadvantage may provide more man-hours per day, while crewmen with the Laziness, Short Attention Span, or Sleepy disadvantages may provide fewer.

If a ship is short-handed in the pertinent crew sections, crew may be required to put in longer work shifts, members of other sections may have to chip in, or the ship may simply fall short on its required maintenance.

The rules for the Maintenance disadvantage (p. B143) apply, as do the rules under *Breakdowns* (p. B485). Although maintenance work is performed on a continuous basis, the maintenance period is *biweekly*. If insufficient maintenance is performed during a maintenance period, the ship loses one point of HT and must make a HT roll. If the HT roll fails, the ship loses 1d dHP (D-scale hit points, used to measure damage to spacecraft; see Chapter 9).

See *Damage Effects* (p. 223) for the effects of damage to the ship; in particular, damage due to missed maintenance may lead to Major Damage results, indicating serious breakdowns in ship's systems.

Along with routine maintenance, every starship requires a complete overhaul once a year to ensure that it remains in good working order. This *annual maintenance* restores any damage or HT loss due to missed routine maintenance, and removes any remaining faults not caused by battle damage. It costs 0.1% of the base price of the ship, and requires two full weeks at a Class B or better starport. The ship's operators should make provision for the payment of the maintenance fee when it comes due, and should prepare for the revenue lost while the ship is laid up.

Supplies

The primary expendable item used by any starship is the hydrogen fuel used by the jump drive. *Refined* fuel can only be purchased at a Class B or better starport, and normally costs $350/dton. *Unrefined* fuel can be purchased at a Class D or better starport, and costs $80/dton.

Meanwhile, starship crews must purchase provisions. Standard provisions cost $6 per man-day, and must be carried as cargo. Small ships on short journeys can ignore the cargo space needed for provisions, but large ships may need to track it. One dton of provisions has a mass of 12 tons, contains 2,000 man-days of food and other supplies, and costs $12,000.

Crew Salaries

Crew salaries must be paid on a monthly basis. Chapter 6 suggests that for merchant ships, a fair monthly salary for any given crewman is $600 + ($900 × Merchant Rank) + ($300 × best job skill). If the exact mix of skills and Merchant Rank levels among the crew is undetermined, this can be approximated as $9,000 for the Senior Captain commanding a large merchant ship (1,000+ dtons), $7,800 for the Captain commanding a smaller merchant ship, $6,600 for each officer, $5,700 for each petty officer, and $4,800 for each ordinary crewman.

If a ship makes a particularly profitable voyage, it is common for part of the profit to be distributed among the crew as a bonus. Any such division is up to the ship's commanding officer or the policy of his corporate sponsors.

Service Fees

When a starship makes berth, it must usually pay a variety of service fees. For simplicity, the GM may assume that these amount to $100 per dton of ship per week (or fraction of a week) in port. If the GM wishes to track the fees more closely, he may apply the following.

Berthing Fee: Berthing frees cover power, life support, and data hook-ups at the berth, access to facilities for maintenance, and often courtesy transportation to the main starport terminal. Once paid, berthing fees cover unlimited arrivals and departures for the entire duration, although crowded starports frown on berths that stand empty for too long. The standard berthing fee, at both Imperial and Terran starports, is $20 per dton of ship for the first six full days, plus $2 per dton of ship per day thereafter.

Customs Duties: These duties apply when any foreign party moves goods through a starport onto a world. As far as a merchant crew is concerned, customs duties never apply to *freight* (goods owned by someone else that the crew has been paid to transport) – in such cases, any duties are paid by the owner of the freight. However, whenever a merchant sells *cargo* (speculative goods that he owns himself) on a world, he must pay any duties that apply. In the Imperium, the *shangarim* always collect a duty of 4% of the sale price of the cargo. In Terran space, the duty depends on the starport and the type of cargo; the duty will be 1d%. Customs duties can be avoided through smuggling (see *Covert Operations*, p. 176).

Freight Handling: Ships that don't have enough personnel to handle cargo or freight themselves can pay starport stevedores to do the loading or unloading. The necessary number of crewmen is one per 250 dtons of cargo or freight; the needed crewmen can come from the cargo services section, or can be diverted from other crew sections that aren't busy in port (gunners or ship's troops, for example). The standard cost of hired stevedores is $20 per dton of cargo or freight, with a minimum of $500.

Lighterage Fees: Cargo, freight, and fuel can be delivered to or from a ship that's away from the starport. Cargo and freight lighterage costs $10/dton from surface to orbit, $15/dton to a ship at a planet's 100-diameter limit, or $40/dton to a ship at a star's 100-diameter limit. Fuel delivery is more expensive: $80/dton from surface to orbit (if the starport has no refueling facilities in orbit), $100/dton to a ship at a planet's 100-diameter limit, or $400/dton to a ship at a star's 100-diameter limit.

Shuttle Tickets: A one-way ticket from orbit to a planetary surface (or back) is $50 per person. Each person can bring up to 200 pounds of baggage; any extra is carried at lighterage rates.

Special Handling: Any cargo or freight that requires special handling adds 50% to all freight handling and lighterage fees.

Starport Administration Fee: This fee covers the costs of administration, maintenance, and operation of the port, as well as search and rescue services. The standard fee is $500, paid on landing.

Covert Operations

Spies, smugglers, and other adventurers may wish to land covertly on an inhabited planet. A ship coming in for a landing will be at least as visible and audible as a large meteor, due to the flare of re-entry and the sonic booms of deceleration from orbital speed.

If the planet is at TL5 or lower, the best solution is simply to come down in a secluded area, at least a few hundred miles from any known habitation. With luck, no one will be on hand to see the ship. Landing during bad weather will further reduce this chance.

If the planet is at TL6+, the process is more complex. The full details of planetary defense are beyond the scope of this book, but the following rules can be used for a quick-and-dirty approach to the problem.

First, the intruder must slip past any hostile vessels in space near the planet. The starship combat rules in Chapter 10 can be used to game out any such attempt. If the patrol vessels detect and intercept the intruder, they will alert planetary defences. In this case, the intruder may give up and try to break off, or may fight its' way through to the surface.

If the intruder evades the space patrol, it can attempt to evade ground watchers and sensors. For each individual ship attempting to land covertly, the captain must make a roll against his Shiphandling skill. Modifiers are as follows.

Alertness: +4 if the local authorities are not very alert (typical of a sleepy frontier planet or complacent inner world); +2 if the planet is somewhat alert (there is a local navy base, but local authorities have no reason to expect intruders).

Piloting Skill: +1 if the ship's pilot has Piloting skill at 15+, or +2 at 20+.

Size Modifier: Subtract the ship's Size Modifier. For example, if the ship has SM +10, the captain gets a -10 penalty.

Starport Type: If the planet has a Class A starport, -6; if it has a Class B starport, -4; if it has a Class C starport, -2; if it has a Class D or lower starport, no modifier.

Sensor TL: Subtract 2 × (TL-6) of the starport or planetary-defense sensors. If the planet is at TL5 or less, *add* +2.

Population: Add (10-PR) where PR is the planet's Population Rating (p. 98). For example, a planet with a population of 30 million (PR 7) would give a +3 bonus.

Knowledge: If the captain or any bridge crewman has details of the planet's sensor systems and any weaknesses, blind spots, or passcodes, or even holidays when the local inhabitants may be less alert, the GM may assign a +1 to +5 bonus. On the other hand, if the planet's defenders have been warned to expect intruders at a given time or place, the GM may assign a -1 to -5 penalty!

Good Planning: The basic Shiphandling roll represents good but unexceptional planning, knowledge of sensors, and the use of night, weather, and terrain to mask an approach. The GM may assign a further modifier if the players come up with a particularly good (or particularly bad) plan.

A critical success on the Shiphandling roll means that the ship can come down wherever it pleases without detection, and can fly about at will once it is in the lower atmosphere (the GM may require another roll once per hour). Success means that the ship avoids detection in the upper atmosphere, but will be detected at low altitude unless it chooses to come down somewhere far from habitation. Failure by 1 or 2 is treated as a success, but the ship's trajectory was tracked briefly and someone has a rough idea of where to find it (within a few hundred miles). Failure by 3+ means that the ship was detected in orbit or at high altitude. Depending on local attitudes, authorities may ignore it, challenge it over the radio, send ships to intercept it, or simply blow it out of the sky with ground-based defenses.

Ships attempting to take off without being detected can simply reverse the above procedure.

Waste Dumping Fee: ***Interstellar Wars*** starships do not have total-recycling life support systems. Over time, a ship's life support system accumulates wastes, which must be disposed of. These can be ejected into space for free (although this is usually illegal in crowded shipping lanes or in low-orbit space). They can also be dumped at any starport, for $1/man-day since the ship last cleared the life-support system.

Wharf Fees: If cargo or freight is to be stored on the berth, the wharf fee covers the use of port facilities, warehouse space, and transfer space on the berth itself. The owner of freight usually pays this fee, but merchant crews carrying speculative cargo must pay for their own space. The standard cost is $20/dton for up to 30 days, and $2/dton per day thereafter.

Fines

Fines are the *personal* responsibility of the ship's captain, unless the fine is the direct result of misconduct by a crew member. Even then, the captain usually pays the fine out of the ship's cash reserve and collects it from the crew member later (perhaps by reducing his pay).

Failure to Vacate: If a ship is ordered to vacate its berth at a starport and fails to do so on time, the starport authority will levy a fine. The standard fine is $1,000/hour.

Violation of Regulations: Any other violation of local, Confederation, or Imperial regulations will likely lead to a fine. The amount varies, but typical fines are $500 or more per incident.

Interstellar Trade

Then a health (we must drink it in whispers)
To our wholly unauthorised horde –
To the line of our dusty foreloopers,
The Gentlemen Rovers abroad –
– Rudyard Kipling, "The Lost Legion"

Trade in the Interstellar Wars

During the Interstellar Wars era, interstellar commerce is shaped by a clash between two wildly different economic models. The *Ziru Sirka* manages a vast economic system, based on a mature network of trade routes that has been stable for centuries. On the other hand, the Terran Confederation is a new economic sphere, full of energy but very unstable due to its explosive growth. Adventuring merchants who wish to make a profit in this environment need to understand how it works.

Trade Routes

Throughout the Interstellar Wars era, commercial traffic tends to follow a "main and branch" system of trade routes. The most populous and prosperous planets are designated as *hub worlds*. These hub worlds are connected to one another by *main* shipping routes.

Minor worlds rarely trade directly with one another – instead, their exports are sent to the nearest main route or hub world, and their imports are drawn from the same place. Some minor worlds generate enough off-world trade that they are worth providing with regular shipping service. The routes that carry goods to and from such worlds are called *branch* routes.

This system of organizing trade routes is inefficient; it often causes traffic to make more jumps than are really necessary to get a given consignment of goods from its source to its destination. In a free-market system, every pair of worlds would be free to trade directly, and traffic would always follow the most efficient routes. Trade routes would simply appear where the merchant traffic freely chose to follow certain paths.

However, the Imperium doesn't use free-market economics. Truly free trade is unstable and hard to control, even if it is often more efficient. The *shangarim* therefore insist on a main-and-branch system, with almost all trade passing through the hub worlds as choke points. Such a system is relatively easy to control, and helps the *shangarim* executives to retain their privileged position in a stable social structure.

Terran civilization is much more devoted to free and open trade. Even so, during the Interstellar Wars era the growing Terran trade network tends to follow the same main-and-branch model, despite its inefficiency. This is largely due to historical accident.

Early in the interstellar period, the Terran economy is almost entirely dominated by Terra itself. The various colony worlds have no more than a few million inhabitants each, and very little heavy industry. Terra exports manufactured goods and a steady flow of emigrants to the colonies; the colonies export raw materials and a few exotic luxury items back to Terra. The colonies carry on almost no direct trade with each other. Thus the early Terran trade system resembles the Imperial model, with a single "hub world" (Terra) and a cluster of colonies strung out along a few branch routes.

Later, populous Imperial worlds begin to fall into the Terran economic sphere, first by ones and twos and then by whole clusters at a time. The Terran advance is so rapid that Terran merchants are almost *forced* to work within the existing main-and-branch system. Some Free Traders and entrepreneurs get rich by short-circuiting the Imperial routes, bringing worlds into direct commercial contact for the first time. Major shipping lines, however, stay with the ancient – and *proven* – Imperial trade routes. Only after the Interstellar Wars are over will many Terran shippers begin to set up their own, more efficient, routes.

Trade Route Types

In the ***Interstellar Wars*** setting, trade routes are classified into three major types. If the campaign is taking place in the standard ***Interstellar Wars*** setting (near Terra, about 2170) then the maps in Chapter 5 indicate where these trade routes lie. Otherwise, the GM must draw trade routes on his own star maps while going through the world-design sequence found in that chapter.

Major routes are the larger "mains," tying together hub worlds that are located in "clusters" relatively close to each other. They carry tens or even hundreds of thousands of dtons of cargo per week. Any given world on a major route will usually see several super-freighters of 10,000+ dtons, and many freighters of 1,000+ dtons, each week. Free Traders and other small merchant ships will find little work along such routes, unless they can find small consignments of freight which have not been consolidated into large lots by the major shipping lines.

Minor routes are lesser "mains," making up longer links that connect the hub-world clusters. A minor route carries freight in the high thousands or low tens of thousands of dtons per week. A world on a minor route will be visited by six to 10 freighters of 1,000+ dtons, along with a dozen or more small ships of 100-400 dtons, each week.

Branch routes are small tributaries, connecting the most prosperous minor worlds into the trade network. A branch route carries freight in the high hundreds or low thousands of dtons per week. A world on a branch route will see up to about a dozen small merchant ships per week, all of them well under 1,000 dtons in size.

Frontier worlds are those inhabited worlds that are not on the established trade network at all (that is, they are not even on a branch route). The most populous frontier worlds may be visited by one to two small merchant ships per week. Others are served only by infrequent "packet" transports and tramp merchant ships, sometimes going for months without an interstellar visit. Free Traders sometimes find the greatest opportunities (and the greatest risks) by visiting worlds off the established trade routes.

Speculative Trade

Cautious merchants will tend to stay on the main and branch trade routes, earning money by carrying freight and passengers at fixed rates. This enables them to minimize risk, because it's easy to predict how much freight and how many passengers will be available. On the other hand, this approach is unlikely to yield great profit.

Ambitious merchants will accept greater risk for the chance of greater profit, by engaging in *speculative trade*. Rather than signing contracts to carry someone else's goods, a merchant captain will buy goods using his own money, and then try to sell the goods elsewhere for a profit. If everything works well, he can make a real killing – if they don't, he may have to sell at a loss simply to keep operating.

Speculative trade is a very common practice in Terran space, where free markets are common, local economies are booming, and a merchant captain only needs cash to invest. Many Terrans are surprised to learn that the practice is also known inside the Vilani Imperium.

In theory, the three *shangarim* have a monopoly on all trade within the Imperium. The Sharurshid organization claims to control all trade in the rimward sectors, with a specific monopoly on trade with the barbarian Terrans. In practice, the situation is quite different. Many parties work to undermine the *shangarim* monopoly: dissident subcultures like the *kimashargur* Vilani, restless subject races like the Vegans, ambitious managers, and even the occasional frustrated *shangarim* executive.

These subversive elements conspire to create an institution known as *duraag*. In High Vilani, the word *duraag* simply means "marketplace," and is applied to a variety of public spaces in Vilani cities, including some that have nothing to do with commerce. In Low Vilani slang, the word *duraag* is applied to a kind of backroom bazaar that exists on every world with a significant economy. In this context, the word is always emphasized by its position in the sentence – so when translated into English, it is usually capitalized: "The Market."

Eventually, Terran Free Traders will overturn centuries-old trading patterns, revolutionizing commerce within the Imperium.

The Market meets in a different place on every Vilani world. On some worlds it is a secretive institution, while on others it meets openly near the main starport. In any case, The Market is a place where managers and executives can meet to arrange trades outside official channels. Managers that have excesses they can't easily dispose of meet with others that have shortfalls they can't fill and attempt to make deals to mutual benefit. Various quasi-legal means are used to avoid official attention: cash-only transactions, unwritten agreements, barter, or carefully arranged reciprocal "theft."

Such shady commerce naturally attracts smugglers and a few real criminals, making The Market subject to intermittent sweeps by *shangarim* police. Still, it is firmly enshrined in Imperial tradition. Most Vilani consider participation in The Market to be illegal and mildly dangerous, but not particularly shameful. Getting caught means having your goods confiscated, paying the fine, and trying harder not to get caught the next time.

Terran Free Traders, largely shut out of legitimate trade within the Imperium, often find The Market custom-tailored to their needs. It can be hard for inexperienced Terran merchants to navigate, but its commercial potential is large. Terrans can use The Market to find surpluses where no Vilani has looked for them, and create markets that Vilani have never thought to exploit.

Eventually, Terran Free Traders (and their Vilani imitators) will overturn centuries-old trading patterns, revolutionizing commerce within the Imperium. Along the way, they will contribute to the collapse of the Imperial government and ultimately pave the way for Terran victory in the Interstellar Wars.

Basic Trade System

The following system helps the GM and players quickly determine how much a small merchant ship will make by carrying freight and passengers. It assumes that the ship is going to stay on established trade routes – it will not be able to find significant freight or passengers otherwise. So long as that condition is met, however, the basic trade system is ideal for campaigns that feature trade only as a backdrop for other adventures.

Bilateral Trade Number (BTN)

The total amount of trade that takes place along a given trade route is reflected in the route's "size" (major, minor, or branch). When a merchant ship needs to find freight or passengers for a specific destination, the GM must determine how much trade is taking place specifically between the current and destination ports. This can be done by computing the *Bilateral Trade Number* (BTN) for the two worlds.

To determine the BTN, begin by adding the World Trade Numbers (WTNs) for the two worlds, as determined during the world-design sequence in Chapter 5. This gives the amount of trade that can be expected between them, based solely on the size of the world economies.

Next, examine the *trade classifications* of the two worlds as generated in the world-design sequence. If one world is Agricultural (Ag) and the other is Extreme (Ex) or

Non-Agricultural (Na), then increase the BTN by 0.5. Likewise, if one world is Industrial (In) and the other is Non-Industrial (Ni), then increase the BTN by 0.5. This adjustment accounts for the fact that worlds in this situation complement each other – they have more to gain from trade than a more typical pair of worlds.

If the two worlds are under the control of two different political entities (normally, the Imperium and the Terran Confederation), then *decrease* the BTN by 1. Trade that must cross a political border is usually hindered.

Next, determine the distance between the two worlds *along the trade network* and refer to the Distance Modifier Table below. *Decrease* the BTN by the amount indicated for the distance between the two worlds. Worlds that are further apart undertake less direct trade. *No Available Trade* indicates not that there will be no freight or passenger traffic between the two worlds, but that there will be no such traffic available for small merchant ships to handle. Long-haul freight and passenger service is almost entirely monopolized by the *shangarim* shipping lines or their Terran megacorporate successors.

Distance Modifier Table

Distance (pc)	*Distance Modifier*
0	0
1-2	-0.5
3-5	-1
6-9	-1.5
10-19	-2
20 or more	No Available Trade

Finally, if one world of the pair has a *much* smaller economy than its partner, the economic model behind the WTNs and BTN breaks down somewhat. To correct for this, the final BTN may not be greater than twice the smaller WTN+1.

Once the BTN has been computed, the GM and players can determine how much freight and how many passengers are available for transport to the declared destination.

Basic Procedure

Once a merchant ship reaches port, it may declare its destination and begin searching for freight and passengers to carry there. The current port and the declared destination must be connected along the established trade routes, but they do not need to be a single jump apart. The BTN between the current and destination worlds must be at least 6.0, otherwise any traffic that may be available will be monopolized by large shipping lines.

Freight

Beginning on the first full day *after* the ship lands, it may try to find freight that is intended for the destination port. Once per day, refer to the Trade Volumes Table below and make the roll for freight volume that is indicated for the BTN of the current and destination worlds. *Halve* the result (rounded down) if the ship is Terran-registered and the port is under Imperial control, or vice versa. The final result gives the number of dtons of freight that are available that day.

Each lot of freight must be delivered within one week, plus 10 days for every two parsecs of distance *along the trade network* between departure and destination ports. Unloading at the destination starport is usually sufficient for delivery (but see *Special Handling*, p. 175). Late delivery incurs a 10% penalty per day late.

The standard rate for freight shipping is $700 per dton per parsec along major or minor routes, or $800 per dton per parsec along branch routes.

Trade Volumes Table

BTN	*Freight Volume Roll*	*Passenger Volume Roll*
6	2d-10	None
6.5	2d-7	None
7	2d-2	1d-4
7.5	(2d-2) × 5	1d-2
8	(2d-2) × 5	1d-1
8.5 +	(2d-2) × 10	2d-2

Passengers

Beginning on the first full day *after* the ship lands, it may solicit passengers who wish to travel to the destination port. Once per day, refer to the Trade Volumes Table below and make the roll for passenger volume that is indicated for the BTN of the current and destination worlds. *Halve* the result (rounded down) if the ship is Terran-registered and the port is under Imperial control, or vice versa. The final result gives the number of number of potential passengers who present themselves that day.

To determine what level of service each potential passenger wants, begin by rolling 1d with a maximum of the total number of potential passengers. This indicates the number of *low and standard* tickets that the ship can sell that day. At an Imperial port, all of these tickets will be for standard passage. In a Terran port, half (rounded up) of these tickets will be for low passage and the rest will be for standard passage. If any potential passengers are left, roll 1d again with a maximum of the remaining number of potential passengers. This indicates the number of *first-class* tickets that the ship can sell that day. Any potential passengers that remain will want *luxury* tickets. If the ship can't provide the level of service that a given potential passenger wants, he will go elsewhere rather than settle for a different kind of ticket.

A passenger is expected to pay for his ticket in advance, either when making his travel reservations or when boarding the ship. On the other hand, once a passenger has made reservations to travel on a given ship, he will expect the ship to depart for his destination within one week (seven days). He will also expect to arrive at his destination within one week, plus 10 days for every two parsecs of distance *along the trade network* between departure and destination ports.

A ship that fails to meet passengers' expectations about timeliness and quality of service may be able to get away with it, at least for a while. At the GM's option, the ship's crew may acquire a negative Reputation, or angry passengers may lodge complaints with Terran or Imperial authorities.

The standard rates for passenger transport are $400 for a low ticket, $2,500 for a standard ticket, $3,500 for a first-class ticket, and $6,000 for a luxury ticket. Ticket prices are *per jump* rather than per parsec traveled.

Speculative Trade System

The following system can be used when a small merchant ship is trying to turn a profit through speculative trade – the art of buying cargo at a low price, in the hopes of selling it later for a high price. This system can be used whether the ship stays on established trade routes or not, and it can be used in conjunction with the basic trade system (p. 178). The speculative trade system is useful for campaigns in which the GM and players are interested in following trade in some detail.

In outline, the speculative trade system is very basic: buy low and sell high. Merchants seek goods for sale (possibly on The Market, in Imperial space) and buy them with whatever resources are available. They carry these goods in their holds to subsequent destinations, seeking interested buyers. A Free Trader normally carries a number of different speculative cargoes, never knowing which will sell first, and fills his hold with freight as necessary. When a given lot of speculative cargo seems to have found a profitable market, it is sold. Ideally, the merchants bring in enough to pay for landing expenses, operating costs, a new load of goods, and a little profit. Unfortunately, they are sometimes forced to accept whatever they can to prevent a total loss.

A canny trader can maximize his profits by matching likely goods with receptive markets. This makes advance information about the region of space where he is trading a particularly valuable commodity.

Generally only one merchant or team of merchants per crew may search for goods or buyers – any more is counter-productive.

Finding Goods for Sale

Beginning on the first full day after the ship lands, a merchant crew may begin searching for speculative cargoes to buy. Each attempt takes five days, and is made using the best skills from among the merchant team. If an attempt fails, repeated attempts may be made at no penalty (unless a critical failure occurs; see below). Attempts to find goods to buy can be done at the same time as any attempts to find buyers for goods already in the hold (p. 181).

Roll versus Merchant or Streetwise, whichever is lower. Any penalty for lacking an appropriate Cultural Familiarity advantage applies, as does any penalty for not being a native speaker of the local language. Any applicable Reputation (good or bad) also modifies the effective skill. Modifiers: +1 if anyone on the team has Area Knowledge for the local planet at 12+, or +2 at 20+; -1 if the world is on a branch route, or -3 if on a main (major or minor) route.

A successful roll indicates that a lot of cargo has been located for purchase; critical success indicates one to three lots.

A critical failure results in the crew being *shunned*; no one from this ship will ever be able to contact the speculative cargo markets on this world again, until they make amends. On a Terran world, this may mean simply paying a fine for insider trading or other violations of local law. On an Imperial world, a critical failure means that the local

Speculative Goods Table

Dice Roll	Commodity	Price ($/dton)	Sale Price Modifiers	Lot Size (dtons)	Density (tons/dton)
11	Heavy Metals	20,000,000	Ex-3	1d	25
12	Industrial Crystals	2,000,000	In+3, Na-3	1d	10
13	Radioactives	100,000	In+4, Na-3	1d	10
14	Petrochemicals	15,000	In+3, Na-4	2d×5	7
15	Artwork, Handicrafts	10,000		2d	5
16	Wood, Wood Products	2,000	Ag-4, In+1, Ex+4	5d×10	5
21	Industrial Metals	75,000	Ex-2	2d	25
22	Ceramics, Glass	15,000		2d	10
23	Gemstones	10,000,000	In+4, Ni-2	1d	0.5
24	Spices	6,000	Ag-2, Ex+1, Na+2	1d×5	7
25	Alcoholic Beverages	7,500	Ag-3, In+1, Ni-1	2d	7
26	Fruits, Vegetables, Nuts	2,400	Ag-2, In+3, Ex+2, Na+2	4d×10	5
31	Special Minerals	750,000	In+1, Na-3	1d	10
32	Lanthanum	5,000,000	In+2, Na-3	1d	10
33	Polymers	12,000	In-2	3d×5	5
34	Light Metals	10,000		2d×5	25
35	Textiles	30,000	Ag-2, Ex+2, In-1	3d×5	4
36	Livestock	1,000	Ex+4, Ni-2	3d×5	1
41	Shelters	12,000	Ex+1, In-1, Na+2	3d	8
42	Computers	250,000	In-2	2d	5
43	Firearms, Ammunition	120,000		1d	7
44	Pre-recorded Media	50,000	Ni+2	1d	2
45	Pharmaceuticals	120,000	Ag-1, In+3, Ni-3	1d	6
46	Grain, Flour, Baked Goods	5,000	Ag-2, Ex+2, Na+2	2d×5	10
51	Protective Suits	400,000	Ag-4, Ex+4, In-2, Ni+1	1d	2
52	Tools	20,000	In-1	1d×5	10
53	Manufactured Goods	50,000	In-1, Ni+1	3d	8
54	Toys, Games, Sporting Gear	50,000	Ni+3	2d	5
55	Entertainment Devices	50,000	Ni+3	1d×5	4
56	Meat, Fish	20,000	Ag-2, In+2, Ex+2, Na+2	1d×5	8
61	Precision Instruments	400,000	In-3, Ni+3	2d	7
62	Electronics, Electronic Parts	50,000	In-1, Ni+1	1d×5	2
63	Ground Vehicles	40,000	In-2, Ni+2	3d×5	3
64	Grav Vehicles	250,000	In-2, Ni+2	1d×5	3
65	Grav Units, Gravitic Parts	160,000	In-2, Ni+2	1d×5	4
66	Machinery, Mechanical Parts	50,000	In-1, Ni+1	4d×10	8

leaders of The Market have decided the crew cannot be trusted; such trust can probably be regained only through a difficult adventure . . .

Determine Available Goods

Once a lot of speculative cargo has been located, roll two dice, one at a time. Modifiers: on the first die, -1 if the world is Non-Industrial; +1 if Industrial. On the second die, -1 if the world is Non-Agricultural; +1 if Agricultural. Treat results less than 1 as 1, and greater than 6 as 6. Read the two numbers consecutively, as a two-digit number from 11 to 66, and consult the Speculative Goods Table.

For each lot of cargo, roll the indicated number of dice to determine lot size in dtons. Multiply the lot size by the price per dton ($/dton) to determine base price. If needed, multiply lot size by density (tons/dton) to determine total mass; multiply again by local gravity to determine weight.

Determine Purchase Price

Once the nature of each lot of speculative goods is known, roll on the Actual Price Table to determine the actual purchase price. Subtract 2 if the world is Poor; add 4 if the world is Rich. Add or subtract the Sale Price Modifiers that apply to the world where the goods are being purchased, as indicated for the specific commodity on the Speculative Goods Table. The result on the Actual Price Table gives the actual purchase price as a percentage of the base price as given on the Speculative Goods Table.

One member of the merchant team may use Merchant skill to try to lower the actual purchase price, using a Quick Contest according to the rule on p. B209. The result of the Quick Contest will add or subtract 10% from the *base price* of the goods. For example, if the initial roll on the Actual Price Table gives a result of 150%, a victory in the Quick Contest will lower the purchase price to 140% of base, while a defeat raises it to 160% of base. Groups desiring more options may consult pp. B560-562.

If the lot is larger than desired, breaking it up and buying only a portion requires a positive Reaction roll from the seller. One member of the merchant team may attempt an Influence roll (p. 359) instead; modifiers for Cultural Familiarity and language skill still apply.

Once goods are purchased, they are delivered at the ramp or docking bay outside the ship's cargo hatch. It is the crew's responsibility to load each lot into the hold, though at Class C or better starports they can hire stevedores. If desired, the crew may offer to come and pick up a cargo in return for a favorable Reaction modifier, but then they are responsible for paying (or evading) any outbound customs and duties.

Finding Buyers

Beginning on the first full day after the ship lands, a merchant crew may begin searching for buyers for any speculative cargoes that are in the hold. Each attempt to find a buyer for any one lot takes five days, and is made using the best skills from among the merchant team. If an attempt fails, repeated attempts may usually be made at no penalty. If the ship has more than one lot of speculative cargo in the hold, the crew may search for buyers for each of them at the same time, and can also search for a lot of goods to purchase.

Attempts to find a buyer use the same skill roll as finding goods for sale; add an additional modifier equal to WTN-6 (round down). On a success, a buyer is found. On a critical failure, the crew will be shunned on that planet, with the same effects as a critical failure when searching for goods.

Determine Selling Price

Once a potential buyer has been found for a given lot of goods, the sale price must be determined. Use the same process as that used to determine purchase price. The Sale Price Modifiers that apply are the ones associated with the world where the goods are being *sold*. If a Quick Contest of Merchant skill is used to try to improve the same price, a victory will *raise* the price by 10%, while a defeat *lowers* it by 10%.

The sale price offered by a potential buyer doesn't have to be accepted, but refusal to sell counts as a failure to find a buyer. Another attempt must be made, taking five more days. Furthermore, the merchant team must make a Reaction roll; on a Poor or worse reaction, the result is equivalent to a *critical* failure on the roll to find a buyer, and the crew is shunned.

The crew is responsible for unloading the goods, clearing them through inbound customs, and paying (or evading again) any duties owed on them. Goods are considered delivered when turned over to the buyer at his place of business or other specified destination.

Actual Price Table

Roll	*Actual Price (% of Base Price)*
3 or less	30%
4	40%
5	50%
6	60%
7	70%
8	80%
9	90%
10	100%
11	100%
12	110%
13	120%
14	130%
15	140%
16	150%
17	160%
18 or more	170%

Interstellar Exploration

The long day wanes: the slow moon climbs: the deep
Moans round with many voices. Come, my friends,
'Tis not too late to seek a newer world.
Push off, and sitting well in order smite
The sounding furrows; for my purpose holds
To sail beyond the sunset, and the baths
Of all the western stars, until I die.
It may be that the gulfs will wash us down:
It may be we shall touch the Happy Isles,
And see the great Achilles, whom we knew.

– Alfred, Lord Tennyson, "Ulysses" (1842)

During the Interstellar Wars era, most of "known space" is not known to Terrans, who are constantly visiting worlds and regions of space for the first time. In any case, the Vilani can only tell Terrans about space toward the galactic core. Out toward the rim are thousands of worlds that no Human has ever seen, worlds where Terrans might build a civilization entirely independent of the Imperium. Before that can happen, Terrans must go out to explore and survey those worlds, breaking ground for the colonies to come.

Survey Operations

Survey operations involve a general evaluation and mapping of the worlds in a target star system. Many of the tasks involved in survey work require a shipboard survey module; standard ship's sensors will not do because they aren't properly configured for survey work.

Survey tasks normally involve using the Electronics Operation (Sensors) skill, followed by a scientific skill to interpret the collected data. Make the Electronics Operation roll first. On a critical success, the follow-up scientific skill roll is made with a +3 bonus. On a success, the follow-up roll is made unmodified. On a failure, some of the collected data are incorrect, but a correct interpretation can be made with more difficulty; make the follow-up roll at a penalty equal to the amount by which the sensor roll was missed. On a critical failure, the data are obviously bad and the follow-up roll may not be made at all. The GM may wish to make either or both rolls for the players, to keep them in the dark as to whether they are succeeding or not.

System Detection

Survey operations in a new star system begin long before the survey ship first jumps into the system. The first step is to get an impression of the contents of the target star system. This is normally done from one or two parsecs' distance.

First, the survey ship attempts to locate planets in the target star system. This takes a day of observation from a survey module. Roll against Electronics Operation (Sensors). Modifiers: +1 if at a one-parsec distance, -1 at two parsecs, -2 at three parsecs, -3 at four to five parsecs, or -4 at six parsecs.

If the sensors roll succeeds, any large gas giants (Saturn- or Jupiter-sized) will be detected. Success by 2 or more will detect small (Uranus- or Neptune-sized) gas giants. On a critical success, large terrestrial planets (6,000+ miles in diameter) will be detected. Even on a successful skill roll, some planets may be concealed at the GM's discretion; perhaps they are behind the primary star or are presenting an unlighted face to the observer.

If any planets were detected, roll against Astronomy to produce a rough system map, at +4 if more than one planet was detected (GM's discretion). On a success, the astronomer can locate the ecliptic plane of the target system (i.e., the plane most of the planets will orbit in). He will also have a rough estimate of the orbit for each planet sighted.

Another task that is undertaken at this stage is to "listen" for signs of intelligent life. Detecting a civilization will take one day of observation; this can be done at the same time as the search for planets, but a different scientist must do the work. At interstellar ranges, only civilizations at TL7 and above can be detected using shipboard instruments.

Roll against Electronics Operation (Sensors) to detect civilizations, using the same modifiers for range as for detecting planets. On a success, the scientist will detect any population of at least 10 billion living at TL7, one billion at TL8, 100 million at TL9-10, or 30 million at TL11+. If the sensor roll is made by a significant margin, the scientist may detect smaller populations, down to one-tenth the size on a critical success. Also on a critical success, the process will gather 2d hours of language samples (see *Linguistic Assessment*, p. 184). Even if no detectable civilization is present, the GM should roll in case of a critical failure – in which case he may mislead the scientist into believing a civilization is present even if it isn't.

System Mapping

When the survey ship jumps into the target system, the crew may have only a rough idea of what planets are present and where they are. They must immediately make a map of the star system and establish their own location. Once that's done, a more detailed study of the system's worlds can be done.

First, the ship's exact location must be established. This task is usually undertaken by the ship's navigator, using the standard ship's sensors. Roll against Navigation (Space), with a +2 if a rough system map is already available (either from library data or from astronomical observations at

interstellar range). On a success, the ship's position has been established with enough accuracy to allow further survey operations to proceed normally. On a failure, the navigator was inaccurate and all subsequent system-mapping skill rolls will be at -1. On a critical failure, the inaccuracy is greater (penalty is -3). Any penalty will last until the first success in a system-mapping task (the error was noticed and corrected).

Next, any planets in the system must be located precisely. This is actually more time-consuming once the ship is inside the target system; from a few parsecs away, it's easy to know which way to point the telescope. From inside the target system, the whole sky needs to be searched.

To produce a workable system map requires *10 days* of observations. Up to four astronomers per system module can work together and reduce this time. Roll against Electronics Operation (Sensors) to locate system objects, at +2 if a rough system map is already available. This mapping process will *automatically* detect all the gas giant planets present in the system. On anything but a critical failure, all the terrestrial planets will also be detected. On a success, all of the larger moons in the system will appear. On a critical success, smaller moons and planetoids will also be detected.

Once planets and other bodies have been detected, a follow-up Astronomy roll will produce a working map of the star system. On a success, gas giants and terrestrial planets will be immediately identifiable, and the GM may reveal the main world's specific planet type (see p. 96 for a discussion of planet types). Any unusual features of planetary orbits will also be known at this point. Finally, success will permit the ship's navigator to prepare jump parameters for return visits to the star system. So long as jump masking is not a factor, future jumps into the star system can be made directly to the 100-diameter limit of any desired body.

Finally, the ship will again search for evidence of intelligent life. Civilizations at TL5 and up can be detected at interplanetary ranges. Detection again requires one day of observations by a scientist who is not involved with the search for planets. Roll against Electronics Operation (Sensors). On a success, the scientist will detect any population of at least 10 billion living at TL5, one million at TL6, 100,000 at TL7, 10,000 at TL8, 1,000 at TL9-10, or 300 at TL11+. Again, if the sensor roll is made by a significant margin, the scientist may detect smaller populations, down to 1/10 the size on a critical success. Also on a critical success, the process will gather 2d hours of language samples. The GM should always make this roll, even if no detectable civilization is present or detection is automatic.

Planetary Survey

Terran explorers don't usually examine every world in a target system closely. Any nearly-habitable planet is likely to get considerable attention. Standard procedure is to do an initial evaluation of the planet while still at some distance (four to five million miles), then move in to close orbit for a detailed survey and mapping sweeps.

It takes very little time to discover a planet's general parameters: diameter, atmosphere, hydrographic coverage, and climate. A rough idea of the planet's density and surface gravity will also be possible. An hour's observation with a survey module will suffice. Make a roll against Electronic Operations (Sensors) to gather data, then against Geography (Physical) with the appropriate specialty (see p. B180) to interpret the results.

To map the surface of a terrestrial world and determine its density and composition, a survey ship takes up a close orbit and begins using its planetary-survey instruments. Multiple telescopes and other instruments are used in concert, with each survey specialist supporting the work of other members of the team.

The best orbit for surface mapping is some variation of the "ball-of-yarn" orbit. The survey ship orbits at a very high inclination to the planet's equator, actually passing over the north and south polar regions on each circuit. As the planet rotates, the ship finds itself always passing over new terrain, eventually scanning every portion of the planet's surface. If the planet is too small or its rotation is too slow, the ship may alter its trajectory slightly on each pass to get the same effect. Taking up an effective ball-of-yarn orbit requires a successful Piloting roll. The entire mapping process takes a number of hours equal to the diameter of the planet in thousands of miles, *squared* (minimum 2 hours).

To gather data for the survey, each specialist (up to four per survey module) must make an Electronics Operation (Sensors) roll. If at least one surveyor succeeds, a Cartography roll is needed to assemble the survey data into a working planetary map. Modifiers: +2 for each surveyor after the first who succeeded in his sensors roll.

The completed survey map will display visual and thermal features of the surface, resolving features down to about 100 feet across. If there is no reason to avoid using active sensors, the survey will also yield a synthetic-aperture radar map of the planet, including nearly exact elevations. Densitometer scans will give some idea of what lies under any oceans, giving a rough map of the seafloor. The GM may wish to simply share any planetary map he has drawn with the players at this point.

The orbital mapping survey is the last chance the exploration team has to detect intelligent life, short of actually landing on the planet and looking for citizens. Once the mapping sensor results are in, make another Cartography roll, at +2 for every surveyor after the first who succeeded. Success in this roll will detect any population of at least 10 million at TL0, one million at TL1-4, or 100,000 at TL5. Again, if the sensors roll is made by a significant margin, smaller populations can be detected, down to 1/10 the size for a critical success. Any TL6+ civilization that has thus far eluded detection is automatically located once close-orbit mapping results are available.

If intelligent life has been detected now or at any earlier point, a successful Cartography roll will locate any major population centers. Even cultures that lack cities will have regions of unusually dense population (hunting ranges or good agricultural land), and these can be placed on the map.

Exploration Operations

Once the initial survey of a new world has been completed, explorers can get down to business. Real understanding of any new world requires that explorers go down and get their hands dirty. After all, every new planet is a *world*, the end product of billions of years of isolated evolution, full of traits unique to itself.

Geological Survey

General information about planetary geological formations will be available due to the orbital mapping pass. More detailed maps of local terrain can be generated by low-altitude mapping flights. During these, a ship's small craft or grav vehicles pass over the terrain at a height of about one mile, using visible-light cameras, IR sensors, radar, and densitometer readings to build an extremely detailed map. Assume that one team (two to four explorers) can cover about 5,000 square miles in a day. The task requires a lot of routine Piloting and Electronic Operation (Sensors) use, but the GM may not want to bother with skill rolls unless unusual circumstances present themselves. To assemble the final detailed map of any given area, a Cartography roll is required.

The detailed terrain map will give some information about subsurface geological formations and ore deposits, but getting a complete picture will require on-site inspection. In a given region, a geologist will drill core samples in carefully chosen locations, and will also use seismometers and a portable densitometer. This process requires 1d days for an area of about 500 square miles. The geologist must succeed in skill rolls against Electronics Operation (Sensors) and Geology. On a success, the geologist will understand the broad outlines of local geological history, and will know whether there are any valuable mineral deposits in the area. Actually locating these deposits may take months or years of work, and may not be a task for the initial exploration team.

If the planet being explored has no significant local life, then geological surveys may be sufficient to determine the planet's Resource Value Modifier (p. 98). This will require the successful completion of 2d local area surveys (GM rolls).

Biological Survey

Meanwhile, if the planet is a Garden world, biologists will fan out to gather information about native life forms. Such a biological survey takes about 1d days per region and terrain type covered.

During the biological survey, the explorers will collect samples of plant life and soil for later analysis. They will also try to study at least 10-12 different animal species in each terrain type. Small animals can be captured for intensive study. Large creatures will be anesthetized or killed, so that gross anatomic studies can be done and tissue samples can be taken. The explorers will also try to make holographic records of as many species as possible, exhibiting normal behavior in their natural environment.

The biological survey will require a number of Biology rolls, possibly with various specialties (Botany to study plant samples, Zoology to study captured animals, Biochemistry or Microbiology to study soil samples, and so on). Photography skill will also be useful in taking holographs of creatures in their natural setting. Capturing or hunting animal specimens should be played out as a set of mini-adventures, using as much detail as GM and players are comfortable with.

On a world with significant local life, both geological and biological surveys are needed to determine the planet's Resource Value Modifier (p. 98). This will require the successful completion of 2d local geological surveys *and* 2d local biological surveys.

Ecological Survey

The biological survey will yield enough information to get a broad view of a world's natural history. Major plant and animal orders will be understood, and the most prevalent large species will be identified. To get a real understanding of how local ecosystems work, however, a full ecological survey is necessary.

An ecological survey takes 2d *years* to complete, and is usually done after a full scientific colony is placed on the world. The surveyors must painstakingly identify local species down to the smallest animal and plant forms. Further, the team must observe how all of these species interact over several local years, to make sure that any seasonal changes are noticed and understood. The survey will involve many rolls against various Biology specialties.

Contact Procedures

Once explorers have determined that intelligent life is present, the question of contact arises. As of 2170, the only new intelligent races that Terrans have come into contact with have been members of the Vilani Imperium. However, the Terran Confederation has already developed contact protocols that all official expeditions are ready to implement. Unofficial expeditions may have to develop their own procedures on the fly . . .

In general, explorers will avoid going in to contact a new society "cold." If possible, the exploration team will study the natives for weeks or even months from hiding.

Linguistic Assessment

The most important precontact task is a study of the local languages. If the native society is at a low level of development (TL0-TL5), then samples of the language must be gathered via direct monitoring of conversations. This would most likely be done using stealth reconnaissance drones placed in inhabited areas. At TL6 and up, it becomes possible to gather samples by monitoring radio communications from orbit.

Stealth drones are almost impossible for a low-tech society to detect in flight, but at higher tech levels the local sensor network begins to have a chance at detection. It can be difficult to deploy drones where they will have a good vantage point and yet will not

be discovered accidentally. Use the appropriate Piloting skill to deliver a stealth drone undetected, at a -1 penalty for each native TL above 6. A failure indicates that the flight had to be aborted, while a critical failure indicates that the probe was lost or shot down. Once the drone has reached the target area, the pilot can use his Camouflage skill to find a good place from which it can eavesdrop.

Radio monitoring can be done without risk of detection. Use Electronics Operation (Communications) to tap into the local radio net using a ship's communicators. At higher tech levels the signals themselves may become difficult to interpret. As analog signals give way to digital (late TL7), the eavesdroppers must first break the protocols that encode voice, video, or text data. This requires several hours' worth of samples and a Cryptography roll, at -2 for every native TL above 8.

Each flight of a stealth drone can gather 1d-2 hours of useful language samples (minimum 0). Ship's communicators can gather one hour of useful samples for every two hours of monitoring. The GM should determine how many hours of samples will be needed before a working model of the language can be derived. If the language is related to a known language (as for a lost colony of some kind) then 2d × 10 hours may be enough to "break" the new dialect. If the language is completely unknown, then at least (2d+8) × 10 hours of samples will be needed, possibly more if the language has unusual syntax or is communicated in an unusual manner.

In any case, Linguistics rolls will be needed to analyze the samples properly, and to create a database for the new language. At this point, the database is still incomplete, and will not permit anyone to learn the language at better than a Broken comprehension level.

Sociological Assessment

Once the local language has been "broken," explorers must make an initial estimate of local social, cultural, and political parameters. Again, this is based on information gathered through stealth reconnaissance and radio monitoring. However, even if the language is beginning to be known, it will take considerably more work to get insight into the local culture. The rules below assume that at least 200 hours of language samples have been gathered. If less than this is available when the explorers try to make a sociological assessment, apply a -1 penalty to each skill roll for every 10 full hours of deficit. Extra samples give a +1 bonus for every 100 hours of surplus. Video samples or stealth-drone photography count double if they show natives interacting socially.

Technology Level: The easiest parameter to assess from a distance is the level of technological development. The overall TL of a society should be obvious by the time the initial language database is complete, without any need for skill rolls.

Population: The native population is also fairly easy to estimate by the time the initial language database has been completed. Make a roll against Geography (Political) to estimate the world's native population, and again to estimate the population of any specific area.

Political Structure: During this phase, the team can determine the world's government type. Intercepted communications can give some idea as to who makes decisions, and how political power is implemented. Roll against Sociology to determine the local government type.

Specific Political Institutions: The *details* of local politics and customs are not always as obvious as the overall structure. At this point, the explorers will be most interested in the specifics of local law. Soon they will be preparing for actual contact – and they will want to know what might get them arrested! Roll against Anthropology to make a rough assessment of local political structures and laws.

Instead of resolving the sociological assessment purely with skill rolls, the GM may wish to game out the process in more detail. In this case, once the initial language database has been built, or even before, the GM may begin to provide clues to social parameters by describing the exploration team's observations.

For example, rather than calling for an Anthropology skill roll and telling the players "the society accepts dissent," the GM may describe a crowded city square, observed by a stealth drone. Dress and appearance are diverse. Some of the natives are apparently putting on a political demonstration, with signs and chanted slogans, but although there are angry expressions no one is moving to stop it. Indeed, some natives in uniform are apparently protecting rather than arresting the dissidents. Of course, some of the explorers' observations can be misleading . . .

This treatment can give the players more latitude to direct the investigation, perhaps using other skills to ferret out bits of evidence. Once the players have drawn and stated their conclusions, the GM can make skill rolls, granting bonuses if the players have been perceptive, or penalties if not.

Covert Contact

Once the linguistic and sociological assessments are finished, the commander of the exploration team may authorize covert contact. This is not intended to open communications between the Terran Confederation and the new culture. Instead, the explorers will be sent to gather more information *without* revealing themselves to the natives.

Of course, the whole concept of covert contact implies that Terran explorers *can* be covert when they move among the natives. Surgical alteration and disguise can only go so far when dealing with a non-Human civilization. The Terran Navy is experimenting with custom-built robots that are operated remotely by contact specialists, but this technique has not yet been tried in earnest. Current protocols call for Terran explorers to move directly to an overt contact mode.

Members of the "Alpha Team" assembled for a covert contact mission must be as familiar as possible with the native language and customs. At this point, they will speak the native language at a Broken level, but their understanding of local culture will be too incomplete to permit any level of Cultural Familiarity. This implies the expenditure of one character point or 200 hours of study per explorer.

If possible Alpha Team members are provided with clothing and personal equipment that will fit local styles. Money is often a problem, especially if the local technology can produce elaborate currency that is hard to counterfeit without close examination. Instead, the Alpha Team is provided with compact items that might be of value in trade. Precious metals are a common choice. High-technology goods may be carried, but only if they can be concealed very easily; covert-contact specialists often have high levels of the Holdout skill. The Alpha Team may carry concealable weapons for self-defense.

An inhabited area is chosen for the mission, preferably a frontier or rural region that allows for an unobserved landing. Once the Alpha Team lands, it makes its way into contact with the local population. Naturally, the course of each covert contact mission should be played out as an adventure!

The goal of each covert-contact mission is to gather more detailed information about local language, culture, political structures, laws, and customs. The Alpha Team must decide what items or information later teams will need to better interact with the natives. They should obtain examples of local currency, identity documents, clothing, personal equipment, and so on. They can also obtain scrolls, books, newspapers, downloads from library computers – any kind of documentation that will improve the expedition's grasp of the local language and social situation. Naturally, all this will mean interacting with the local population, unless the team resorts to stealth and theft. Apply all penalties to social skills for lack of language skill or Cultural Familiarity!

The GM should decide in advance how many successful covert-contact missions will be required before this stage of the contact operation can be concluded. For a Human culture that isn't too alien to Terran experience, 1d+1 missions may suffice. For a non-Human culture, 2d or even 3d missions might be needed.

Once the requisite number of covert-contact missions has been completed, the exploration team may improve the language database so that members can buy up to an Accented comprehension level. Cultural Familiarity for the local culture may also be purchased at this time.

Overt Contact

Once covert contact is finished, or once the decision has been made to skip the covert contact step entirely, in the case of a truly alien culture, the exploration team can move to overt contact. The Terran Confederation has no "non-interference" principle, and permits its explorers to make open contact even with low-technology societies. After all, Terra needs allies wherever it can find them . . .

The "Beta Team" that engages in first overt contact is outfitted in a manner similar to the covert-contact Alpha Teams, although if higher levels of language skill and Cultural Familiarity are available, the Beta Team members must have invested in them. The exact procedure for overt contact is left up to the mission commander, since the circumstances are likely to vary widely (and since Terrans don't have much experience with such missions to draw upon).

Established protocols call for the first overt-contact mission to open communication with local political authorities. The existence of off-worlders or Terran civilization is not to be revealed to the general populace until local authorities agree that this can be done. Even then, the announcement is left up to the local officials, with the contact team operating only in support.

The Beta Team should not discuss the details of Terran scientific or technological knowledge. High-technology items may be *demonstrated* as part of the process of proving the team's claims, but *how* devices work should be left to later discussions.

Similarly, the team should not discuss Terran politics or institutions. Beta Teams may admit to being from a starfaring civilization that is interested in continuing contact with the local society, but the details should be left vague if possible. The team may promise that more information will be made available once a good working relationship seems likely.

Once local authorities are coping well with the implications of contact, the Beta Team should conclude an agreement with them, laying out how further contacts may proceed. This may require considerable negotiation. The explorers should gain free access to the local population, enough to complete in-depth linguistic and sociological surveys. This normally requires that the authorities cooperate and that the population be made aware of the explorers' presence. The relationship should be set up so that the existing social and political situation is left as intact as possible. In particular, the Beta Team must be careful not to become part of any local power struggle, withdrawing entirely if that appears necessary.

Once friendly overt contact has been made, other Terran agencies will step in, especially from the Ministry of Trade and the Ministry of Culture. The exploration team's job is complete, and it will doubtless be assigned to other work . . .

Chapter Nine
Starship Design

January 18, 2237 – Kaufmann Sternenschiffbau R&D offices, L5 habitat, Terra-Luna space:

Alexa Karlsen shook her head. "I've told you, David. The Navy just won't pay for the design studies."

David Sandoval made a fist and thumped his desk in frustration, scowling at the stars beyond the viewport. "You made your arguments?"

"The best ones I could," Karlsen answered. "They told me exactly what I said they would. You're trying to use too many new technologies at once. They're not willing to risk so much on an untried concept."

"That's stupid," Sandoval growled. "None of these technologies are really untried. They've all been thoroughly tested, and some of them even saw action in the last war. But as long as we keep using them in bits and pieces, we'll never get the kind of synergistic effect we need."

"I know that. You know that. But the Bureau of Ships isn't buying."

Sandoval sighed. He could imagine it, flying between the stars, a warship like none the galaxy had ever seen. It was a shining hammer that the Navy could use to shatter the Imperium once and for all. It seemed he would just have to go on imagining.

But Karlsen wasn't finished. "Now, I did have one interesting encounter after I left the meeting . . ."

"With whom?" Sandoval asked, not really listening.

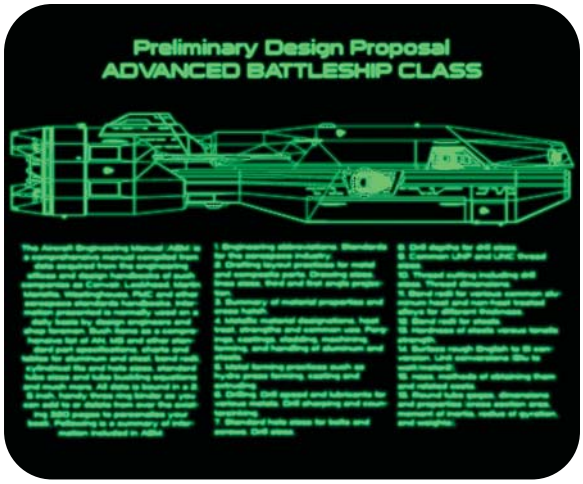
"Admiral Albadawi."

Sandoval blinked. "Really?"

"Really. Now, I don't want you to get your hopes up . . ."

"Right." Sandoval thought hard. Manuel Albadawi was the Navy's rising star. Rumor had it that he was likely to be named Grand Admiral very soon. "Was he interested?"

"Yes, he was." Karlsen leaned forward, holding Sandoval's gaze. "Now, he doesn't have any discretionary funds to back a design study. But he is willing to consider supporting any proposal we can come up with. The only problem is that he's leaving in six weeks for a tour of the Occupation Zone. He'll be gone for months.



If we want to give him something to look at, we'll have to put it together ourselves, and we'll have to work very fast."

"I see."

"Do you think you can do it?"

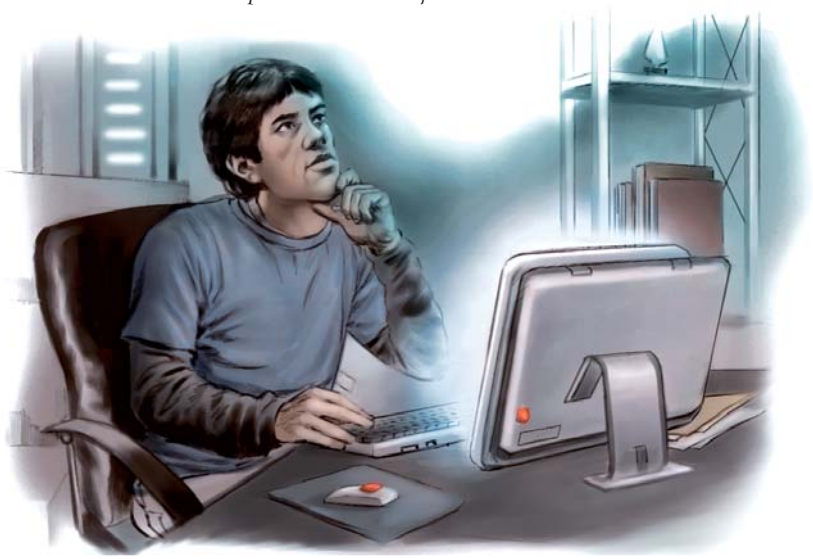
Sandoval frowned. "I don't know. I'll try."

"Good enough," said Karlsen. "I'll keep R&D off your back for the next few weeks. Drink a lot of coffee, David. This is the big one."

After Karlsen left, Sandoval watched the stars spin past his viewport for a few more minutes. Then he opened his desktop, cleared away all the files for his other projects, and began with a blank template. First, he entered a new title.

"Preliminary Design Proposal, Advanced Battleship Class," he murmured to himself. "Tentative name . . . ***Indomitable****."*

Six hours later, he was still hard at work. The stars wheeled outside the viewport, unwatched.



The ship-design system presented here gives the GM and players all the tools necessary to create ships for the ***Interstellar Wars*** setting. The system is modular, permitting ships to be assembled from standard-sized hulls and modules.

Designing a Ship

The design system involves a step-by-step procedure. Calculations are simple and can easily be done on scrap paper. A calculator is useful but not essential. Before beginning, refer to *Units and Abbreviations* (see box) for a list of terms and abbreviations used in this design system.

Step 1: Determine the design concept.

Step 2: Design the ship's hull.

Step 3: Choose armor and surface features.

Step 4: Evaluate the hull design.

Step 5: Install maneuver and jump drives.

Step 6: Install fuel tanks and fuel processing equipment.

Step 7: Install bridge systems.

Step 8: Install sensors.

Step 9: Install weapon systems.

Step 10: Select small craft.

Step 11: Install power plant.

Step 12: Determine the size and makeup of the crew.

Step 13: Install quarters and miscellaneous systems.

Step 14: Determine ship performance.

Step 15: Finalize the design.

As design choices are made, keep track of the number of internal spaces taken up by ship's systems, the ship's mass (in tons), its cost (in M$), and the power required by ship's systems (in MW).

Units and Abbreviations

The following units and abbreviations will be used throughout the starship design process.

dDR: A measure of spaceship Damage Resistance. One point of dDR equals DR 10.

dHP: A measure of hull hit points. One point of dHP equals 10 hit points.

dton: A "displacement ton," a measure of hull volume. One dton is equal to 500 cubic feet.

Gravity (G): A measure of acceleration equivalent to that produced by the surface gravity of Terra. One G is equal to 32 feet per second per second.

ksf: A measure of hull or turret surface area, equal to 1,000 square feet.

M$: A "megasolar," or one million Terran Confederation solars.

MW: A megawatt, a unit of power production or consumption. Equal to 1,000 kilowatts (kW).

Space: A unit of 500 cubic feet, a convenient measure of the internal volume of a hull, or of the size of a ship's systems. Often used interchangeably with *dton* (see above).

Ton: A measure of mass or weight, equal to 2,000 pounds.

Step 1 – Determine Design Concept

First, decide on the general concept and mission for the ship. Who is building it and for what purpose? Is it a starship, or a craft intended only for in-system travel? Is it a merchantman or a warship? Does it have specialized functions that most ships do not have?

Next, decide at what TL the ship is being designed and built. During the Interstellar Wars era, Vilani starships are always built at TL10 (the "Imperial standard" technology, see p. 160). During the same era, Terran shipbuilding technology progresses from TL9 to TL11; Terran ships can be built at a variety of technology levels, depending on the year of construction.

Step 2 – Hull

A ship's *hull* is its frame, and also provides its basic infrastructure (decks, cables, stress bracing, and so on). The size of a hull is measured in *dtons*. To design the ship's hull, choose its size, shape, and degree of streamlining.

Hull Size

Begin by selecting a hull size from those listed on the Hull Table. Note that the largest hulls are only available at higher TL. Based on the hull's size, record the hull's base surface area (in *ksf*), base cost (in M$), and Size Modifier (SM).

The base surface area of each hull is the area of a sphere with the appropriate volume (assuming 500 cubic feet per dton of hull volume). Areas have been rounded off to two significant figures. Hull shapes that vary from a sphere will have more surface area to cover the same volume; this is implemented in later steps.

The base cost of any hull is equal to $50,000 per dton. This covers not only the cost of the hull itself, but also the cost of internal bracing, partitions, airlocks, power transmission infrastructure, artificial gravity, and other systems not explicitly described in the rest of the ship-design rules.

The Size Modifier for each hull size is assumed to incorporate the modifiers for hull shape from p. B550, regardless of the actual shape of the hull. A spherical hull has the same cross-section from every direction, but gets the full +2 bonus to Size Modifier. A long, narrow hull will be larger in its longest dimension, but will have no bonus to Size Modifier. In any case, the total SM will be the same.

Configuration and Shape

Hulls come in different *configurations* as well as sizes. Each configuration defines the hull's shape and affects the layout of internal and external features. The available configurations are *needle/wedge*, *flattened sphere*, *cylinder*, *close structure*, *sphere*, and *dispersed structure*. Some configurations have more surface area than others, and

Hull Table

Hull Size (dtons)	TL Required	Base Area (ksf)	Base Cost (M$)	SM
10	–	1.4	0.5	+6
20	–	2.2	1.0	+6
30	–	2.9	1.5	+7
40	–	3.6	2.0	+7
50	–	4.1	2.5	+7
60	–	4.7	3.0	+7
80	–	5.7	4.0	+7
100	–	6.6	5.0	+8
200	–	10	10	+8
300	–	14	15	+9
400	–	17	20	+9
500	–	19	25	+9
600	–	22	30	+9
700	–	24	35	+9
800	–	26	40	+10
900	–	28	45	+10
1,000	9	30	50	+10
2,000	9	48	100	+10
3,000	9	63	150	+10
4,000	9	77	200	+11
5,000	10	89	250	+11
6,000	10	100	300	+11
7,000	10	110	350	+11
8,000	10	120	400	+11
9,000	10	130	450	+11
10,000	10	140	500	+12
20,000	10	220	1,000	+12
30,000	10	290	1,500	+13
40,000	10	360	2,000	+13
50,000	10	410	2,500	+13
75,000	11	540	3,750	+13
100,000	11	660	5,000	+14

some configurations are more likely to be sleek and streamlined.

Needle/Wedge: A long, sleek shape with very clean lines. "Needle" hulls are very long and narrow, while "wedge" hulls are somewhat shorter and wider. Most Terran warships and small craft are built on this shape.

Flattened Sphere: A round, flat shape, reminiscent of the classic "flying saucer" configuration. Imperial small craft are usually built with this shape, especially if they need good atmospheric performance.

Cylinder: A long, rounded shape, suitable for ships that don't need the best atmospheric performance. Most Imperial cruiser-class warships are built with this shape.

Close Structure: A generic shape, generally cylindrical in structure but with various pods, nacelles, and other substructures attached. Many civilian ships, both Imperial and Terran, are built with this shape.

Sphere: A standardized spherical shape, with few or no attached substructures. Some very large "monitors" (armed, nearly-stationary space stations) are built with this shape, as are a few smaller ship classes that are intended exclusively for deep-space operations.

Dispersed Structure: A generic classification for ships built as open frameworks rather than compact hulls. Very few ship classes are built with this shape, although the Terran Navy has experimented with it for some support vessels.

Select a hull configuration. Make a note of the Area Modifier, Cost Modifier, Turrets Modifier, and best streamlining available for that configuration.

Streamlining

Every hull has one of three levels of streamlining: *unstreamlined*, *streamlined*, or *airframe*.

Unstreamlined vessels may have dispersed structures, or they may have more standard hull shapes but with no concessions to airflow. An unstreamlined vessel must remain below supersonic speeds in any atmosphere denser than Trace or it risks destruction. This makes atmospheric landings and takeoffs very difficult and dangerous for such vessels. Meanwhile, unstreamlined vessels typically have no landing gear or other facilities to relieve the stresses on the hull when set on the ground. An unstreamlined ship *may* be able to land on a world once – but it is likely to be unable to ever lift off again.

Streamlined vessels are generally cylindrical, spherical, or block-shaped. Sharp edges may have been rounded off, but the hull does not generate lift and there are no aerodynamic control surfaces. A streamlined ship may skim gas-giant atmospheres for hydrogen fuel (p. 192), but they must exercise caution when landing on or taking off from worlds with substantial atmospheres. However, they normally have retractable landing gear and are unlikely to be damaged by simply landing on a planetary surface.

Airframe vessels are sleek, usually needle-, wedge-, or disk-shaped. An airframe ship is designed for atmospheric performance and smooth airflow over the hull. It has full atmospheric maneuverability, and generates lift in any substantial atmosphere. Airframe ships may skim for fuel and can safely re-enter any atmosphere. An airframe hull is assumed to include retractable landing gear.

Select a streamlining level, and make a note of the Area Modifier and Cost Modifier from the following table. The best level of streamlining that is available depends on the hull configuration, as given on the Hull Configuration Table.

Hull Streamlining Table

Streamlining	Area Modifier	Cost Modifier
Unstreamlined	0.0	0.0
Streamlined	0.2	0.2
Airframe	0.3	0.4

Finalizing Hull Design

Once the hull size, configuration, and degree of streamlining are determined, several attributes of the hull can be computed in turn.

Hull Configuration Table

Configuration	Area Modifier	Cost Modifier	Turrets Modifier	Best Streamlining
Needle/Wedge	2.5	2.0	0.3	Airframe
Flattened Sphere	2.0	1.6	0.25	Airframe
Cylinder	1.5	1.2	0.3	Streamlined
Close Structure	1.2	1.0	0.25	Streamlined
Sphere	1.0	1.0	0.2	Streamlined
Dispersed Structure	2.0	1.0	0.2	Unstreamlined

Suggested Hull Sizes

A ship's classification depends on its function, not its size. Even so, naval experts usually classify spaceships according to hull size. Here are some suggested hull size ranges for various ship classes during the Interstellar Wars era.

A ship with a hull size of less than 100 dtons cannot mount a working jump drive. Starship hulls must therefore be at least 100 dtons in size.

Common Hull Size Table

Ship Class	*Hull Size Range (dtons)*
Fighter or Lifeboat	10-20
Launch, Gig, or Ship's Boat	20-30
Pinnace or Cutter	30-50
Shuttle	50-100
Scout or Courier	100-400
Tramp Merchant	100-200
Small Free Trader	200-400
Patrol Cruiser or Corvette	400-1,000
Large Free Trader	400-1,000
Destroyer or Frigate	1,000-2,000
Freighter	1,000-2,000
Light Cruiser	2,000-3,000
Cruiser	3,000-5,000
Heavy Cruiser or Attack Cruiser	5,000-10,000
Carrier	10,000-20,000
Large Freighter	10,000-20,000
Dreadnought	20,000+
Battleship	30,000+

Surface Area: To determine the total surface area of the hull (in ksf), multiply the base surface area from the Hull Table by the *sum* of the Area Modifiers from the Hull Configuration Table and the Hull Streamlining Table.

Mass: The hull's mass is computed by multiplying the total surface area (in ksf) by 1.5 tons at TL9, 1 ton at TL10, and 0.75 tons at TL11.

Cost: To determine the total cost of the hull (in M$), multiply the base cost from the Hull Table by the *sum* of the Cost Modifiers from the Hull Configurations Table and the Hull Streamlining Table.

Maximum Number of Turrets: The maximum number of turrets that can be placed on the ship's hull is based on the hull's base surface area from the Hull Table. Multiply the base area by the Turrets Modifier from the Hull Configurations Table. Round the result *down* to the nearest integer. The degree of streamlining *does not* affect the number of turrets that can be mounted on the hull.

Step 3 – Armor and Surface Features

Ships are armored to protect against micrometeors, cosmic radiation, and enemy weapons. Adding armor will make a ship more massive and therefore slower, but it will also make the ship more durable. Other surface features may make the ship harder to spot using active or passive sensors. These features do not take up internal hull volume, but do add mass and cost.

The mass and cost of these surface features depends on the total surface area of the hull (in ksf), as derived in Step 2.

Choose Armor dDR

Spaceship armor is rated in *dDR* (multiples of DR 10). An airframe or streamlined ship must have at least dDR 10. An unstreamlined ship with a configuration other than Dispersed Structure may have any dDR. A ship with a Dispersed Structure hull must have dDR 0. Most civilian ships will have at least dDR 10 – but ships likely to face enemy fire (warships, Terran privateers, renegade Vilani ships) are likely to be *much* better armored.

To determine how much armor a ship needs, review the weapon tables starting on p. 226. As a rule of thumb, a light military vessel will be able to withstand a hit from turret lasers at its TL, if the hit does average damage. A cruiser-sized warship will be completely impervious to turret laser weapons, and will be able to withstand average hits from bay-mounted beam weapons. Battleships and dreadnoughts will be impervious to bay-mounted beam weapons, and will be able to withstand average hits from spinal-mount particle cannon.

Armor Mass and Cost

Armor Mass: Multiply the ship's hull area (in ksf) by the chosen dDR. Multiply the result by 0.75 tons at TL9, 0.5 tons at TL10, and 0.3 tons at TL11.

Armor Cost: Multiply the armor's total mass (in tons) by M$0.012 to get armor cost.

Stealth

A vessel can optionally be given *stealth* to make it harder to detect with active sensors (like radar). Stealth subtracts (TL-4) from the effective skill level of active sensor scans.

Stealth Mass: Multiply the ship's hull area (in ksf) by 0.25 tons. Stealth mass does not vary by TL.

Stealth Cost: Multiply the stealth feature's total mass (in tons) by M$0.3 to get stealth cost. Stealth cost does not vary by TL.

Step 4 – Evaluate Hull Design

So far, the design process has focused on the hull. Now the hull has been completely described, and the process is about to move to the task of allocating ship's systems to take up space within the hull. At this point, the hull should be evaluated to set the parameters for later stages in the process.

Hull Spaces

Hull spaces are a measure of usable internal hull volume. A ship, no matter what its degree of streamlining, begins with hull spaces equal to its hull size in dtons.

Record the number of available hull spaces. Beginning with the next step in the design process, ship's systems will be installed inside the hull. Each system will take up some number of hull spaces – if the total number of hull spaces occupied by systems is no greater than the number of available spaces, the design will be legal.

Hull Mass and Estimated Mass

Compute the mass of the empty hull, and use this figure to estimate the final loaded mass of the completed ship. This estimate is useful when choosing drives and other equipment for the ship.

Hull Mass: Add together *hull mass*, *armor mass*, and *stealth mass*, as determined in earlier steps. Record the total as the *Hull Mass*.

Estimated Mass: Record a working approximation of the ship's final loaded mass, useful when deciding what components (especially what maneuver drives) are to be placed in the hull. Estimated Mass can be ignored once the ship design is completed. The density of internal components and payload can vary widely, but for most ships a reasonable estimate is Hull Mass + (2 × hull spaces).

Step 5 – Drives

Every mobile ship needs a *maneuver drive,* or "M-drive," to propel it through space. Every starship needs a *jump drive,* or "J-drive," to permit it to make jumpspace transitions from one star system to the next.

Maneuver Drive

A maneuver drive is a reactionless system that produces thrust without needing to consume fuel or reaction mass. Maneuver drive systems are rated for *thrust*, measured in tons; the total thrust delivered by all M-drive systems on board is used later to determine the ship's maneuvering performance.

Maneuver drive systems are installed by the space. No matter what the TL, one space of maneuver drive machinery has a mass of 4 tons, costs M$1.0, uses 20 MW of power, and provides 200 tons of thrust. Half-space maneuver drive systems can be installed, taking up half the mass, requiring half the cost and power, and delivering half the thrust of a single space.

Jump Drive

The jump drive enables faster-than-light interstellar travel, as well as an alternative method of interplanetary travel that is sometimes convenient. Only ships with hull size of 100 dtons or more can install a working jump drive.

Jump drive systems are installed by the space. No matter what the TL, one space of jump drive machinery has a mass of 4 tons, costs M$4.0, and uses 20 MW of power. The jump drive's power requirement applies only while the ship is in jump space, so the designer can assume that the maneuver drives will be shut down while the jump drive is drawing power.

To determine how many spaces of jump drive systems are required, refer to the Jump Drives Table below. Each available jump range has a specific requirement in spaces of jump drive systems – install *exactly* that many spaces per 100 dtons of ship hull size. A jump drive of a given range will only be available at certain TL.

Note that a "Jump-0" drive is available. This represents the earliest Terran jump drives, which were highly experimental and only capable of reaching the solar cometary cloud (maximum range about 0.25 parsecs). Very few ships would have mounted such drives by the beginning of the Interstellar Wars era, but the option is presented here for the sake of campaigns set in the earliest days of Terran space exploration.

Jump Drives Table

Jump Range	*Spaces (per 100 dtons)*	*Ship TL Required*
Jump-0	4	Early TL9
Jump-1	2	Late TL9
Jump-2	3	TL10
Jump-3	4	TL11

Step 6 – Fuel

Starships with the jump drive use large quantities of hydrogen fuel during each jump. Much of a starship's volume will be devoted to the storage and processing of this fuel.

Fuel Tanks

Starships need fuel tanks to store hydrogen fuel, which is used to actuate the jump drive and to maintain the ship's presence in jumpspace during travel. Ships without a jump drive do not need fuel tanks for their own operation, although "tankers" that provide fuel to other ships are possible.

Fuel tanks are installed by the space. No matter what the TL, one space of fuel tanks has an empty mass of 0.025 tons, costs M$0.02, and uses no power. Half-space fuel tank systems can be installed, with half the mass and cost, and storing half as much hydrogen fuel.

At TL10 and above, a ship uses exactly 10 spaces of hydrogen fuel per parsec of jump for every 100 dtons of ship hull size. For example, a 100-dton ship making a two-parsec jump will use 20 spaces of hydrogen fuel; a 1,000-dton ship making a one-parsec jump will use 100 spaces of hydrogen fuel. A jump of less than interstellar range always uses the same fuel as a one-parsec jump.

The earliest Terran jump drives (notably those used aboard the *Starleaper* exploratory ships) were very fuel-inefficient. *Double* the above fuel consumption for any Terran jump drive built at TL9. Ships built by non-Terran TL9 civilizations may or may not use inefficient jump drives – if they don't, their fuel consumption is as for TL10+.

A ship usually has at least enough fuel tanks to store the fuel necessary for one jump at its maximum range. Ships may have extra fuel tanks, in order to perform more than one jump without having to refuel.

Fuel Processors

Starships sometimes perform "wilderness refueling," refilling their fuel tanks from materials found on backwater worlds or out-of-the-way moons. The most common method is for a starship to skim the outer atmosphere of a gas giant planet, scooping up hydrogen gas. If a gas giant is not available, fuel can be "cracked" from water or other ices that can be found in many places in almost every star system. Hydrogen that is skimmed or cracked must be processed and purified before it can safely be used as fuel.

Fuel processor systems are rated for the amount of unrefined fuel that they can process in one hour, measured in dtons.

Fuel processors are installed by the hull space. The statistics for each space of fuel processors depend on TL and are given in the following table. Half-space fuel processor systems can be installed, taking up half the mass, requiring half the cost and power, and processing half of the unrefined fuel of a single space.

Fuel Processors Table

Ship TL	Mass (tons)	Cost (M$)	Power (MW)	Fuel Processed/ Hour (dtons)
9	4	0.2	20	2.5
10	4	0.2	18	3.2
11	4	0.2	16	4.0

Step 7 – Bridge

Every manned ship needs at least one *bridge* to serve as a command center for the ship. In this compartment, the ship's leading officers and crew work and manage ship's systems. Many ships have secondary control rooms as well. In particular, warships often have an emergency bridge in case the main bridge is damaged, or a "flag bridge" for the use of flag officers in command of whole squadrons.

Select at least one bridge system for the ship. A bridge is assumed to include the ship's main computers, workstations for the bridge crew, mechanical and electronic controls for other ship's systems, communications equipment, image processing equipment for the ship's sensors, and so on.

Bridge Systems Table

System	Spaces	Mass (tons)	Cost (M$)	Power (MW)	Computer	Complexity
Small Cockpit	0.5	3	0.25	neg.	Minicomputer	TL-5
Large Cockpit	1	4	1	neg.	Microframe	TL-4
Small Bridge	1.5	8	0.5	neg.	Minicomputer	TL-5
Standard Bridge	2.5	12	1	neg.	Microframe	TL-4
Command Bridge	5	24	4	neg.	Mainframe	TL-3

A *small cockpit* is a single-seat cockpit, typical of short-range, unarmed craft. It includes limited life support (three man-days at TL9, six man-days at TL10+).

A *large cockpit* is a twin-seat cockpit, typical of fighters and long-range small craft. It includes limited life support (six man-days at TL9, 12 man-days at TL10+). There is a single bunk in the back of the cockpit, permitting one crewman to stretch out for rest periods.

A *small bridge* is typical of large but non-jump-capable ships, such as interplanetary shuttles. It also appears on a few small starships that have less than the maximum available jump range; the onboard computer does not have the capacity to plot maximum jumps. It has three crew stations and enough room for the crew to get up and walk around. It includes limited life support (24 man-days at TL9, 48 man-days at TL10+).

A *standard bridge* is typical of small warships and most civilian starships. Its onboard computer is capable of navigating even the maximum jump range available at its TL. It has five crew stations and plenty of walking-around room. It includes limited life support (40 man-days at TL9, 80 man-days at TL10+).

A *command bridge* is usually found on large warships. Its onboard mainframe can compute maximum-range jumps with ease, with plenty of processing power left over for a variety of other operations. It has 10 crew stations and plenty of walking-around room. It includes limited life support (80 man-days at TL9, 160 man-days at TL10+).

For each bridge system type, the size of the ship's computer is given. Every ship is assumed to have three hardened computer systems of the same size, with two of them serving as backups (see *Computers*, p. 162). The Complexity of the ship's computers is also noted. Note that a jump-0 ship needs an onboard computer of Complexity 4+, a jump-1 ship needs a computer of Complexity 5+, a jump-2 ship needs a computer of Complexity 6+, and a jump-3 ship needs a computer of Complexity 7+.

Step 8 – Sensors

Every ship needs sensor equipment in order to remain aware of its environment. Install at least one sensor system in each ship; multiple sensor systems can be installed as backups in case of battle damage. Most small civilian ships can get by with no more than a Model-1 sensor array; warships and large freighters will have heavier sensor systems.

Sensor systems have a *Scan* rating, a general measurement of sophistication and power. For detailed rules on sensor use, see *Sensors*, p. 172. The spaces, mass, and cost of a sensor system do not vary with TL. However, sensors built at higher TL have greater power requirements and longer range. Apply the tech level adjustments given in the table for each sensor system.

Note that early ***Traveller*** material used the "Model-X" notation to describe the ship's *computer*, and made no provision for sensor systems. "Realistic" computer systems are likely to be small and light, but realistic *sensors* are bulky even at very high TL. ***Interstellar Wars*** assumes that the massive "computer" systems in early ***Traveller*** designs actually represent sensors and other electronics.

Step 9 – Weapons and Defenses

The universe is a dangerous place, and most ships mount some sort of armament.

Sensor Systems Table

System	Spaces	Mass (tons)	Cost (M$)	Power (MW)	Scan
Model-0	0.5	6	2	1	12
Model-1	1	12	4	2	14
Model-2	1.5	18	6	3	15
Model-3	2	24	8	4	16
Model-4	3	36	12	6	17
Model-5	4	48	16	8	18
Model-6	6	72	24	12	19
Model-7	9	110	36	18	20
Model-8	14	170	56	28	21
Model-9	20	240	80	40	22
Tech Level Adjustments					
TL9	–	–	–	–	–
TL10	–	–	–	×2	+2
TL11	–	–	–	×4	+4

Turret Weapons

Turrets are rotating superstructures mounted on the hull, used to hold weapons. They have considerable flexibility in arc of fire, since they can rotate on the hull to aim in any direction. As long as the ship's hull or appendages aren't in the way, the turret can fire in any target, regardless of the ship's current attitude. Turret weapons are the universal tools of space combat. Even on large vessels, they still fulfill valuable point defense and close-defense roles (against missiles and small vessels).

Lasers are coherent-light weapons. Most ships mount them as a missile defense; they are the most common weapons on civilian ships due to their long range and high penetration. At TL9, these weapons are "rainbow" lasers, capable of being tuned to perform well in various conditions such as planetary atmospheres, dense fog, smoke, and even underwater. At TL10 and above, X-ray lasers become the standard ship's laser cannon, offering greater penetration against armor. The standard military laser is a *beam laser*, which projects a continuous beam on each firing. Civilian ships are more likely to use a *pulse laser*, which projects shorter pulses before needing to recharge.

Plasma guns and *fusion guns* are high-energy weapons that shoot bolts of superheated gas, contained in a magnetodynamic "bottle." They suffer from short range when compared to lasers, because the magnetic containment of the plasma decays in a short time. Still, they are superb defensive weapons – the powerful bolts are strong enough to melt any missile, drone, or foolhardy small craft into slag.

Missile racks are launchers for ship-to-ship missiles. Each turn, a vessel may launch one missile per turret missile rank, 24 missiles per light missile array, and 36 missiles per heavy missile array. Missile racks are inconvenient for small civilian craft to use – the missiles are very long and are a chore to load except when the ship is grounded or docked at an orbital facility. Still, the racks are also useful for launching non-weapon drones (communication relays, electronic-warfare drones, survey probes, and so on) and so many civilian ships will mount at least one. Warships often mount missile racks, taking advantage of the missiles' long range and standoff capability. Indeed, the Imperial Navy almost *specializes* in missile combat at the expense of directed-energy weapons.

Sandcasters are a defensive system used for protection against laser fire. They launch canisters full of tiny reflective/ablative crystals, commonly called "sand." These crystals scatter incoming laser light, reflecting part of it in all directions, absorbing the rest. The standard tactic is to shoot "sand" canisters so that a cloud of sand is placed between the ship and any enemy vessels that might fire on it. For more details of the use of sandcasters in combat, see p. 223.

The maximum number of turrets that can be installed depends on the *area* of the ship's hull, and is determined in Step 2. Turrets need not be installed when the ship is built. Instead, "hardpoints" up to the maximum number of allowed turrets can be designated as places for turrets to be installed later.

Fixed Mounts: Any small craft (100 dtons or less) may install up to three *fixed mounts* in the hull. Fixed mounts permit the installation of turret weapons without the ability to rotate them to cover different fields of fire. In order to aim a weapon in a fixed mount, the whole ship must be turned. If a small craft includes fixed mounts, they displace one turret on the hull. However, a small craft that is too small to mount any turrets at all can still install up to three fixed mounts.

If the ship is not going to carry turrets at first, stop after allocating hardpoints. Otherwise, assign fixed mounts or light or heavy turrets as needed. Plasma or fusion guns can only be installed in a heavy turret, while all other turret weapons can be installed in a fixed mount or light turret. Refer to the *Turrets Table* for turret requirements.

Turrets Table

System	Spaces	Mass (tons)	Cost (M$)	Power (MW)
Fixed Mount	1	0	0	0
Light Turret	1	1	0.1	neg.
Heavy Turret	2	1.5	0.2	neg.

Turret weapons take up no hull space beyond that used by the fixed mount or turret. Plasma and fusion guns may be mounted two per heavy turret, while all other turret weapons may be mounted one per fixed mount, or three per light turret. If multiple weapons are mounted in one turret, they are usually identical – but some small Terran ships use a triple mount with one laser, one missile rack, and one sandcaster for maximum flexibility.

Turret armament need not be specified when a vessel is designed, as shipyards can leave turrets empty for the owner to customize. Merchant ships in safe regions may have empty turrets, or may mount only one or two rather than the full complement of weapons. Although empty or partially filled turrets cannot be used to store cargo, crews often find creative uses for the extra space – like illicit stills.

Turret Weapons Table

System	Mass (tons)	Cost (M$)	Power (MW)
Beam Laser/9	3	1	5
Beam Laser/10	3	1	20
Beam Laser/11	3	0.5	20
Pulse Laser/9	3	0.5	2.5
Pulse Laser/10	3	0.5	10
Pulse Laser/11	3	0.25	10
Plasma Gun/10	5	1.5	20
Plasma Gun/11	5	0.75	20
Fusion Gun/11	5	2.0	30
Missile Rack	1	0.75	neg.
Sandcaster	1	0.25	neg.

Bay Weapons

Weapon bays are large spaces allocated for heavy weapons on the skin of the ship's hull. They are rarely found on even very large civilian craft, but they are quite common on medium-sized warships. Bay weapons have limited arc of fire, requiring the ship to maneuver to face them toward the enemy. Some bay weapons are larger versions of turret weapons systems, but there are also weapons that can only be mounted in bays.

Particle Cannon weapons are the most typical beam weapons given bay mounts. They accelerate hydrogen nuclei to relativistic velocities, strip them of their charge, and fire them at a target. "P-beams" have less range than lasers, but are considerably more powerful and are harder to defend against. They deal heat and explosive damage, and metal "spalling" exposes the target's crew and unshielded electronics to hard radiation.

Spinal Mount Weapons Table

System	Spaces	Mass (tons)	Cost (M$)	Power (MW)	Turrets Displaced
Light Spinal Particle Cannon/10	4,000	20,000	4,000	60,000	35
Light Spinal Particle Cannon/11	3,500	18,000	3,500	55,000	35
Heavy Spinal Particle Cannon/10	4,500	23,000	4,500	70,000	40
Heavy Spinal Particle Cannon/11	4,000	20,000	2,000	60,000	35
Light Spinal Meson Cannon/11	2,000	10,000	2,000	30,000	25
Heavy Spinal Meson Cannon/11	5,000	25,000	5,000	75,000	40

Repulsors are not, strictly speaking, a weapon system – they are a defense against enemy missile weapons. They project gravitic fields toward incoming missile volleys, twisting the missiles' trajectories so that they fail to close to striking distance.

As with turrets, bay weapons need not be installed when the ship is built. Empty bays can be set aside at construction and filled later. Warships may use empty bays to store "deadfall ordnance" (i.e. missiles and bombs for planetary bombardment, which are delivered by simply being dropped from the weaponless bay). Empty bays can also be used to store cargo or small craft.

Empty weapon bays take up space in the hull (50 or 100 spaces, as appropriate) but have no mass, cost, or power requirement. Weapon bays take up hull *area* and displace turrets; a 50-dton bay displaces eight turrets, while a 100-dton bay displaces 10 turrets.

Spinal Mount Weapons

A *spinal mount* is a large weapon mount used only for massive beam weapons. In effect, the ship is built around the weapon, which is fixed inside the ship's hull and is considered its main structural member. Spinal mounts have a limited arc of fire, so in order to aim a spinal mount weapon the whole ship must be turned.

Spinal mount weapons are almost never found in ships built at TL9 or smaller than 5,000 dtons, and are never found in civilian ships. Most ship designs will not need to consider them. A ship may only include one spinal-mount weapon.

The Terran Confederation often uses spinal mount weapons in its largest warships; the Imperium uses similar technology in a few warship classes, but tends to rely on massive missile volleys instead. Most spinal mount weapons at TL10 are massive particle-accelerator cannon, but a new variation of the technology appears at TL11 and is used by most large Terran warships after that point.

Meson cannon are an advanced weapon type that is only available to Terran warships, and only after the Confederation advances to TL11. A meson cannon takes advantage of a specific class of subatomic particles that does not interact with normal matter – but which releases radiation when it decays, a few microseconds after creation. The meson cannon fires energetic beams of these particles at speeds very close to that of light. If the beam's velocity is properly calibrated, then the particles decay *inside* the target ship, bypassing any armor, causing internal explosions and radiation.

Only one spinal mount weapon can be installed in any ship. The weapon must be specified and installed at the design stage; a spinal mount forms an integral part of the ship's structure, and the ship cannot operate without the weapon in place. Like other weapons systems, spinal mounts take up hull area and displace turrets. Refer to the *Spinal Mount Weapons Table*, which gives *turrets displaced* for each weapon along with the other usual attributes.

Bay Weapons Table

System	Spaces	Mass (tons)	Cost (M$)	Power (MW)
Heavy Particle Cannon/9	100	500	100	500
Heavy Particle Cannon/10	100	500	100	1,500
Heavy Particle Cannon/11	100	500	50	1,500
Light Particle Cannon/10	50	250	50	750
Light Particle Cannon/11	50	250	25	750
Bay Plasma Gun/10	50	250	75	1,000
Bay Plasma Gun/11	50	250	40	1,000
Bay Fusion Gun/11	50	250	100	1,500
Repulsor Array/10	100	400	100	250
Repulsor Array/11	100	400	100	250
Heavy Missile Array	100	100	75	neg.
Light Missile Array	50	50	40	neg.

Step 10 – Small Craft

Ships often carry various vehicles and small craft – air/rafts or orbital shuttles for the crew's use, lighters to permit cargo offloading from unstreamlined ships, fighter squadrons, and so on. Any such vehicles or small craft should be selected at this point.

Small craft can be carried in several different ways.

Vehicle Bays

A *vehicle bay* is a small space recessed into the larger ship's hull, custom-designed to snugly hold a single, specific small craft. It cannot be used for any other type of vehicle. To access the small craft, crewmen use a hatch that directly connects the larger and smaller vehicles. Any maintenance to be performed on the small craft must be done from inside unless the two vehicles are in spacedock.

The total size of all small craft carried in vehicle bays cannot exceed 20% of the larger ship's hull size. For example, a 100-dton scout ship could carry two 10-dton lifeboats or a single 20-dton gig in vehicle bays, but no more.

Regardless of the size of the small craft, the equipment for a vehicle bay takes up one space, has a mass of 0.5 tons, has negligible cost, and uses no power. The vehicle bay must also be allocated one space for every dton of the small craft's size; this extra space has no mass, cost, or power requirement.

Hangar Bay

A *hangar bay* is a large space inside the ship in which a variety of smaller craft can be stored for use. Unlike a vehicle bay, a hangar bay is not specific to one class of small craft. Any small craft that does not exceed a specified size may use it – indeed, large hangar bays may provide sufficient space to store many small craft. Such large hangar bays have bay doors, and may include elevators or ramps to move the small craft into launch position.

There is no limit to the size of hangar bays within a larger ship. When hangar bays are being designed, the *capacity* (in dtons) of the bay must be specified; the exact nature of the small craft to be carried need not be. Decide whether the systems form one large hangar or several smaller ones.

Regardless of the size of any small craft to be stored within a hangar bay, the necessary equipment takes up 1.5 spaces, has a mass of one ton, has negligible cost, and uses negligible power. The hangar bay must then be allocated two spaces for every dton of capacity; this extra space has no mass, cost, or power requirement.

Hangar bays are normally sealed against vacuum, and can be provided with air pressure and life support while the ship is not engaged in launch or retrieval operations.

Launch Tubes

Ships that carry many similar small craft (such as carriers or "mother ships," which carry fighter squadrons) sometimes install *launch tubes* in order to launch the small craft as efficiently as possible. A launch tube is a low-powered mass driver, which uses electromagnetic induction to propel the launched craft quickly away from the larger ship's hull. There is usually a "reloading" mechanism, a set of elevators used to bring new craft into the launch tube very quickly.

If a ship is to launch small craft with a launch tube, begin by installing a hangar bay in which all of the carried small craft can be stored when not on flight operations. Then install a separate hangar bay just large enough to contain the largest craft to be accommodated by the launch facility. Finally, add one module of launch tube systems for every five dtons (or fraction thereof) of the largest craft to be accommodated. Regardless of TL, one module of launch tube systems takes up two spaces, has a mass of 20 tons, costs M$0.2, and uses 0.5 MW of power.

Step 11 – Power Plant

During the Interstellar Wars era, almost all starships use a fusion power plant design first developed by the Vilani over 7,000 years earlier. Although Terrans had developed fusion power independently, they quickly borrowed features of the much more efficient Imperial design. A few early Terran ships used *fission* power plants, trading long-range endurance and safety for cost effectiveness.

A ship may have more than one separate power plant, to provide redundancy in case of systems failure or battle damage.

Total up all of the power (in MW) required to run all systems installed so far. For most ships, any remaining power requirements are trivial. The total power requirement must normally be met in full by installing power plant systems. The GM may choose to permit "underpowered" ships, but this adds extra complication as the crew must choose which systems to keep fully powered at any given time.

Since a ship's maneuver drive and weapons are very unlikely to be running in jumpspace, the jump drive's power requirement can be ignored unless it is greater than the sum of maneuver drive and weapon power requirements.

Select a power plant system from the following table. Power plants are also rated for *output*, giving the MW of power required for other ship's systems that can be satisfied by the power plant. They are also rated for *endurance*, giving the time (in years) that the power plant can operate without needing to refuel.

Output, mass, and cost are *per space* of power plant. Power plants may be taken in half-space increments, with half the listed output, mass, and cost.

Power Plant Table

System	*Mass*	*Cost*	*Output*	*Endurance*
Fission Power/9	4	2.5	8	2
Fission Power/10+	4	1.5	8	2
Fusion Power/9	4	12	8	200
Fusion Power/10	4	3	20	200
Fusion Power/11	4	1.5	20	200

Step 12 – Crew

Now that almost all of the ship's systems have been installed, consider how many crewmen will be needed to man them.

Typical crew requirements are given below, but these are *averages*; actual requirements can vary a great deal, and every individual ship may have a different crew roster. Military ships will have larger crews to allow for multiple shifts and to replace losses in combat. Transports often run with a bare minimum of crew to save money. A civilian yacht might not have *any* permanent crew, but when the yacht is in operation somebody needs to do each job. Ships with minimal crews call for talented people, since several jobs are doubled up.

In general, crew should have a skill level of at least 12 in the skill(s) appropriate for their positions. If the GM feels that a ship is under-crewed, he should assess penalties to appropriate skill rolls, especially in stressful situations when one crewman has to be in three places at once.

Crews, especially on large ships, are divided into *sections*; each section has a specific function and is usually commanded as a unit. For the purpose of these rules, we divide the various sections into *core crew* (the crewmen required to operate the ship's functions) and the *support crew* (the crewmen whose primary job is to support the core crew). The core crew includes the command section, the engineering section, the gunnery section, the flight section, the passenger service section, the cargo service section, the ship's troops, and the specialists. The support crew includes the maintenance section, the life support section, the medical section, and the general services section.

Before allocating the crew, decide how many *passengers* the ship can expect to carry; the size of several crew sections depends on the passenger capacity of the ship. Passengers can travel by *low passage*, *standard passage*, *first-class passage*, or *luxury passage* (p. 179); although passenger accommodations can be shuffled from one trip to the next, the expected number of passengers in each class should be determined.

Aside from dividing crew into sections, the crew allocations listed here also classify crew into *officers*, *petty officers*, and *crewmen*. These terms are very specific to the Terran Navy – but every starship service tends to divide its crew in some fashion into "commanders," "experienced crewmen," and "ordinary crewmen." In services other than the Terran Navy, feel free to apply different labels to each level of the crew as appropriate.

Command Section

The *command section* includes "bridge crew," the officers and support staff who coordinate all of the ship's activities.

Small craft usually run with only one or two crewmen in the cockpit. All of these crewmen are considered to be part of the small craft's "command section."

Very small starships (100-200 dtons) often get by with as few as three crewmen in the command section: a commanding officer, a pilot who also serves as navigator, and an officer who runs sensors and communications systems.

Slightly larger vessels will usually split the available work among more officers. A five-man command section, typical for ships of 200-1,000 dtons size, would include: commanding officer, executive officer (who also serves as command pilot), navigator, sensor officer, and communications officer.

Ships approaching 10,000 dtons in size will often have a 10-man command section: a commanding officer, an executive officer (command pilot), an additional pilot, two navigators, two sensor officers, two communications officers, and a computer officer.

On ships of 10,000 dtons or greater hull size, the command section often expands beyond the bridge, including more officers and a support staff that works elsewhere on the ship. The total number of personnel in the command section should amount to at least five per 10,000 dtons of ship.

On any starship, up to the first 10 members of the command section will all be officers. After that, about 50% of the section will be officers, 25% will be petty officers, and 25% will be ordinary crewmen.

Engineering Section

The *engineering section* includes technicians who operate the ship's drives and power plant. It also includes technicians who perform routine maintenance and repairs on the drives.

The engineering section requires one engineer for every five spaces of jump drive, maneuver drive, or power plant systems at TL9, or one engineer for every 20 spaces at TL10+. The number of engineers is rounded down, although ships of 200 dtons or more almost always have at least one engineer. Small craft don't normally carry an engineering section, relying instead on maintenance technicians carried by the parent ship.

The first two crewmen in the engineering section are always officers, the chief engineer and the second engineer, or "chief engineer's mate." After these two, the engineering section will have about 10% officers, 20% petty officers, and 70% ordinary crewmen.

Gunnery Section

The *gunnery section* includes not only the "gunners" who operate ship's weapons in combat, but also the fire-control and tactical specialists who coordinate weapon fire in accordance with orders from the ship's captain.

Spinal mount weapons need one gunnery crewman per 100 spaces taken up by the weapon (round to the nearest whole number). Bay weapons need at least two crewmen, and turret weapons need at least one crewman per turret.

The gunnery section will usually have about 10% officers, 30% petty officers, and 60% ordinary crewmen. On warships, there is usually at least one officer or petty officer to serve as a chief gunnery officer; if the gunnery section is large, there will be at least one petty officer per *type* of weapon on board.

Flight Section

The *flight section* includes pilots and crew for the ship's attached small craft, including personal vehicles, gigs, interface shuttles, fighters, and even subsidiary spaceships of 100 dtons or more. It also includes "flight

control" officers, who coordinate the traffic of such smaller vehicles.

Each small craft needs its own pilot, as well as any other crew that is needed when the craft is in operation. Each craft also needs at least one technician to provide regular maintenance. If the ship has at least four small craft on board, then the launch facilities themselves (hangar bays, launch tubes, and so on) will need at least one crewman for every four small craft. Finally, if the ship has at least 10 small craft on board, then it needs at least one flight control crewman for every 10 small craft.

The pilot for each small craft of 10 dtons or more will be an officer, as will any flight control crewmen. After that, the flight section usually includes 10% officers, 30% petty officers, and 60% ordinary crewmen.

Passenger Service Section

The *passenger service section* includes crewmen whose primary job is to tend to the comfort and entertainment of passengers. Crewmen in the passenger service section are also called *stewards*.

Ships designed to carry passengers always require at least one crewman dedicated to passenger care. A ship needs one extra steward for every 50 low passengers, one for every 20 standard passengers, one for every 10 first-class passengers, and one for every two luxury passengers.

The passenger service section's first crewman is usually an officer called the *chief steward*; this officer often acts as the ship's *purser* as well, handling the ship's day-to-day accounts and running the ship's store. After the chief steward, the passenger service section usually consists of 10% officers, 20% petty officers, and 70% ordinary crewmen.

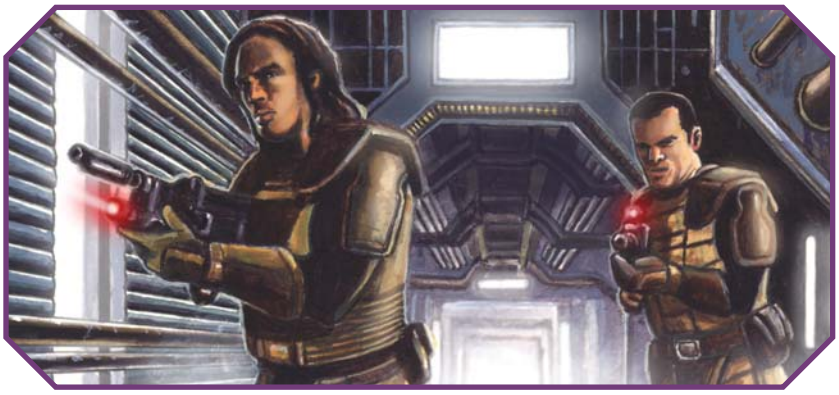
Cargo Service Section

The *cargo service section* includes crewmen whose primary job is to handle cargo loading and unloading operations, and to monitor and care for cargo when a ship is in transit. Cargo handlers are also called *stevedores*.

Even many ships that make a living carrying freight have no specific cargo service section. Such ships press other crew into service to help with cargo handling, or they rely on cargo handlers working at each port of call. The major exception is Terran merchant vessels working inside Imperial territory; such ships cannot usually call on port stevedores, so they carry their own cargo-handling crew instead.

Any starship that carries cargo for pay must have at least one crewman dedicated to cargo handling. Small merchant ships will usually press other crewmen into service during cargo loading or unloading. Large merchant ships with at least 1,000 spaces of cargo storage are likely to have dedicated teams of stevedores; on such ships, assume one stevedore (and appropriate cargo-handling equipment) for every 250 spaces of cargo.

The cargo service section is led by a crewman called the *cargomaster*. This individual supervises loading and unloading operations, and double-checks the cargo manifest. If the cargomaster is the only stevedore on board, he is usually a petty officer reporting to the ship's purser; on some ships he *is* the ship's purser. If there are multiple stevedores on board, then the cargo service section usually consists of 10% officers, 20% petty officers, and 70% ordinary crewmen.



Ship's Troops

Most ships of at least 1,000 dtons size have an armed contingent on board, the *ship's troops*. On a warship, these are marines; on a civilian ship, they are usually security forces organized in a paramilitary fashion. The ship's troops contingent varies in size from a single fire team up to a whole regiment. They often fill the role of security forces aboard their ship and take part in military exercises when required by the ship's commanding officer. They are also used for damage-control parties, for manning some ship's weapons, and for boarding actions.

Ship's troop contingents vary in size from about three per 1,000 dtons to three per 100 dtons. They are armed and organized according to the standards of the service from which they are drawn.

Specialists

Large ships, especially military vessels, will carry full-time officers and specialists for a variety of tasks: communications, sensors, landing teams, security staff, science crew, and so on. Allocate as many specialists as appear to be needed to fit the ship's functions, considering all the crew that were assigned to other core-crew sections.

Total up all of the crewmen allocated thus far; these are the core crew.

Maintenance Section

The *maintenance section* includes technicians who perform generalized maintenance and damage control on all of the ship's systems (the drives, power plants, life support, and other systems as well).

The maintenance section includes one full-time mechanic if there are at least eight core crewmen on board; one more for every full 40 core crewmen or 400 dtons of ship, whichever is *greater*. Maintenance crewmen usually report to the chief engineer. The section normally consists of 10% officers, 20% petty officers, and 70% ordinary crewmen.

Life Support Section

The *life support section* includes technicians who specialize in performing maintenance and damage control on the ship's life support systems.

The life support section includes one full-time technician if there are at least 15 core crewmen *and* passengers on board; one more for every full 80 core crewmen and passengers. Life support technicians usually report to the chief engineer. The section normally consists of 10% officers, 20% petty officers, and 70% ordinary crewmen.

Medical Section

The *medical section* includes fully certified medical doctors, nurses, and medical technicians to care for crew and passengers.

The medical section includes one full-time medic if there are at least 15 core crewmen *and* passengers on board; one more for every full 40 core crewmen and passengers. A ship should have at least one medic per sickbay system.

On a small ship, the first medic is usually a petty officer reporting to the ship's chief steward or directly to the captain. On a ship of 1,000 dtons size or larger, the first medic is usually an officer. A large medical section usually consists of about 20% officers, 30% petty officers, and 50% ordinary crewmen.

General Service Section

The *general service section* includes a number of different specialties, all of whom provide basic services to crew and passengers. These run shops and storage, provide ship's security (especially if there are no ship's troops aboard), provide food service, handle cargo, and perform other operations.

All ships require service crewmen to take care of the crew's general needs, as well as to provide services that both crew and passengers share. Allow one such crewman if there are at least 15 core crewmen *and* passengers on board; one more for every full 40 core crewmen and passengers. Increase the size of the general service section by 50% if there are no ship's troops on board, both to perform security duties and to reflect the fact that ship's troops often act as supplementary service crew when not on combat duty.

The general service crew usually consists of about 10% officers, 20% petty officers, and 70% ordinary crewmen.

Step 13 – Quarters and Miscellaneous

Once the crew size has been determined, quarters and other working spaces can be installed.

Quarters

Crew and passengers need quarters to live in during travel. Several classes of accomodation are available. The space taken up by these systems is only about 50% allocated to living space; the rest is taken up by common areas (corridors, galleys, lounges, and so on) and life support equipment.

Bunkrooms: A bunkroom is a room with 10 bunk beds (each with a small locker), intercom, controls for light and temperature, and shared sanitary facilities. Bunkrooms are generally used only on Terran warships, where space is at a premium. One bunkroom can accommodate up to 10 crewmen.

Stateroom: A stateroom is a cabin capable of housing one or two people. It contains beds, chairs, desks, closets, and sanitary facilities. There is an intercom and controls for heat and temperature.

Luxury Stateroom: A luxury stateroom is a spacious cabin capable of housing one or two people in great comfort. Its fittings are similar to those of a standard stateroom, but are much more expensive and attractive.

Low Berth: A low berth is a suspended-animation system, capable of housing up to two passengers for long periods of time without drawing on ship's supplies or life support. So long as the ship's power plant continues to operate, the low berth will maintain its occupant in good health. A low berth can be designated as an *emergency low berth* with the same volume, mass, and cost; an emergency low berth will carry four passengers, but it is too dangerous for routine passenger transport. See *Suspended Animation* (p. 166) for rules.

Small Craft Seating: A unit of small craft seating provides moderately comfortable seating for 12 passengers for a short period of time (up to 12 hours). It is normally installed only on small craft intended for short-term operations (orbital or interplanetary shuttles, for example).

A flag officer will normally have his own luxury stateroom. A ship's commanding officer normally has his own stateroom, as does any officer commanding the engineering, gunnery, or flight sections, or the ship's troops. Other officers and petty officers live two to the stateroom. Ordinary crewmen and ship's troops may share staterooms, although on Terran ships (especially warships) they are often housed in bunkrooms. Each luxury passenger should have his own luxury stateroom, while standard and first-class passengers should have their own staterooms; couples or groups traveling together may share staterooms, but this should not be assumed when installing quarters.

Half-space versions of low berths or small craft seating may be installed, with half the mass, cost, power requirement, and capacity.

Workshops

Many ships need built-in workshops to support the engineering and maintenance staff. Machine parts often need to be repaired or replaced, and if a needed component isn't immediately available it may need to be fabricated by hand.

Quarters Table

System	*Spaces*	*Mass (tons)*	*Cost (M$)*	*Power (MW)*
Bunkroom	2	0.5	0.01	neg.
Stateroom	4	1	0.05	neg.
Luxury Stateroom	8	2	0.15	neg.
Low Berth	1	4	0.05	neg.
Small Craft Seating	1	1.5	0.01	neg.

Regardless of TL, one workshop system takes up 2.5 spaces, has a mass of 15 tons, costs M$0.06, and uses negligible power. Workshops at higher TL will have better equipment. Up to three personnel at a time can work in each workshop.

One workshop should be installed for every 60 full personnel in the engineering, maintenance, and life support sections. On Terran ships, especially those likely to be in Imperial or unexplored space for long periods, this requirement is often exceeded.

If a workshop is available, any penalty for not having one is negated. A workshop also provides a +2 bonus to the user's skill on any task involving the diagnosis or repair of ship's systems.

Laboratories

Ships intended for exploration, survey, or other scientific work need laboratory space for the science specialists on board. Each laboratory system is dedicated to a single scientific skill and cannot be used to support other skills.

Regardless of TL, one laboratory system takes up two spaces, has a mass of 10 tons, and costs M$1. Laboratories devoted to certain physical sciences (GM's discretion) use 0.3 MW of power each; other laboratories use negligible power. One scientist at a time can work in each laboratory. One laboratory should be installed for every science specialist in the crew, unless some of the scientists are working in a survey module (see below).

A laboratory gives a +2 skill bonus in any situation where the associated scientific skill is being used and lab equipment would be a benefit.

Survey Modules

Exploration and survey ships often carry specialized astronomical instruments and sensor arrays. These sensors are not useful for ship-combat situations and can't be used to target ship's weapons. Instead, they are used to detect astronomical objects at multi-parsec distances, and to survey planetary surfaces in detail from orbit.

Regardless of TL, one survey module takes up four spaces, has a mass of 12 tons, and uses negligible power. A survey module costs M$60 at TL9, M$30 at TL10, and M$15 at TL11+. At the GM's discretion, a survey module can count as laboratory space for skills like Astronomy, Cartography or Geology. It provides space for four scientists. A ship will rarely need more than one survey module, unless it is likely to have many survey specialists working at the same time.

For rules regarding the use of a survey module, see *Interstellar Exploration*, p. 182.

Sickbays

Any ship carrying medical personnel may have *sickbays* where the sick and injured can be treated under controlled conditions. A sickbay includes medical beds with special instruments and storage for drugs and surgical equipment. A large sickbay can include a motion-controlled theater for surgical procedures.

Regardless of TL, a sickbay system takes up one space, has a mass of one ton, costs M$0.2, and uses negligible power. One medical specialist at a time can work in each sickbay, and there is room for two patients per sickbay. Multiple sickbay systems can be combined into one larger medical facility. One sickbay should be installed for every two people in the medical section. If there is only one medic on board, but that medic is an officer, he is usually given a sickbay to work in.

Cargo Space

Any leftover space in the ship may either be left as "empty space" or designated as a cargo hold. Each space of cargo hold has room for 500 cubic feet of cargo. Necessary cargo doors, ramps, tie-downs, and other equipment are included. Multiple spaces of cargo can either represent a single large hold or a number of smaller holds. Holds may be installed in half-space increments.

An empty cargo hold has no mass or cost.

Starship Operating Condition

Starships don't all operate to the same standard. Some are built by skilled craftsmen applying the best tools and resources, while others are built in ramshackle civilian shipyards by contractors who are engaging in wholesale fraud and embezzlement. Even a well-constructed ship will tend to decay over time as wear and tear accumulates.

A vessel's general condition is indicated by its HT attribute (see p. B483). In the Interstellar Wars era, a vessel just out of the shipyard will have a HT of 8-12. The vast majority of new ships will have a HT of 10, while only the most exceptional ships will have HT as low as 8 or as high as 12 (indicating truly atrocious or remarkably sound workmanship, respectively).

A vessel's HT attribute declines by one level every 50 years. Once a ship's HT drops below 8, it is too unreliable for use and is normally scrapped. Thus a typical starship can expect to have a 150-year operating lifespan. Many Imperial ships are *at least* this old – on the other hand, Terrans have been operating starships for so short a time that very few Terran ships have had the chance to lose any HT.

A spacecraft's purchase cost is naturally related to its workmanship and state of repair. The GM may choose to tie a ship's purchase cost to its HT attribute, permitting adventurers to buy old or ramshackle ships for a bargain price, or superbly built ships for a premium. A suggested scheme is as follows. Multiply the base cost for the ship (as given by the ship design sequence) by the Price Multiplier for its current HT score.

Ship HT and Cost Table

Vessel HT	*Price Multiplier*
12	5.0
11	2.0
10	1.0
9	0.5
8	0.1

Step 14 – Performance

At this point, the ship design is complete and a number of important attributes can be determined.

Ship Mass

Total Empty Mass (EMass): Add together the Hull Mass (from Step 5) and the mass of all installed systems. *Do not* include the mass of ammunition, fuel, or payload. The result is the ship's *empty mass*. Round the EMass to two significant figures.

Total Loaded Mass (LMass): This is equal to the empty mass, plus these additions:

- The mass of cargo carried. Assume five tons per space of cargo hold; this figure allows for holds that are not fully packed, for container mass, and so on. A dense, heavy load may be as much as 25 tons per space.
- The mass of crew and passengers. Assume 0.1 ton per person. As a rule of thumb, this can be simplified to one ton per bunkroom, 0.2 tons per stateroom or luxury stateroom, 0.2 tons per space of low berths, 0.4 tons per space of emergency low berths, or 1.2 tons per space of small craft seating.
- The mass of hydrogen fuel. This can be simplified to one ton per space of fuel tanks.
- The mass of ammunition. This can be simplified to 1.8 tons per turret missile rack or sandcaster, 90 tons per light missile array, and 180 tons per heavy missile array.
- The *empty* mass of any small craft or vehicles carried in vehicle bays or hangar bays.

Round the LMass to two significant figures.

Hit Points

The ship's hit points depend on its *empty mass*. Refer to the following table and record the ship's hit points.

Ship Hit Points Table

Empty Mass	*Hit Points (dHP)*
15 tons or less	10
16-42 tons	15
43-91 tons	20
92-160 tons	25
170-270 tons	30
280-420 tons	35
430-610 tons	40
620-850 tons	45
860-1,300 tons	50
1,400-2,100 tons	60
2,200-3,300 tons	70
3,400-4,900 tons	80
5,000-6,800 tons	90
6,900-10,000 tons	100
11,000-17,000 tons	120
18,000-27,000 tons	140
28,000-39,000 tons	160
40,000-54,000 tons	180
55,000-91,000 tons	200
92,000-160,000 tons	250
170,000-270,000 tons	300
280,000-420,000 tons	350
430,000-610,000 tons	400

The actual formula for dHP is taken from p. B558, and the GM may choose to use that formula to get more exact Hit Point totals for his own designs. Remember to divide HP by 10 to get dHP.

Other Attributes

Total Cost: Add together the cost of all components to get the ship's final cost. Round off to two significant figures.

Size Modifier (SM): As determined in Step 2 (p. 00).

ASig: This is the ship's active sensor signature. It is equal to SM, minus (TL-4) if the ship has stealth.

Life Support Capacity: This measures how many people can be supported by the ship's life support systems for long periods (assuming enough provisions are on hand). Capacity is equal to (2 × Luxury Staterooms) + (2 × Staterooms) + (10 × Bunkrooms). Low berths yield no life support capacity. Bridge systems and small craft seating modules also

Consumables and Extras

The ship design sequence maps out the more or less permanent components of a ship class. Every individual ship needs a variety of "extras," which should be purchased before the ship becomes fully operational. These include:

Consumables: Food and other supplies (p. 175). Most ships maintain at least a month's worth of consumables for the crew and any expected passengers.

Computer Software: Example programs are described on pp. 164-165. Every starship should run at least one Damage Control program, a Jump Navigation program complex enough to support the ship's jump range, and one Targeting program per gunner. Other programs and databases can be installed as needed, up to the capacity of the ship's computer (p. 163).

Ammunition: Missiles mass 0.15 tons each, and cost $30,000 apiece. Sandcaster loads mass 0.06 tons each, and cost $400 apiece. A turret missile rack has a capacity of 12 missiles, a light missile array has a capacity of 600 missiles, and a heavy missile array has a capacity of 1,200 missiles. A sandcaster has a capacity of 12 canisters.

Missiles can also be stored in cargo space, at 30 missiles or sand canisters per space of cargo. Missiles launched must be tracked, and once they are gone no more can be launched until the racks and bays are reloaded (usually between battles).

yield no life support capacity, although they can provide life support for strictly limited periods.

Space Acceleration (sAccel): This measures how rapidly the ship can accelerate (including its ability to decelerate and maneuver). A ship's sAccel in Gs is equal to the tons of thrust provided by its maneuver drive, divided by the ship's total loaded mass in tons. Round off to two significant figures.

GMs may wish to calculate multiple sAccel for ships whose mass can change dramatically (e.g., with empty vs. full fuel tanks, or with empty vs. full cargo holds).

Jump Performance (Jump): This is the ship's jump range, and is determined by the size of its jump drive (see p. 170). A ship may have jump-0, jump-1, jump-2, or jump-3 capability.

Top Air Speed: To compute a ship's top cruising speed in a substantial atmosphere, begin by calculating the ship's drag as equal to her surface area (measured in ksf) multiplied by the appropriate factor from the Drag Table.

Drag Table

Streamlining	*Drag Factor*
Airframe Hull	100
Streamlined Hull	200
Unstreamlined Hull	1,000

The top air speed in a Standard atmosphere (p. 97) is equal to the square root of [15,000,000 × (Total thrust/Drag)]. A streamlined hull is restricted to 740 mph, while an unstreamlined hull is restricted to 600 mph. This represents the ship's top speed for *normal cruising*, not when it is accelerating into or out of orbit. Round off to two significant figures.

Step 15 – Finalize Design

The ship design is now complete. A new ship is usually categorized by size and function ("heavy cruiser" or "tramp freighter"). The first ship of a new class usually gives its name to the class, and subsequent ships built under the same design will have names which are thematically similar. For example, all battleships in the *Ares* class are named after Terran (or alien) war deities.

Common Ships

The following small craft and starship designs are typical of those encountered during the Interstellar Wars era.

Imperial 10-dton Missile Fighter

The Imperial Navy used fighter craft, but Vilani fighter doctrine was not very aggressive. A fighter squadron's function was to emerge from its mother ship, remain at a distance from the enemy, add to the weight of the fleet's missile volleys, and then return for reloading. As a result, Vilani fighter pilots tended to be more lightly trained and to have less *esprit de corps* than their Terran counterparts – a fatal flaw once the Terrans built their own fighter wings and their own (much more aggressive) fighter doctrine.

Tech Level: 10.

Hull: 10-dton Flattened Sphere Airframe hull, dDR 33 armor, Stealth.

Systems: 3 Maneuver Drive, Large Cockpit, Model-0 Sensors (Scan 14), 2 Fixed Mount, 2 Missile Racks, 3-1/2 Fusion Power.

Statistics: EMass 95 tons, LMass 100 tons, Cost M$20, SM +6, ASig +0, Hull dHP 25, no life support capacity, sAccel 6.0 G, no jump capacity, Top Air Speed 5,300 mph.

Crew: Command Section (1 officer), Gunnery Section (1 crewman). Total 1 officer, 1 crewman.

Terran 10-dton Light Fighter

Throughout the early Interstellar Wars era, the Terrans used light fighters for a variety of purposes. They were a critical part of planetary defense. They could be very useful in a fleet escort role, multiplying point defense against Imperial missile storms. Finally, they helped project power against Imperial formations, using speed and stealth to get into beam-weapon range. Many variant fighters were produced – the one described here was a typical laser-heavy model of the early Interstellar Wars.

Tech Level: 10.
Hull: 10-dton Needle/Wedge Airframe hull, dDR 16 armor, Stealth.
Systems: 2-1/2 Maneuver Drive, Small Cockpit, Model-1 Sensors (Scan 16), 2 Fixed Mount, 2 Pulse Lasers, 4 Fusion Power.
Statistics: EMass 83 tons, LMass 83 tons, Cost M$22, SM +6, ASig +0, Hull dHP 20, no life support capacity, sAccel 6.0 G, no jump capacity, Top Air Speed 4,400 mph.
Crew: Command Section (1 officer). Total 1 officer.

Standard 10-dton Lifeboat

Small starships rely on rescue balls or conventional small craft in emergencies. Larger starships are often equipped with specialized long-term lifeboats. This example can carry 24 passengers in low berths. When the low berths are full, and power consumption has been set to minimum (a distress beacon broadcasting on a timer; minimal power to the low berths and computer; no life support), lifeboats can and do keep passengers alive for centuries. The standard lifeboat has no airlock, and so cannot take on more passengers in vacuum or a hostile atmosphere unless everyone is in protective gear.

Tech Level: 10.
Hull: 10-dton Flattened Sphere Airframe hull, dDR 10 armor.
Systems: 1/2 Maneuver Drive, Large Cockpit, Model-0 Sensors (Scan 14), Fusion Power, 6 Emergency Low Berths, 1 Cargo.
Statistics: EMass 59 tons, LMass 67 tons, Cost M$8.2, SM +6, ASig +6, Hull dHP 20, no life support capacity, sAccel 1.5 G, no jump capacity, Top Air Speed 2,200 mph.
Crew: Command Section (2 crewmen). Total 2 crewmen. If the lifeboat is left in space for more than a few days, the crew must take the last two low berths.

Standard 20-dton Assault Craft

This small craft was used by both Imperial and Terran forces for a particular mission: the "opposed boarding" of potentially hostile vessels. Patrol cruisers often used the assault craft to support customs inspections, while other vessels used them to deliver Marines to capture enemy ships in battle.

Tech Level: 10.
Hull: 20-dton Needle/Wedge Airframe hull, dDR 13 armor.
Systems: 3 Maneuver Drive, Small Cockpit, Model-2 Sensors (Scan 17), Light Turret, Beam Laser, Missile Rack, Sandcaster, 4-1/2 Fusion Power, 2 Small Craft Seating, 7-1/2 Cargo.
Statistics: EMass 110 tons, LMass 150 tons, Cost M$28, SM +6, ASig +6, Hull dHP 25, no life support capacity, sAccel 4.0 G, no jump capacity, Top Air Speed 3,800 mph.
Crew: Command Section (1 officer), Gunnery Section (1 crewman). Total 1 officer, 1 crewman.

Standard 30-dton Ship's Boat

Larger merchant ships that need extra cargo or passenger transport service use a "ship's boat" as their all-around auxiliary craft. The standard ship's boat exists in a variety of variant forms, five of which are listed here.

Standard Ship's Boat

This variant is normally used for a balanced mix of passenger and cargo service. It is a typical small craft used by small and medium-sized merchant ships.

Tech Level: 10.
Hull: 30-dton Needle/Wedge Airframe hull, dDR 10 armor.
Systems: 2 Maneuver Drive, Large Cockpit, Model-0 Sensors (Scan 14), 2-1/2 Fusion Power, 4 Small Craft Seating, 20 Cargo.
Statistics: EMass 83 tons, LMass 190 tons, Cost M$17, SM +7, ASig +7, Hull dHP 20, no life support capacity, sAccel 2.1 G, no jump capacity, Top Air Speed 2,700 mph.
Crew: Command Section (1 officer, 1 crewman). Total 1 officer, 1 crewman. If passengers are carried, one or two stewards must accompany the crew to take care of the passengers during the flight.

Cargo Shuttle Variant

This variant is often used by large merchant vessels that specialize in cargo transport.

Tech Level: 10.
Hull: 30-dton Needle/Wedge Airframe hull, dDR 10 armor.
Systems: 2 Maneuver Drive, Large Cockpit, Model-0 Sensors (Scan 14), 2-1/2 Fusion Power, 24 Cargo.
Statistics: EMass 77 tons, LMass 200 tons, Cost M$17, SM +7, ASig +7, Hull dHP 20, no life support capacity, sAccel 2.0 G, no jump capacity, Top Air Speed 2,700 mph.
Crew: Command Section (1 officer, 1 crewman). Total 1 officer, 1 crewman.

Passenger Shuttle Variant

The passenger shuttle variant is used by large passenger liners, and can transfer large numbers of passengers to or from a planetary surface in a short time. Another variant, with more powerful engines and some armor, is sometimes used by Terran mercenary units as an assault lander.

Tech Level: 10.
Hull: 30-dton Needle/Wedge Airframe hull, dDR 10 armor.
Systems: 2 Maneuver Drive, Large Cockpit, Model-0 Sensors (Scan 14), 2-1/2 Fusion Power, 20 Small Craft Seating, 4 Cargo.
Statistics: EMass 110 tons, LMass 150 tons, Cost M$17, SM +7, ASig +7, Hull dHP 25, no life support capacity, sAccel 2.7 G, no jump capacity, Top Air Speed 2,700 mph.
Crew: Command Section (1 officer, 1 crewman). Total 1 officer, 1 crewman. If passengers are carried, several stewards must accompany the crew to take care of the passengers during the flight.

Fuel Skimmer Variant

This variant is often used by unstreamlined civilian ships to skim fuel for the jump drive. Military ships use their own (much larger) fuel skimmers to perform refueling operations.

Tech Level: 10.
Hull: 30-dton Needle/Wedge Airframe hull, dDR 10 armor.
Systems: 2 Maneuver Drive, 24 Fuel Tanks, Large Cockpit, Model-0 Sensors (Scan 14), 2-1/2 Fusion Power.
Statistics: EMass 77 tons, LMass 100 tons, Cost M$17, SM +7, ASig +7, Hull dHP 20, no life support capacity, sAccel 4.0 G, no jump capacity, Top Air Speed 2,700 mph.
Crew: Command Section (1 officer, 1 crewman). Total 1 officer, 1 crewman.

Mobile Base

This variant is designed for placement on a planetary surface, usually by an exploration team that intends to spend days or weeks working away from the parent ship. It includes a bunkroom for long-term life support, laboratory space, and cargo storage for secondary vehicles, pre-fabricated shelters, or equipment.

Tech Level: 10.
Hull: 30-dton Needle/Wedge Airframe hull, dDR 10 armor.
Systems: 1-1/2 Maneuver Drive, Large Cockpit, Model-0 Sensors (Scan 14), 2 Fusion Power, Small Craft Seating, Bunkroom, 2 Laboratory, 8 Cargo.
Statistics: EMass 95 tons, LMass 140 tons, Cost M$17, SM +7, ASig +7, Hull dHP 25, Life Support 10, sAccel 2.2 G, no jump capacity, Top Air Speed 2,400 mph.
Crew: Command Section (1 officer, 1 crewman). Total 1 officer, 1 crewman. Scientists and other specialists may travel with the vessel as temporary crew.

Standard 100-dton Interplanetary Shuttle

In star systems with widely separated settlements, there is always a need for interplanetary transportation for passengers and small cargoes. Variants on the standard 100-dton shuttle can be found in large numbers in almost any densely inhabited star system. It is designed for short-hop trips of up to a few days' length, and can provide reasonable comfort for passengers and crew.

Tech Level: 10.
Hull: 100-dton Close Structure Streamlined hull, dDR 10 armor.
Systems: 2 Maneuver Drive, Small Bridge, Model-1 Sensors (Scan 16), 2 Hardpoints, 2-1/2 Fusion Power, 13 Staterooms, 41 Cargo.
Statistics: EMass 110 tons, LMass 310 tons, Cost M$21, SM +8, ASig +8, Hull dHP 25, Life Support 26, sAccel 1.3 G, no jump capacity, Top Air Speed 740 mph.
Crew: Command Section (3 officers), Passenger Service Section (1 officer), Cargo Service Section (1 petty officer), Medical Section (1 petty officer). Total 4 officers, 2 petty officers.
Passengers: 3 First-Class, 6 Standard.

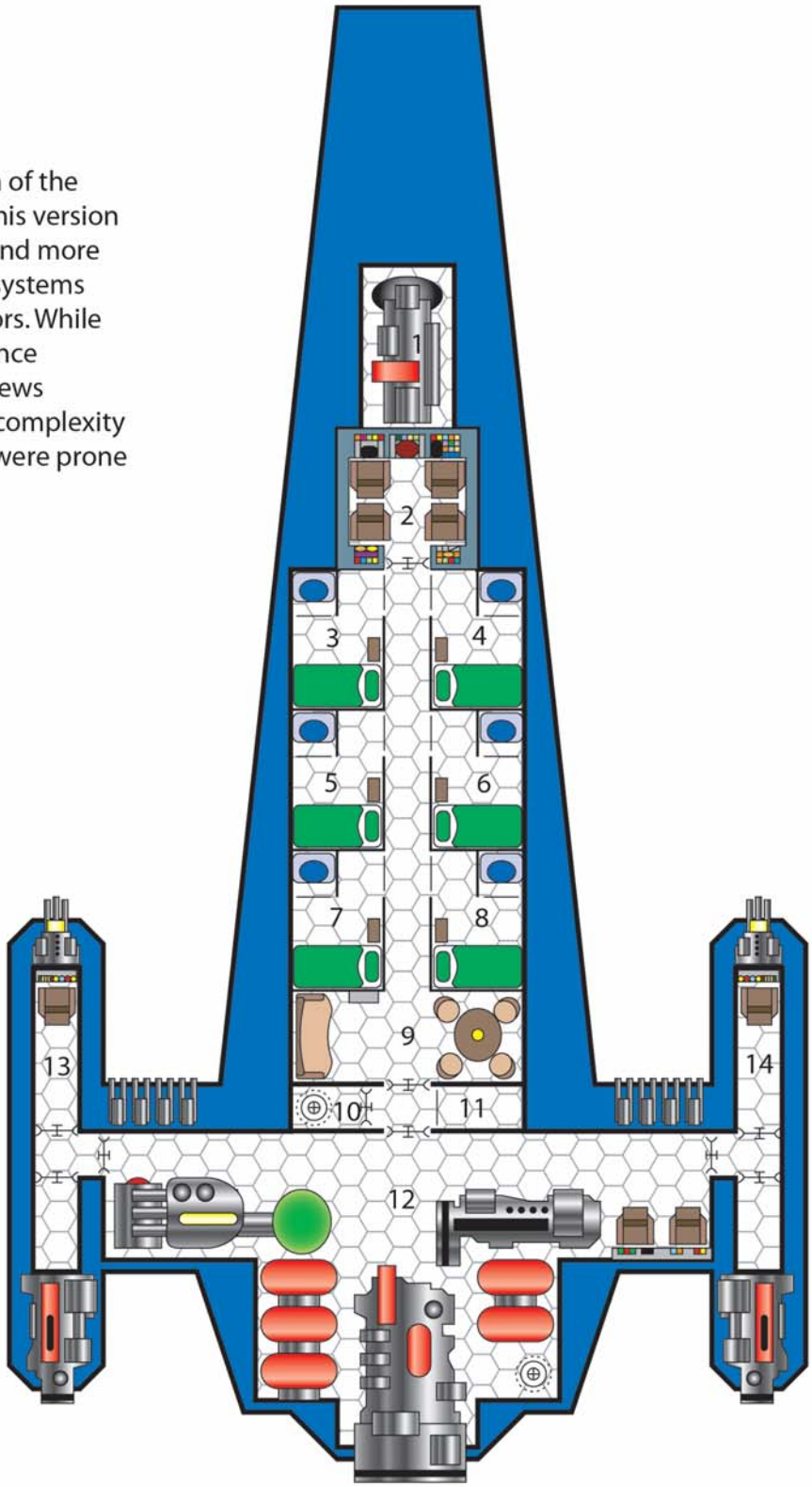
Crockett-Class 100-dton Picket Ship

As early as the Second Interstellar War, the Terran Confederation realized that the Imperium had a major advantage in its strategic "depth." Imperial expeditions could be organized many parsecs behind the front lines, leaving Terran admirals unaware of the danger until it was almost too late to respond. Something needed to be done to give Terra more warning of new Imperial offensives.

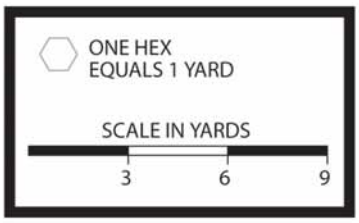
One response was the *Crockett*-class picket ship. Designed to operate up to several parsecs behind the military front, the *Crockett* was small, fast, extremely stealthy, and equipped with a much larger warship's sensor suite. It could lurk in the vast empty spaces to be found even in an important star system, watch enemy fleet movements, and then sprint for home to give warning of anything out of the ordinary.

Best of all, the *Crockett* was relatively inexpensive. Thousands of *Crockett*-class ships were built during the course of the Interstellar Wars. Sometimes teams of several *Crocketts* each were operating in 25-50 star systems at a time. Many of the picket ships were captured or destroyed by Imperial forces, but many more escaped to bring vital intelligence home.

Shown is the Block 16 version of the *Crockett*-class picket vessel. This version contains upgraded avionics and more efficient power-distribution systems necessary for the larger sensors. While well-received by the intelligence communities, engineering crews often complained about the complexity of the newer systems, which were prone to power fluctuations.



1. Avionics
2. Bridge
3-8. Staterooms
9. Common area
10. Airlock
11. Storage
12. Engine Room
13. Port Weapon Array
14. Starboard Weapon Array



The *Crockett* was designed to operate away from fleet support, possibly for months at a time. Unlike many small Terran warships, its crew accommodations used no low berths or bunkrooms to save space. Instead, even ordinary crewmen were given a relatively large "ration" of stateroom space to help alleviate the tension of long deployments. The main weakness of the class was a lack of cargo space; this forced crews to be very creative when finding places to store consumables and other small necessities.

Members of the *Crockett* class were usually named after famous soldiers and frontiersmen of the pre-spaceflight era.

Tech Level: 10.

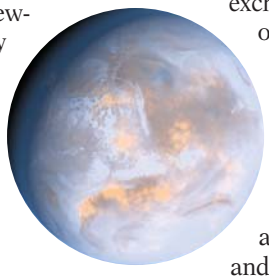
Hull: 100-dton Needle/Wedge Airframe hull, dDR 70 armor, Stealth.

Systems: 19-1/2 Maneuver Drive, 3 Jump Drive, 20 Fuel Tanks, 2 Fuel Processor (6.4 dtons/hour), Standard Bridge, Model-5 Sensors (Scan 20), 2 Light Turret, 2 Beam Laser, 2 Missile Rack, 2 Sandcaster, 22-1/2 Fusion Power, 6 Staterooms, 1/2 Cargo.

Statistics: EMass 940 tons, LMass 970 tons, Cost M$140, SM +8, ASig +2, Hull dHP 50, Life Support 12, sAccel 4.0 G, Jump-2 (2-parsec range), Top Air Speed 5,600 mph.

Crew: Command Section (3 officers), Engineering Section (2 officers), Gunnery Section (2 crewmen), Specialists (1 petty officer, 1 crewmen – sensor and SIGINT specialists), Maintenance Section (1 crewman). Total 5 officers, 1 petty officer, 4 crewmen.

Passengers: None.



Iiken-Class 100-dton Scout/Courier

The Imperium mixes the functions of picket vessel and naval courier in the *Iiken*-class scout/courier ship. This is one of the oldest ship designs in Imperial service; it was first manufactured over 2,000 years ago, during the Consolidation Wars.

Hundreds of *Iiken*-class ships can be found in any Imperial subsector, even on the rimward frontier. Most are in Imperial Navy service, but some are actually in private hands.

As a matter of long-standing tradition, a mid-level Imperial naval officer with an exemplary record will sometimes be issued a surplus *Iiken* when he leaves active service. Naval pensions being what they are, this is often the only way that a retired officer from the manager classes can afford personal interstellar transportation. The "detached duty" *Iiken* ships receive limited maintenance support from the Navy, making private operation even easier. In exchange, the retired officer operating the ship must report regularly to Navy intelligence officials on anything "interesting" he may encounter. Meanwhile, if war breaks out in the region, a detached-duty officer and his *Iiken* are subject to being recalled for active service.

Meanwhile, a number of *Iiken*-class ships have been captured or otherwise acquired by Terrans over the years. Just as in the Imperium, some of these have been "excessed" into civilian hands.

An *Iiken*-class ship normally operates with a full crew of four when in active Imperial service. A highly skilled individual can (barely) operate the ship alone.

Tech Level: 10.

Hull: 100-dton Needle/Wedge Airframe hull, dDR 50 armor, Stealth.

Systems: 11 Maneuver Drive, 3 Jump Drive, 40 Fuel Tanks, Fuel Processor (3.2 dtons/hour), Standard Bridge, Model-6 Sensors (Scan 21), 2 Hardpoints, Vehicle Bay (4-ton capacity, carries one air/raft), 12-1/2 Fusion Power, 4 Staterooms, 3 Cargo.

Statistics: EMass 680 tons, LMass 740 tons, Cost M$110, SM +8, ASig +2, Hull dHP 45, Life Support 8, sAccel 3.0 G, Jump-2 (4-parsec range), Top Air Speed 4,200 mph.

Crew: Command Section (3 officers), Engineering Section (1 officer). Total 4 officers.

Passengers: None.

Phidippides-Class 200-dton Fast Courier

After the Third Interstellar War, the Terran Confederation found itself maintaining significant military forces in star systems as far apart as Nusku and Mirabilis. The Terran Navy in particular saw the need to quickly move messages, critical personnel, and small cargoes among its various stations. The response was the *Phidippides*-class fast courier, the leading military courier ship of the early Interstellar Wars era.

The *Phidippides* had no advantage over other ship classes in jump capacity, but it gained an edge in *efficiency*. Oversized fuel tanks meant that it could make two maximum-range jumps in a row without stopping to refuel. Extra fuel processors meant that it could perform wilderness refueling very rapidly. Powerful maneuver drives gave it the ability to quickly cross normal space between jump points when necessary. Meanwhile, the Navy usually provided courier ships with its best personnel, including promising junior officers who were being earmarked for the command of larger ships. With all these items in play, the *Phidippides* was often able to make interstellar journeys – especially those involving multiple jumps – significantly more quickly than any other ship in the Navy.

Many examples of the *Phidippides* class found their way into private service, to be used as commercial courier ships or even refitted as private yachts. The class was retired from active naval service after the Eighth Interstellar War, to be replaced by a variety of jump-3 courier types. However, a few *Phidippides*-class ships could still be found in operation years after the Interstellar Wars were over.

Ships in the *Phidippides* class were named after famous message-carriers from Terran history and legend.

Tech Level: 10.

Hull: 200-dton Needle/Wedge Airframe hull, dDR 10 armor, Stealth.

Systems: 19 Maneuver Drive, 6 Jump Drive, 80 Fuel Tanks, 4 Fuel Processor (12.8 dtons/hour), Standard Bridge, Model-3 Sensors (Scan 18), 3 Hardpoints, 24 Fusion Power, 10 Staterooms, 22-1/2 Cargo.

Statistics: EMass 430 tons, LMass 630 tons, Cost M$150, SM +8, ASig +2, Hull dHP 40, Life Support 20, sAccel 6.0 G, Jump-2 (4-parsec range), Top Air Speed 4,500 mph.

Crew: Command Section (3 officers), Engineering Section (2 officers), Passenger Service Section (1 officer), Specialists (1 petty officer, 1 crewman – communications specialists), Maintenance Section (1 crewman). Total 6 officers, 1 petty officer, 2 crewmen.

Passengers: 4 First-Class.

Hero-Class 200-dton Private Merchant

Perhaps the most widely-known ship in Terran or Imperial space, the *Hero*-class private merchant has become the stuff of legends despite its humble beginnings.

The Imperial shipping network is based on a rigid, but very effective, main-and-branch system. Major worlds are connected by branches to nearby hub worlds. Trade flows from its origin world to a hub world, along high-capacity main lines to a hub world at the far end, and then along the final branch to the destination. Many minor worlds are located along one of these lines, and are served in passing.

Meanwhile, a few backwater or frontier worlds are off the Imperial trade network, not directly served by the system. For these, it is necessary to provide occasional shipping service to the nearest world on the trade network. For centuries, Sharurshid has employed an unremarkable 200-dton lifting-body design, cheap and easily manufactured, to provide this service.

The English name of this ship class is a classic example of the pitfalls of automatic language translation. As with most Imperial merchant vessels, the 200-dton packet vessels had no official names, just registry numbers. The original Confederation Navy designation for the ship class was simply "Type A." When Terrans asked what the ships were called, their crews often responded *disigshar*, which means "sandwich filled with a variety of sliced meats and vegetables." This is an example of Low Vilani slang, commenting on the ships' less-than-elegant appearance and pedestrian mission. However, the most popular early Vilani-to-English translation program rendered the word as "hero," and the name stuck. Examples that fell into Terran hands were soon named after famous figures from folklore, mythology, and popular fiction.

When the Terran Navy advanced into Imperial territory during the Second and Third Interstellar Wars, it captured many small, innocuous *Hero*-class vessels. Their crews were low-ranking *shangarim* employees, without any personal reason to resist capture – and usually no weaponry to resist with, even if they were so inclined. The little ships surrendered in droves; still more were captured on the ground while laid up "in ordinary" on Nusku.

During peace negotiations, Imperial officials didn't consider the *Hero*-class ships to be valuable enough to demand their return. As a result, dozens of these ships have been sold to private Terran bidders at scrapyard prices, to be converted into independent trading and exploration vessels. They have proven so successful in that role – a combination of the right size and versatility – that Imperial shipyards in the rim provinces have not been able to keep up with demand for new ones. Indeed, some Terran corporations have produced their own versions of the existing Imperial design. As of 2170, the little *Hero* merchant ships are among the most common starships seen in the Terran Confederation and far beyond.

Ironically, even the Imperial Navy has adopted *Siigiizuni* ("heroic person") as a designation for *Hero*-class ships operating under Terran command.

Tech Level: 10.

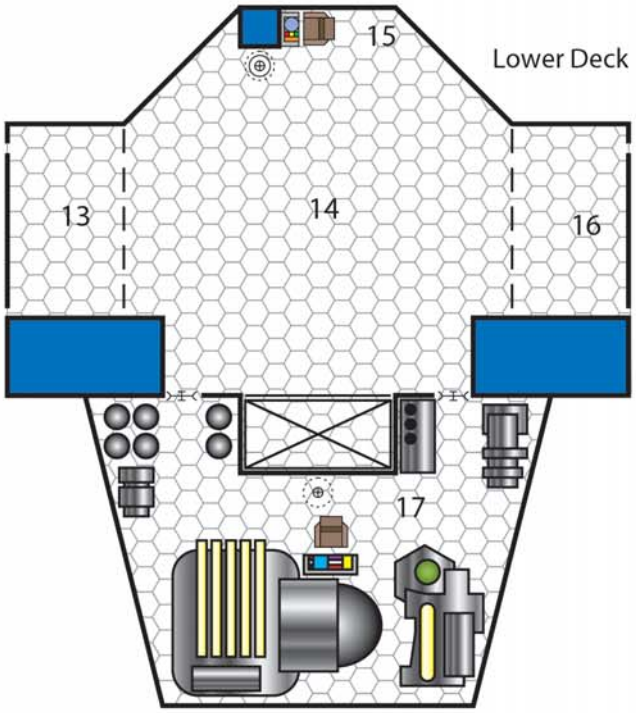
Hull: 200-dton Close Structure Streamlined hull, dDR 10 armor.

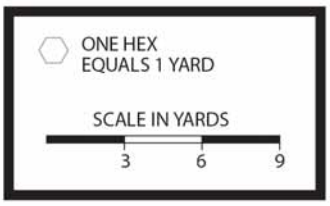
Systems: 5-1/2 Maneuver Drive, 6 Jump Drive, 40 Fuel Tanks, Fuel Processor (3.2 dtons/hour), Standard Bridge, Model-1 Sensors (Scan 16), 2 Hardpoints, 6 Fusion Power, 10 Staterooms, 7 Low Berths, Workshop, Sickbay, 87-1/2 Cargo.

Statistics: EMass 240 tons, LMass 720 tons, Cost M$68, SM +8, ASig +8, Hull dHP 30, Life Support 20, sAccel 1.5 G, Jump-2 (2-parsec range), Top Air Speed 740 mph.

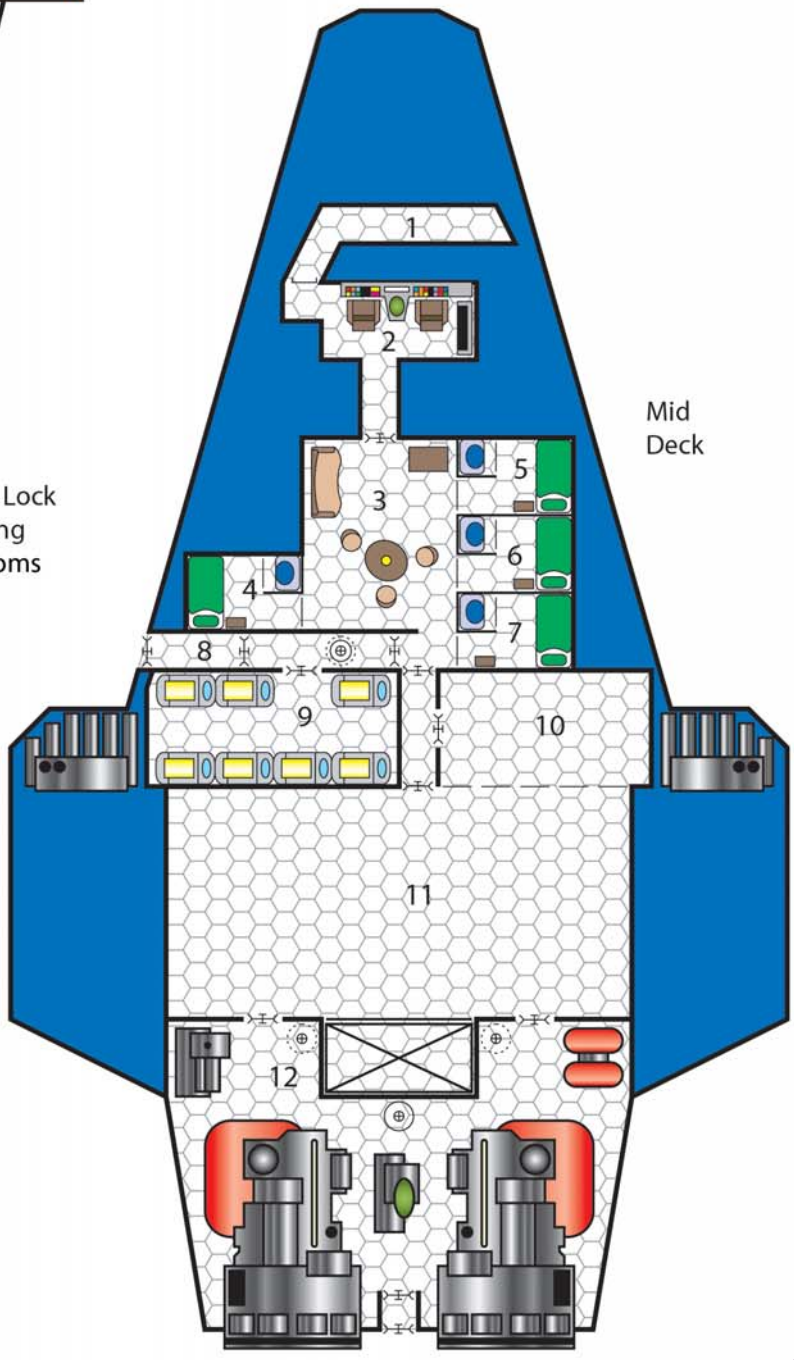
Crew: Command Section (3 officers), Engineering Section (1 officer), Specialists (1 petty officer – usually a Vilani interpreter or guide), Passenger Service Section (1 officer), Cargo Service Section (1 petty officer), Medical Section (1 petty officer). Total 5 officers, 3 petty officers.

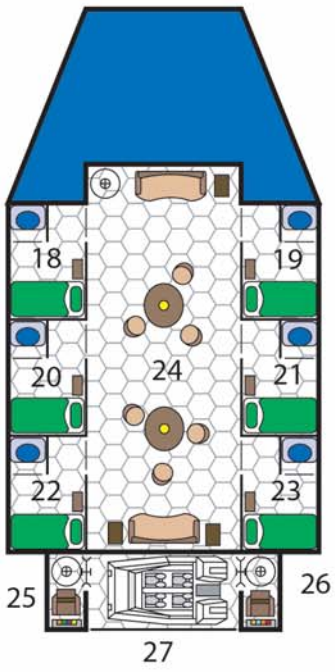
Passengers: 1 First-Class, 4 Standard, 14 Low.





1. Avionics
2. Bridge
3. Crew area
4-7. Crew rooms
8. Airlock
9. Low berths
10. Special Cargo
11. Upper Cargo
12. Upper Engineering
13. Port Cargo Lock
14. Lower Cargo
15. Cargo Office
16. Starboard Cargo Lock
17. Lower Engineering
18-23. Passenger rooms
24. Passenger area
25-26. Gunnery
27. Air/Raft





Upper
Deck

Harmonious Repose-Class 200-dton Yacht

Terra's wealthiest citizens took to interstellar travel quite early, pursuing everything from colonial investment opportunities to simple tourism. At first, wealthy travelers took ship on corporate or even military transport, "roughing it" on Terra's crude early starships. After the Second Interstellar War, there was enough surplus shipyard capacity to permit a few wholly private (and rather frivolous) designs.

In 2136, Kaufmann Sternenschiffbau AG (p. 68) built the first *Harmonious Repose* yachts. For their time they were quite advanced, incorporating a great deal of Vilani-derived technology, and they quickly gained a reputation for mechanical reliability. They were also very luxurious, and sported the finest interior comforts yet built into any Terran starship. The model quickly became popular. Many major corporations with offworld interests purchased yachts for traveling executives. A few very wealthy citizens bought them simply to visit the colonies or Imperial space.

The origins of the name *Harmonious Repose* are obscure; the name appears to have been assigned on a whim of Britte Kaufmann, dilettante heiress of the Kaufmann industrial empire. Other examples of the class are named by their owners according to personal preference.

Tech Level: 10.

Hull: 200-dton Flattened Sphere Airframe hull, dDR 12 armor.

Systems: 4-1/2 Maneuver Drive, 6 Jump Drive, 40 Fuel Tanks, Standard Bridge, Model-2 Sensors (Scan 17), 2 Hardpoints, 2 Vehicle Bays (4-ton capacity, each carries one air/raft), 6 Fusion Power, 8 Luxury Staterooms, 10 Staterooms, Workshop, Sickbay, 22 Cargo.

Statistics: EMass 300 tons, LMass 460 tons, Cost M$78, SM +8, ASig +8, Hull dHP 35, Life Support 36, sAccel 2.0 G, Jump-2 (2-parsec range), Top Air Speed 2,400 mph.

Crew: Command Section (3 officers), Engineering Section (1 officer), Flight Section (1 petty officer, 3 crewmen), Passenger Service Section (1 officer, 1 petty officer, 3 crewmen), Maintenance Section (1 crewman), Life Support Section (1 crewman), Medical Section (1 officer), General Service Section (1 crewman). Total 6 officers, 2 petty officers, 9 crewmen.

Passengers: 8 Luxury.

Lightning-Class 400-dton Frontier Merchant

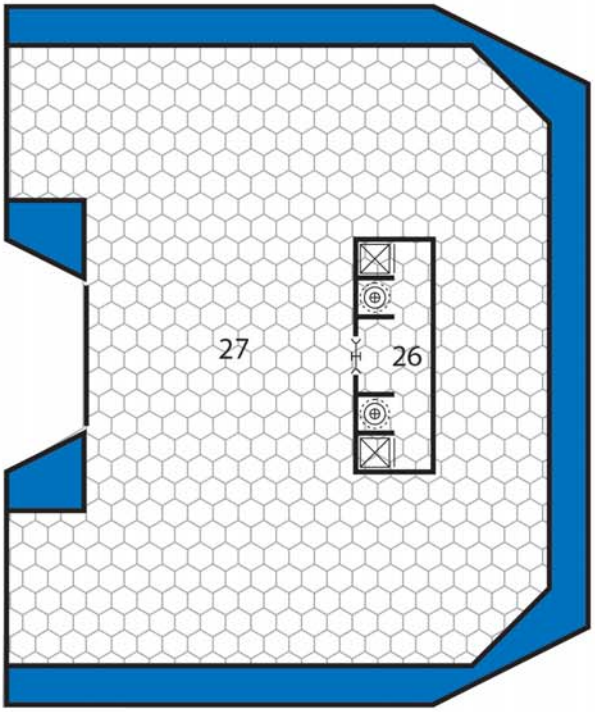
Beginning in 2159, the High Frontier Consortium (p. 68) constructed a special line of fast merchant ships at the newly-rebuilt Nusku shipyards. The *Lightning*-class "frontier merchant" was intended to explore deep into the Vilani Imperium. It would carry cargo and passengers along Imperial trade routes, but it would also "spy out the land," building a better understanding of the Imperium for Terran merchants – and for the Terran government.

Lightning-class ships were only marginal as merchant vessels, carrying a number of features that weren't useful from a strictly commercial standpoint. It was one of the fastest small merchant vessels of its day, its power plant was unusually large, and it carried advanced sensor and sensor-masking systems. Most ships of the class operated with extra crew as well; for example, carrying gunners even before ship's weapons were installed. The cost associated with these items often made it very difficult for the ships to turn a profit. On the other hand, they were all quite useful in a *conflict* situation. The *Lightning*-class ships could run, hide, and fight far better than any other merchant vessel of their size, which made them natural exploratory or privateer craft.

The High Frontier Consortium regarded the *Lightning* class as an investment in its long-term commercial success. By the end of the 22nd century, the Consortium had commercial and political contacts many parsecs into Imperial space, and more conventional merchant ships were working a network of trade routes. Other parties also used the *Lightning* design for their own exploratory traders – or for commerce raiding during wartime.

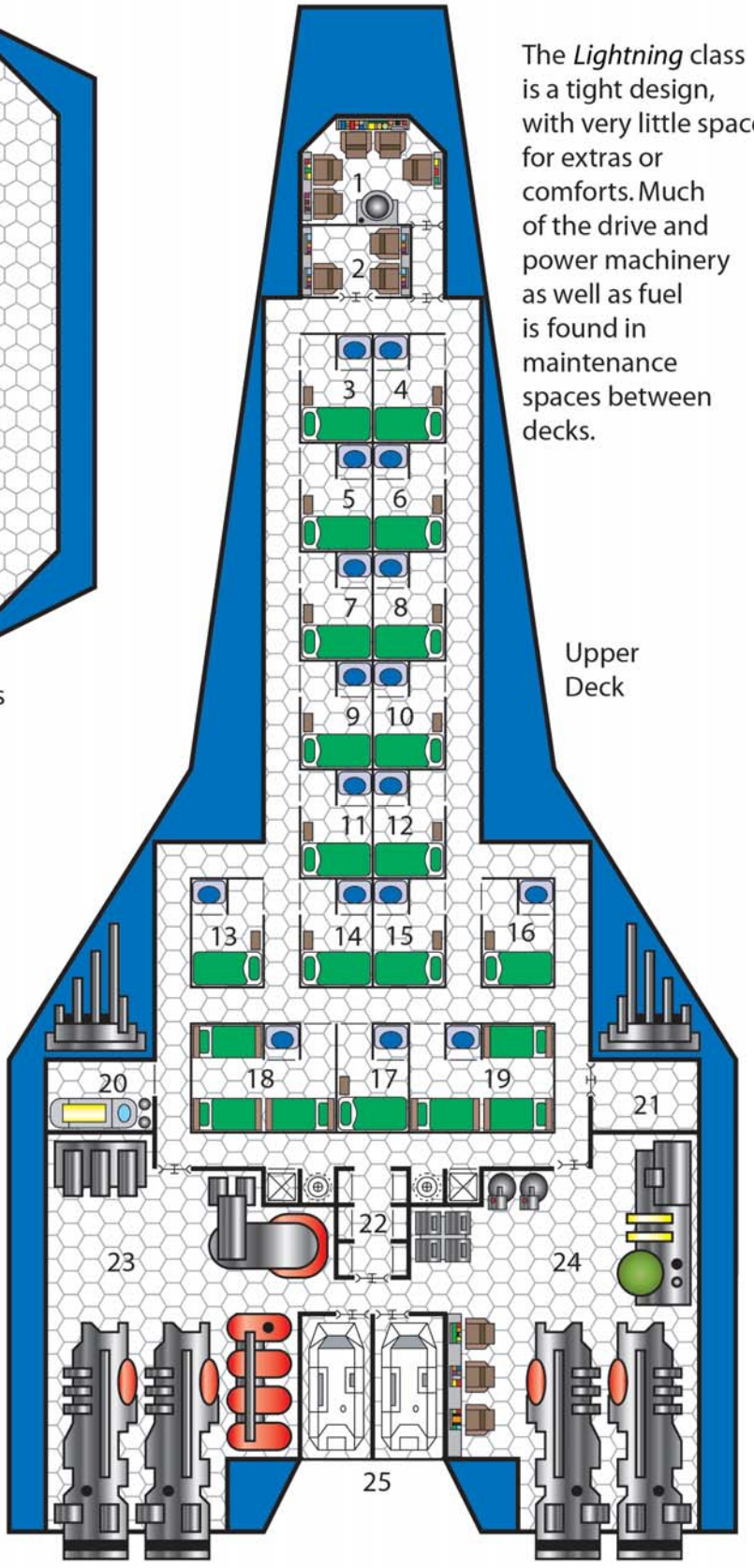
Lightning-class ships usually came unarmed from the shipyard, since Terran ships were not permitted to enter Imperial space armed during the Empty Peace. Naturally, enterprising crews usually acquired weaponry at the earliest opportunity. The ship's fusion power plants were oversized, permitting the installation of a full complement of laser weapons.

Ships in the *Lightning* class were usually named after famous merchant vessels from Terran history. Names taken from age-of-sail "clipper ships" were quite popular.



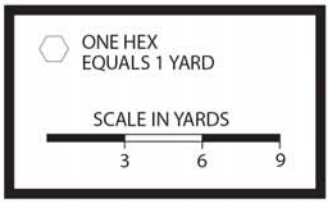
Lower Cargo Deck. Note: fuel spaces continue forward.

The *Lightning* class is a tight design, with very little space for extras or comforts. Much of the drive and power machinery as well as fuel is found in maintenance spaces between decks.



Upper Deck

1. Bridge
2. Gunnery stations
3-17. Staterooms
18-19. Bunkrooms
20. Sickbay
21. Workshop
22. Ship stores
23. Port engine room
24. Starboard engine room
25. Air/Raft bays
26. Greeting area
27. Cargo bay



Tech Level: 10.

Hull: 400-dton Needle/Wedge Airframe hull, dDR 10 armor, Stealth.

Systems: 24 Maneuver Drive, 12 Jump Drive, 80 Fuel Tanks, 2 Fuel Processors (6.4 dtons/hour), Standard Bridge, Model-4 Sensors (Scan 19), 4 Hardpoints, 2 Vehicle Bays (4-ton capacity, each carries one air/raft), 37 Fusion Power, 15 Staterooms, 2 Bunkrooms, Workshop, Sickbay, 162 Cargo.

Statistics: EMass 680 tons, LMass 1,600 tons, Cost M$250, SM +9, ASig +3, Hull dHP 45, Life Support 50, sAccel 3.0 G, Jump-2 (2-parsec range), Top Air Speed 3,900 mph.

Crew: Command Section (5 officers), Engineering Section (2 officers, 1 crewman), Gunnery Section (1 petty officer, 3 crewmen), Flight Section (1 petty officer, 3 crewmen), Passenger Service Section (1 officer), Cargo Service Section (1 petty officer), Ship's Troops (1 petty officer, 3 crewmen), Maintenance Section (1 petty officer, 1 crewman), Life Support Section (1 crewman), Medical Section (1 officer), General Service Section (1 crewman). Total 9 officers, 5 petty officers, 13 crewmen.

Passengers: 3 First-Class, 6 Standard.

Richthofen-Class 400-dton Missile Corvette

In the first engagements of the Interstellar Wars, Terran forces were soundly defeated whenever they went up against Imperial missile frigates. They soon began experimenting with mobile missile platforms of their own. One of the most successful developments of this design strategy was the *Richthofen*-class missile corvette, which first appeared soon before the Third Interstellar War and played an important part in blunting the first Imperial offensives of that conflict.

The *Richthofen* class is often called a "missile boat" (a misnomer, since "boat" implies a non-jump-capable ship). It is very heavily armored for a ship of its size, can shrug off most turret beam weapons, and is even somewhat survivable in the midst of an Imperial missile storm. Its massive maneuver drives and power plant make it quite expensive, but also give it great maneuverability despite its mass of armor. Its main weakness is its lack of defensive weaponry; point-defense lasers and sandcasters have been slighted in favor of greater missile throw-weight. Despite their toughness, *Richthofen* corvettes can still be overwhelmed by Imperial attack.

Terran Navy crewmen dislike being assigned to the *Richthofen* class; the ships are very crowded due to their massive drives and large engineering crews. Members of the class are named after famous military aviators from Terran history.

Tech Level: 10.

Hull: 400-dton Close Structure Streamlined hull, dDR 140 armor, Stealth.

Systems: 84 Maneuver Drive, 12 Jump Drive, 160 Fuel Tanks, 2 Fuel Processors (6.4 dtons/hour), Standard Bridge, Model-6 Sensors (Scan 21), 4 Light Turrets, 12 Missile Racks, 85-1/2 Fusion Power, 5 Staterooms, 2 Bunkrooms, Workshop, Sickbay, 16-1/2 Cargo.

Statistics: EMass 2,600 tons, LMass 2,800 tons, Cost M$470, SM +9, ASig +3, Hull dHP 70, Life Support 30, sAccel 6.0 G, Jump-2 (4-parsec range), Top Air Speed 740 mph.

Crew: Command Section (5 officers), Engineering Section (2 officers, 1 petty officer, 6 crewmen), Gunnery Section (1 petty officer, 3 crewmen), Ship's Troops (1 NCO, 3 enlisted men), Maintenance Section (2 crewmen), Life Support Section (1 crewman), Medical Section (1 petty officer), General Service Section (1 crewman). Total 7 officers, 4 Navy petty officers and Marine NCOs, 16 Navy crewmen and Marine enlisted men.

Passengers: None.

Bannerjee-Class 400-dton System Defense Boat

The Third Interstellar War was a terrible lesson for the Terran Navy. Imperial forces had advanced so far as to lay siege to Terra itself, and the Navy's mobile forces had been unable to mount a decisive response. During the naval buildup after the Imperial forces abandoned the siege, the Navy solicited proposals for a new ship class – the *system defense boat*.

System defense boats (or SDBs) would be non-starships, posted in squadrons to any star system that the Navy wished to defend to the bitter end. They would be fast, stealthy, and tough, able to both survive major engagements and flee into hiding. During the initial invasion of a star system, the SDBs would operate in conjunction with the Navy's main fleet – but if the Navy was forced to withdraw, the SDBs could remain behind to make life difficult for the victorious Imperials. SDB squadrons could hide in deep space, in the thick atmosphere of a gas giant, or in the depths of a planet's ocean. They could stay in hiding for weeks or months, emerging when an opportunity to strike against Imperial forces presented itself.

As it happened, the SDB squadrons deployed in the Terra system were never called to action. However, system defense boats played an important role elsewhere in the later wars. They helped to slow Imperial offensives, and kept tenuous lines of communication open to Terran worlds that had been overrun.

Members of the *Bannerjee* class of SDBs were named after Terran politicians and statesmen. The Terran Navy sometimes succumbed to the temptation to name SDBs after *living* politicians, in order to curry favor with the civilian administration.

Tech Level: 10.

Hull: 400-dton Needle/Wedge Airframe hull, dDR 150 armor, Stealth.

Systems: 159 Maneuver Drive, Standard Bridge, Model-6 Sensors (Scan 21), 5 Light Turrets, 6 Beam Lasers, 6 Missile Racks, 3 Sandcasters, 166-1/2 Fusion Power, 5 Staterooms, 3 Bunkrooms, 2 Workshop, Sickbay, 29 Cargo.

Statistics: EMass 5,100 tons, LMass 5,300 tons, Cost M$790, SM +9, ASig +3, Hull dHP 90, Life Support 40, sAccel 6.0 G, no jump capacity, Top Air Speed 10,000 mph.

Crew: Command Section (5 officers), Engineering Section (3 officers, 2 petty officers, 11 crewmen), Gunnery Section (1 petty officer, 4 crewmen), Ship's Troops (1 NCO, 3 enlisted men), Maintenance Section (2 crewmen), Life Support Section (1 crewman), Medical Section (1 petty officer), General Service Section (1 crewman). Total 8 officers, 5 Navy petty officers and Marine NCOs, 22 Navy crewmen and Marine enlisted men.

Passengers: None.

Gashidda-Class Imperial 400-dton Patrol Cruiser

The Imperium uses the *Gashidda*-class patrol cruiser to "show the flag" in Imperial star systems, especially those that are off the main trade network. They have been deployed in large numbers to systems along the rimward border, where they pay particular attention to the movements of Terran ships. Many a Terran merchant captain has had to endure being "pulled over" by one of these small cruisers – a particularly annoying experience, since many of their commanders are junior officers with an overdeveloped sense of superiority to all "barbarians."

The *Gashidda*-class cruiser is designed to carry a single standard 20-dton assault craft (p. 202) to support customs inspections and boarding actions. Members of the class are named after famous soldiers from Vilani history.

Tech Level: 10.

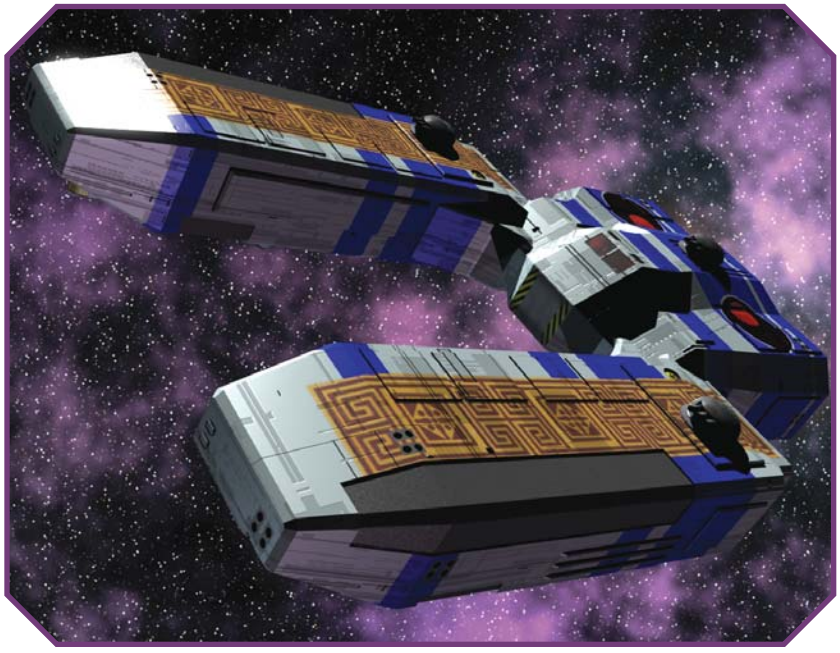
Hull: 400-dton Needle/Wedge Airframe hull, dDR 90 armor, Stealth.

Systems: 68 Maneuver Drive, 12 Jump Drive, 80 Fuel Tanks, 2 Fuel Processors (6.4 dtons/hour), Standard Bridge, Model-6 Sensors (Scan 21), 5 Light Turrets, 3 Pulse Lasers, 9 Missile Racks, 3 Sandcasters, Vehicle Bay (20-dton capacity, carries one 20-dton assault craft), 71 Fusion Power, 20 Staterooms, Sickbay, 51-1/2 Cargo.

Statistics: EMass 2,900 tons, LMass 3,400 tons, Cost M$440, SM +9, ASig +3, Hull dHP 70, Life Support 40, sAccel 4.0 G, Jump-2 (2-parsec range), Top Air Speed 6,500 mph.

Crew: Command Section (5 officers), Engineering Section (2 officers, 1 petty officer, 4 crewmen), Gunnery Section (1 petty officer, 4 crewmen), Flight Section (1 officer, 2 crewmen), Ship's Troops (1 officer, 2 petty officers, 7 crewmen), Specialists (1 petty officer – expert inspector), Maintenance Section (2 crewmen), Life Support Section (1 crewman), Medical Section (1 officer), General Service Section (1 crewman). Total 10 officers, 5 petty officers, 21 crewmen.

Passengers: None.



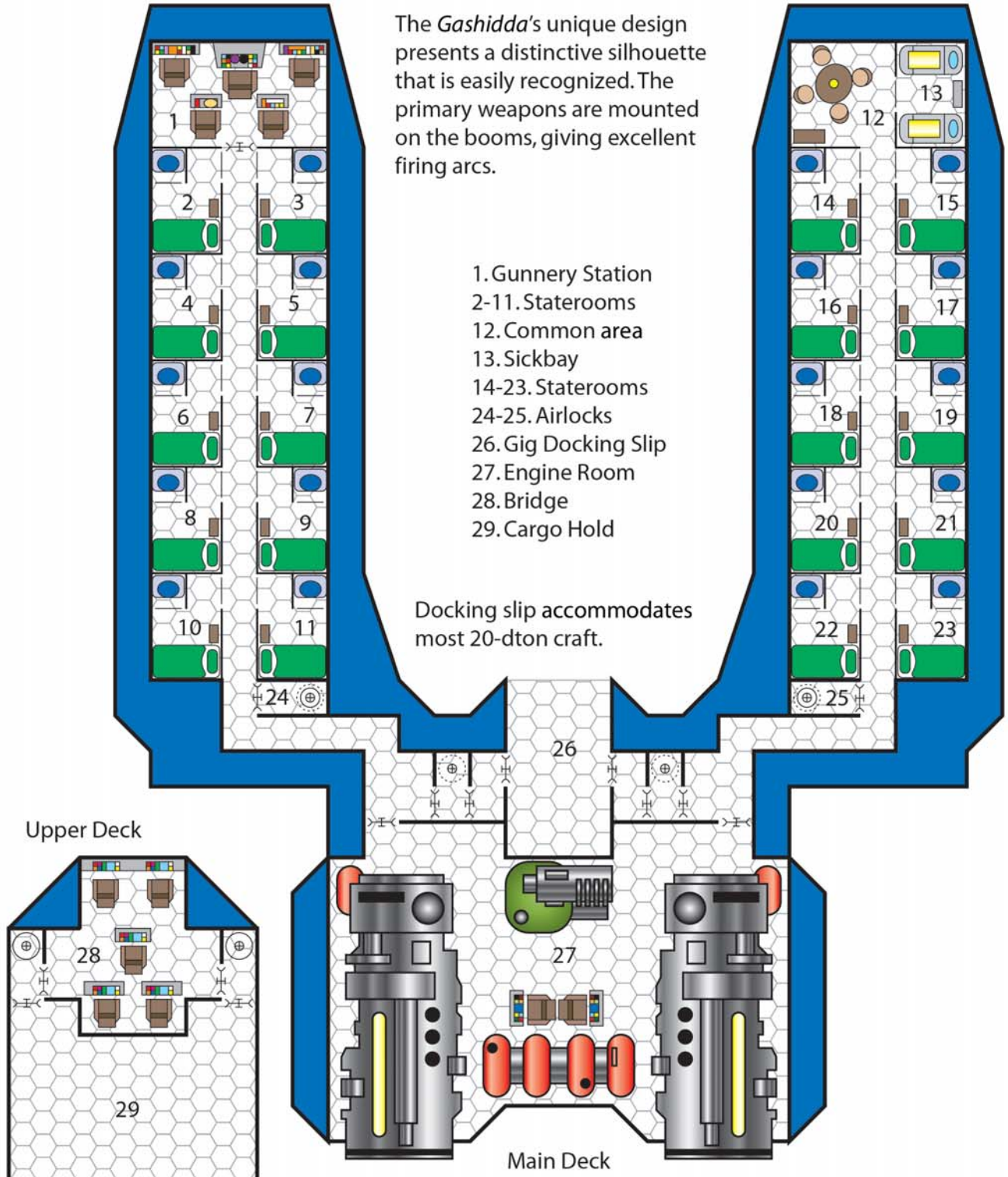
Zheng He-Class 800-dton Survey Vessel

After the Third Interstellar War, the Terran Confederation Navy was given a new mission – long-range exploration. Navy vessels were to explore widely, searching out places for Terrans to settle beyond Imperial control (and routes to reach these new worlds, even if they had to cross Imperial space).

The Navy was not well-organized for exploration, and had no ships specifically built for such work. After evaluating many proposals, the Admiralty settled on a class designed by Kaufmann Sternenschiffbau AG (p. 68). The new class would be specifically designed to operate in uncharted space for long periods, mapping and exploring star systems for the first time. The first examples left the shipyard in 2160, and were soon committed to long-term exploratory ventures to spinward and rimward of Terra.

Only about a dozen ships in the *Zheng He* class were ever built. Although members of the class brought incredible quantities of information back to Terra, they often seemed to be laboring under a curse. The *Zheng He* itself was lost to an unknown disaster on its third voyage, apparently with no survivors. The *Jacques Cartier* was caught in Vilani space at the outbreak of the Fourth Interstellar War, and was destroyed by an Imperial patrol. The *Pytheas* was critically damaged while investigating a derelict starship in an unexplored star system; its crew was forced to settle on the system's sole habitable planet until rescue arrived over 20 years later. Other members of the class suffered less critical mishaps, often having to limp home to Terra. Even so, the *Zheng He* and its successors were among the most successful exploratory ships of the Interstellar Wars era.

Gashidda-Class Imperial 400-dton Patrol Cruiser



The *Zheng He* class was unstreamlined, and was incapable of gas-giant refueling or landing on a target world. It usually carried two mobile bases (p. 203) to land exploration teams on the surface of interesting worlds and two fuel skimmers (p. 203) to help it perform wilderness refueling. It had extensive cargo capacity, and could place temporary camps or bases on target worlds to facilitate months-long exploratory ventures.

Ships in the *Zheng He* class were named after famous Terran seagoing explorers of the pre-industrial era. Most of the ships were named after ancient or non-European explorers, due to public-relations considerations.

Tech Level: 10.

Hull: 800-dton Sphere Unstreamlined hull, dDR 10 armor.

Systems: 20 Maneuver Drive, 24 Jump Drive, 160 Fuel Tanks, 2 Fuel Processors (6.4 dtons/hour), Command Bridge, 2 Model-5 Sensors (Scan 20), 5 Hardpoints, Hangar Bay (120-dton capacity, normally carries four ship's boats), 24 Fusion Power, 28 Staterooms, 2 Workshop, 16 Laboratory, Survey, 2 Sickbay, 160-1/2 Cargo.

Statistics: EMass 790 tons, LMass 2,100 tons, Cost M$320, SM +10, ASig +10, Hull dHP 45, Life Support 56, sAccel 1.9 G, Jump-2 (2-parsec range), Top Air Speed 600 mph.

Crew: Command Section (5 officers), Engineering Section (2 officer, 1 crewman), Flight Section (4 officers, 1 petty officer, 4 crewmen), Ship's Troops (1 petty officer, 4 crewmen), Specialists (4 officers, 4 petty officers, 12 crewmen – computer, sensor, and scientific specialists), Maintenance Section (1 petty officer, 2 crewmen), Life Support Section (1 crewman), Medical Section (1 officer, 1 crewman), General Service Section (2 crewmen). Total 16 officers, 7 pe officers, 27 crewmen.

Passengers: None.

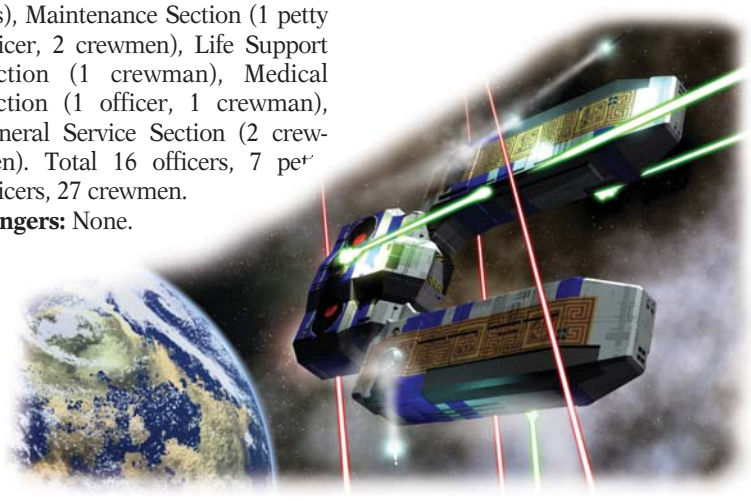
Hardrada-Class 800-dton Commerce Raider

Terrans used commerce raiding from the earliest years of conflict with the Imperium, but no ships were deliberately built for the strategy until the Third Interstellar War. The *Hardrada* class was one of several built in the early Interstellar Wars era, while the Terran Navy experimented to find the best way to strike into the Imperium's rear areas.

The *Hardrada* class was a typical small Terran warship, relying heavily on laser weapons for striking power (and for point defense against Imperial missiles). Its most unusual feature was the extensive provision for ship's troops. A *Hardrada* could carry a light platoon of Marines, trained and equipped for rapid-deployment raids. While the ship could be quite effective in deep-space attacks on Imperial merchant shipping, the Marine contingent made it capable of effective raids against critical facilities on minor Imperial worlds. Of course, the presence of so many Marines made the *Hardrada* class one of the most *crowded* small warships in the Terran order of battle.

Hardrada-class ships were designed to carry two passenger-variant ship's boats (p. 203) as Marine assault landers.

The *Hardrada* class saw limited use for over 20 years before it truly came into its own during the Fifth Interstellar War. Commerce raiding was particularly successful among the lightly-populated worlds of the Dingir subsector, especially when combined with the kind of small Marine raids in which this class specialized. In later wars, similar ships played a small but critical part in keeping the Imperium off balance, preventing any coordinated response to the Terran advance.



Members of the *Hardrada* class were named after famous pirates, privateers, and military adventurers of Terran history. The class ship itself was named after Harold Hardrada, a Viking king of Denmark who was another contender for the throne of England in the year that Duke William of Normandy won the Battle of Hastings. Ironically, the most famous ship of the class was probably the *Duke William*, which carried out an audacious raid against the Imperial naval depot at Dingir in 2228.

Tech Level: 10.

Hull: 800-dton Needle/Wedge Airframe hull, dDR 75 armor, Stealth.

Systems: 96 Maneuver Drive, 24 Jump Drive, 320 Fuel Tanks, 4 Fuel Processors (12.8 dtons/hour), Standard Bridge, Model-5 Sensors (Scan 20), 8 Light Turrets, 12 Beam Lasers, 6 Missile Racks, 6 Sandcasters, 2 Vehicle Bays (30-dton capacity, each carries one ship's boat), 109 Fusion Power, 23 Staterooms, 10 Bunkrooms, 3 Workshop, 3 Sickbay, 48 Cargo.

Statistics: EMass 4,000 tons, LMass 4,700 tons, Cost M$700, SM +10, ASig +4, Hull dHP 80, Life Support 146, sAccel 4.0 G, Jump-2 (4-parsec range), Top Air Speed 6,300 mph.

Crew: Command Section (5 officers), Engineering Section (2 officers, 2 petty officers, 7 crewmen), Gunnery Section (2 petty officers, 6 crewmen), Flight Section (2 officers, 2 crewmen), Ship's Troops (3 officers, 22 NCOs, 54 enlisted men), Specialists (1 officer, 2 petty officers, 4 crewmen – computer and intelligence specialists), Maintenance Section (1 petty officer, 2 crewmen), Life Support Section (2 crewmen), Medical Section (1 officer, 2 crewmen), General Service Section (3 crewmen). Total 14 Navy and Marine officers, 29 Navy petty officers and Marine NCOs, 82 Navy crewmen and enlisted Marines.

Passengers: None.

Karl Marx-Class 1,000-dton Heavy Free Trader

As the Empty Peace dragged on, Terran merchants ranged further and further afield in the Imperium, searching for new goods, fresh markets, and deeper toe-holds. In the early 2160s, the FarStar Association (p. 67) proposed a more aggressive stance, centered around a vessel even larger than the *Lightning* class. In 2166, Hasegawa Limited launched the so-called "heavy trader" *Karl Marx*.

The heavy traders were naval escorts in all but name, not as fast in normal space as the smaller *Lightnings*, but capable of mounting a respectable array of laser and missile batteries. The single standard ship's boat provided an extra platform for exploring unfamiliar star systems; holds and passenger space could carry paying cargo in peacetime and captured goods in wartime.

Peace ultimately spelled the demise of the heavy traders. They were simply too big to maintain by "living off the land" – trading small but lucrative cargoes in exchange for port fees and the next load of goods. Few worlds could supply the appetite of their enormous holds with chance-found wares; fewer still could find markets enough for all that they needed to sell to stay afloat. They might have survived if they had access to the steady flow of regular trade, but by the time reliable markets began to open up to Terran merchants, they were obsolete – too expensive and overbuilt to compete. While they lasted, however, the *Karl Marx* heavy merchants were the undisputed Kings of the Free Traders, and they long remained so in popular imagination and fiction.

Ships in the *Karl Marx* class were named for famous or influential economic thinkers of previous centuries. In the end, only a few dozen members of the class were ever built. Other ships in the class included *Irving Fisher, Milton Friedman, Friedrich August von Hayek, John Maynard Keynes, John Locke, Alfred Marshall, James McLean, John Stuart Mill, David Ricardo, Jean-Baptiste Say, Joseph Schumpeter,* and *Adam Smith.*

Tech Level: 10.

Hull: 1,000-dton Cylinder Streamlined hull, dDR 12 armor, Stealth.

Systems: 30 Maneuver Drive, 30 Jump Drive, 200 Fuel Tanks, 4 Fuel Processors (12.8 dtons/hour), Standard Bridge, Model-5 Sensors (Scan 20), 9 Hardpoints, Vehicle Bay (30-dton capacity, carries one ship's boat), 40 Fusion Power, 28 Staterooms, 3 Bunkrooms, 15 Emergency Low Berths, Workshop, Sickbay, 522 Cargo.

Statistics: EMass 960 tons, LMass 3,900 tons, Cost M$370, SM +10, ASig +4, Hull dHP 50, Life Support 86, sAccel 1.6 G, Jump-2 (2-parsec range), Top Air Speed 740 mph.

Crew: Command Section (5 officers), Engineering Section (2 officers, 3 crewmen), Gunnery Section (1 officer, 2 petty officers, 6 crewmen), Flight Section (1 officer, 1 crewman), Ship's Troops (1 petty officer, 5 crewmen), Passenger Service Section (1 officer, 1 crewman), Cargo Service Section (1 petty officer), Maintenance Section (1 petty officer, 2 crewmen), Life Support Section (1 crewman), Medical Section (1 officer, 1 crewman), General Service Section (2 crewmen). Total 11 officers, 5 petty officers, 22 crewmen.

Passengers: 6 First Class, 12 Standard.

StarLeaper-Class 1,000-dton Exploration Vessel

The *StarLeaper* ships were notable as the first true interstellar vessels ever built by Terrans. Earlier jump-drive ships had explored the outer solar system, but it was the *StarLeaper* ships that first visited other stars.

The *StarLeaper* ships were built and manned by an international consortium, although most of the funding and personnel support came from the United States. Only four of the class were ever built; they were given no names as such, but only the numbers *Zero* through *Three*. Each of the four had a substantially different design and was applied for different purposes.

StarLeaper Zero was the experimental prototype, and was used primarily as transportation for a deep-space fuel depot in 2095-2096. *StarLeaper One* was the ship used during the historic Barnard's Star expedition of 2097-2098, and later made a number of round-trip voyages between Terra and Barnard. *StarLeaper Two* was the first jump-drive ship to reach Prometheus in 2101, and was later lost with all hands while searching for a deep-space jump point beyond Prometheus. *StarLeaper Three* was abandoned in mid-construction in 2103, but in 2125 it was brought out of "mothballs," completed with a jump-2 drive, and sent out on several voyages of exploration. *Three* was the most long-lived and far-traveled member of the group, eventually carrying a diplomatic expedition as far as Dingir in 2135.

The ship design given here is that used during the *StarLeaper One* expedition to Barnard's Star. The ship carried several small landing vehicles and early grav cars for ground exploration (not included in the performance listed below). During the expedition it had no provision for wilderness refueling; instead, it carried enough fuel for a double jump so that it could return to the deep-space fuel depot on the way back to Terra.

Tech Level: 9.

Hull: 1,000-dton Cylinder Unstreamlined hull, dDR 10 armor.

Systems: 10 Maneuver Drive, 20 Jump Drive, 400 Fuel Tanks, 2 Fuel Processors (5 dtons/hour), Command Bridge, Model-5 Sensors (Scan 18), Hangar Bay (100-dton capacity), 50 Fission Power, 17 Staterooms, 4 Bunkrooms, 2 Workshop, 15 Laboratory, 2 Sickbay, 194.5 Cargo.

Statistics: EMass 1,000 tons, LMass 2,400 tons, Cost M$320, SM +10, ASig +10, Hull dHP 50, Life Support 74, sAccel 0.83 G, Jump-1 (2-parsec range), Top Air Speed 600 mph.

Crew: Command Section (5 officers), Engineering Section (3 officers, 2 petty officers, 11 crewmen), Flight Section (4 officers, 4 petty officers, 5 crewmen), Ship's Troops (1 petty

officer, 5 crewmen), Specialists (3 officers, 6 petty officers, 6 crewmen – sensor and scientific specialists), Maintenance Section (1 petty officer, 2 crewmen), Life Support Section (1 crewman), Medical Section (1 officer, 1 crewman), General Service Section (2 crewmen). Total 16 officers, 14 petty officers, 33 crewmen.

Passengers: None.

Agrippa-Class 1,000-dton Corvette

The *Agrippa*-class corvette was first designed after the Third Interstellar War, in response to growing saber-rattling activity along the Imperial rim. Capable of extremely high acceleration, it is able to get to a trouble spot in minimal time. Its heavy emphasis on beam weapons permits it to deal out harsh damage at close range, or to act as a missile shield for convoys.

Typical missions for the *Agrippa* class include convoy escort and perimeter patrol. Its jump capacity and high acceleration qualify it as a true escort, often deployed to run alongside destroyer squadrons.

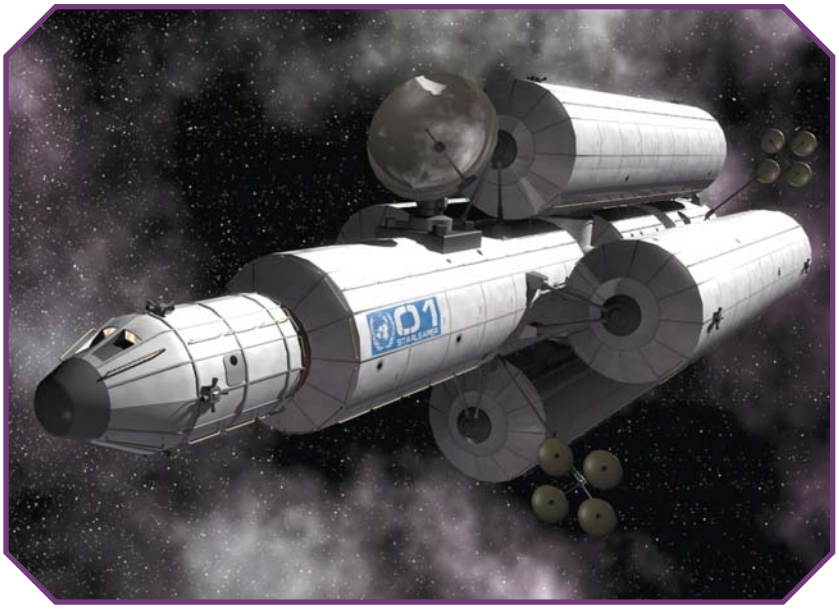
Ships of the *Agrippa* class are named after famous "wet-navy" officers of the pre-spaceflight era on Terra. The class ship itself is named after Marcus Vipsanius Agrippa, possibly the greatest naval commander of the late Roman Republic.

Tech Level: 10.

Hull: 1,000-dton Needle/Wedge Airframe hull, dDR 138 armor, Stealth.

Systems: 270 Maneuver Drive, 30 Jump Drive, 200 Fuel Tanks, 10 Fuel Processors (32 dtons/hour), Command Bridge, Standard Bridge, Model-7 Sensors (Scan 22), Model-2 Sensors (Scan 17), 4 Light Turrets, 5 Heavy Turrets, 6 Pulse Lasers, 6 Beam Lasers, 10 Plasma Guns, 291-1/2 Fusion Power, 33 Staterooms, Workshop, 2 Sickbay, 30 Cargo.

Statistics: EMass 8,600 tons, LMass 9,000 tons, Cost M$1,500, SM +10, ASig +4, Hull dHP 100, Life Support 66, sAccel 6.0 G, Jump-2 (2-parsec range), Top Air Speed 9,800 mph.



Crew: Command Section (10 officers), Engineering Section (4 officers, 5 petty officers, 20 crewmen), Gunnery Section (2 petty officers, 7 crewmen), Ship's Troops (1 NCO, 5 enlisted men), Maintenance Section (1 petty officer, 2 crewmen), Life Support Section (1 crewman), Medical Section (1 officer, 1 crewman), General Service Section (2 crewmen). Total 15 officers, 9 Navy petty officers and Marine NCOs, 38 crewmen and Marine enlisted men.

Passengers: None.

Shamshir-Class Imperial 1,000-dton Destroyer Escort

The *Shamshir* is a typical Vilani destroyer escort. It relies on its size and speed to protect its charges, running alongside while looking for hostiles that might be trying to make flanking attacks. Its lack of capital-ship weaponry is not a drawback in this role, as it is able to shoot at many targets at once.

Terran forces have often managed to lure a *Shamshir* into an unequal engagement, drawing one away from the main fleet. Without any support from the main guns of other ships, this vessel is easily destroyed.

The *Shamshir* typically carries three standard 30-dton ship's boats as support craft.

Tech Level: 10.

Hull: 1,000-dton Flattened Sphere Streamlined hull, dDR 160 armor, Stealth.

Systems: 200 Maneuver Drive, 30 Jump Drive, 200 Fuel Tanks, 10 Fuel Processors (32 dtons/hour), 2 Command Bridge, Model-7 Sensors (Scan 22), 7 Light Turrets, 6 Pulse Lasers, 15 Missile Racks, Hangar Bay (90-dton capacity, carries three ship's boats), 205 Fusion Power, 30 Staterooms, Sickbay, 26-1/2 Cargo.

Statistics: EMass 7,400 tons, LMass 8,000 tons, Cost M$1,200, SM +10, ASig +4, Hull dHP 100, Life Support 60, sAccel 5.0 G, Jump-2 (2-parsec range), Top Air Speed 740 mph.

Crew: Command Section (10 officers), Engineering Section (4 officers, 4 petty officers, 13 crewmen), Gunnery Section (2 petty officers, 5 crewmen), Flight Section (3 officers, 3 crewmen), Ship's Troops (1 petty officer, 3 crewmen), Maintenance Section (1 petty officer, 2 crewmen), Life Support Section (1 crewman), Medical Section (1 officer, 1 crewman), General Service Section (2 crewmen). Total 18 officers, 8 petty officers, 30 crewmen.

Passengers: None.

Sharurshid Standard 2,000-dton Passenger Liner

These vessels were employed by Sharurshid wherever passenger numbers justified their expense, on both main lines and branches of their sprawling network. Since many branch terminals did not fill the liner's passenger capacity each week, departures were often infrequent (though still rigidly regular).

Imperial regulations insisted that enough seats be provided on auxiliary craft to evacuate all crew and passengers in an emergency. To fulfill this requirement, the liner carried four 30-dton passenger shuttles (p. 203).

Tech Level: 10.

Hull: 2,000-dton Close Structure Unstreamlined hull, dDR 10 armor.

Systems: 20 Maneuver Drive, 60 Jump Drive, 400 Fuel Tanks, Standard Bridge, Model-3 Sensors (Scan 18), 4 Vehicle Bays (30-dton capacity, carries one passenger shuttle each), 60 Fusion Power, 6 Luxury Staterooms, 250 Staterooms, 140 Low Berths, 7 Sickbays, 136-1/2 Cargo.

Statistics: EMass 1,800 tons, LMass 3,400 tons, Cost M$580, SM +10, ASig +10, Hull dHP 60, Life Support 512, sAccel 1.2 G, Jump-2, Top Air Speed 600 mph.

Crew: Command Section (10 officers), Engineering Section (2 officers, 1 petty officer, 4 crewmen), Flight Section (4 officers, 1 petty officer, 4 crewmen), Passenger Service Section (3 officers, 4 petty officers, 15 crewmen), Cargo Service Section (1 petty officer), Maintenance Section (1 petty officer, 5 crewman), Life Support Section (1 petty officer, 6 crewmen), Medical Section (2 officers, 4 petty officers, 8 crewmen), General Service Section (2 officers, 4 petty officers, 15 crewmen). Total 23 officers, 17 petty officers, 57 crewmen.

Passengers: 6 Luxury, 50 First Class, 150 Standard, 280 Low.

Sharurshid Standard 2,000-dton Branch Freighter

Designed to carry cargo from major world to main line hub along the branches of the Sharurshid trade network, the standard freighter was the workhorse of Imperial shipping in the rimward territories. In keeping with Vilani practice, individual merchant vessels were not given names, but nicknames were common in addition to the official registry numbers. Most often, an Imperial would refer to one of these ships as *damgar* ("merchant") and not give it another thought.

The "branch freighter" was an unstreamlined vessel, carried no small craft, and thus was forced to rely on transport based at each port of call in order to load and unload cargo. As a result, the freighter rarely stopped at frontier ports, even when these were located on a trade route.

Although not intended as a passenger vessel, the branch freighter included six staterooms for passengers. The accommodations were simple, but frequent departures made "tramping" an attractive option for some.

Tech Level: 10.

Hull: 2,000-dton Close Structure Unstreamlined hull, dDR 10 armor.

Systems: 40 Maneuver Drive, 60 Jump Drive, 400 Fuel Tanks, Standard Bridge, Model-3 Sensors (Scan 18), 60 Fusion Power, 24 Staterooms, Sickbay, 1,338-1/2 Cargo.

Statistics: EMass 1,100 tons, LMass 8,200 tons, Cost M$580, SM +10, ASig +10, Hull dHP 50, Life Support 48, sAccel 1.0 G, Jump-2 (2-parsec range), Top Air Speed 600 mph.

Crew: Command Section (10 officers), Engineering Section (2 officers, 1 petty officer, 5 crewmen), Passenger Service Section (1 officer), Cargo Service Section (1 petty officer, 4 crewmen), Maintenance Section (1 petty officer, 5 crewmen), Life Support Section (1 crewman), Medical Section (1 officer), General Service Section (1 crewman). Total 14 officers, 3 petty officers, 16 crewmen.

Passengers: 2 First Class, 4 Standard.

Kargash-Class Imperial 2,000-dton Light Cruiser

The *Kargash* light cruiser forms the backbone of the Imperial fleet's raiding squadrons. Imperial light cruisers are typically found in groups of 10, with numerous destroyers and destroyer escorts running alongside.

Alone, a single *Kargash* can deliver devastating blows to an enemy's vessel. When light cruisers are used in concert with all of their escorts, they are a sight to be feared.

As is typical with Vilani warships, these vessels are designed primarily to serve as missile platforms. The small-craft loadout varies (and is not included in the performance listed below), but the most typical configuration includes three standard 30-dton ship's boats.

Tech Level: 10.

Hull: 2,000-dton Cylinder Streamlined hull, dDR 240 armor, Stealth.

Systems: 460 Maneuver Drive, 60 Jump Drive, 400 Fuel Tanks, 20 Fuel Processors (64 dtons/hour), 2 Command Bridge, Model-6 Sensors (Scan 21), Model-4 Sensors (Scan 19), 2 Light Missile Arrays, 2 Heavy Turrets, 4 Plasma Guns, Hangar Bay (100-dton capacity), 466 Fusion Power, 60 Staterooms, Workshop, 2 Sickbay, 31 Cargo.

Statistics: EMass 14,000 tons, LMass 15,000 tons, Cost M$2,500, SM +10, ASig +4, Hull dHP 120, Life Support 120, sAccel 6.0 G, Jump-2 (2-parsec range), Top Air Speed 740 mph.

Crew: Command Section (10 officers), Engineering Section (7 officers, 9 petty officers, 33 crewmen), Gunnery Section (2 petty officers, 4 crewmen), Ship's Troops (1 officer, 6 petty officers, 16 crewmen), Maintenance Section (1 petty officer, 5 crewmen), Life Support Section (2 crewmen), Medical Section (1 officer, 2 crewmen), General Service Section (3 crewmen). Total 19 officers, 18 petty officers, 65 crewmen.

Passengers: None.

Sharurshid Standard 10,000-dton Line Freighter

Known generically as *kaanukir* ("freighter"), these behemoths carried the bulk of Imperial trade along the main "backbone" lines of the Sharurshid network in the rimward provinces. Economies of scale made them among the cheapest vessels to operate per ton of freight, allowing low-value bulk goods to ship at a profit, or more expensive wares to ship across greater distances. They were rarely encountered away from the main trade routes, although they would venture wherever demand was sufficient to fill their holds.

Tech Level: 10.

Hull: 10,000-dton Close Structure Unstreamlined hull, dDR 10 armor.

Systems: 200 Maneuver Drive, 300 Jump Drive, 2,000 Fuel Tanks, Command Bridge, Standard Bridge, Model-3 Sensors (Scan 18), Model-0 Sensors (Scan 14), 4 Hardpoints, 300 Fusion Power, 73 Staterooms, 10 Low Berths, 2 Workshop, 2 Sickbay, 6,881 Cargo.

Statistics: EMass 4,500 tons, LMass 41,000 tons, Cost M$2,900, SM +12, ASig +12, Hull dHP 80, Life Support 146, sAccel 1.0 G, Jump-2 (2-parsec range), Top Air Speed 600 mph.

Crew: Command Section (10 officers), Engineering Section (5 officers, 7 petty officers, 28 crewmen), Passenger Service Section (1 officer, 1 crewman), Cargo Service Section (3 officers, 6 petty officers, 18 crewmen), Maintenance Section (2 officers, 5 petty officers, 19 crewmen), Life Support Section (2 crewmen), Medical Section (1 officer, 2 crewmen), General Service Section (1 petty officer, 3 crewmen). Total 22 officers, 19 petty officers, 73 crewmen.

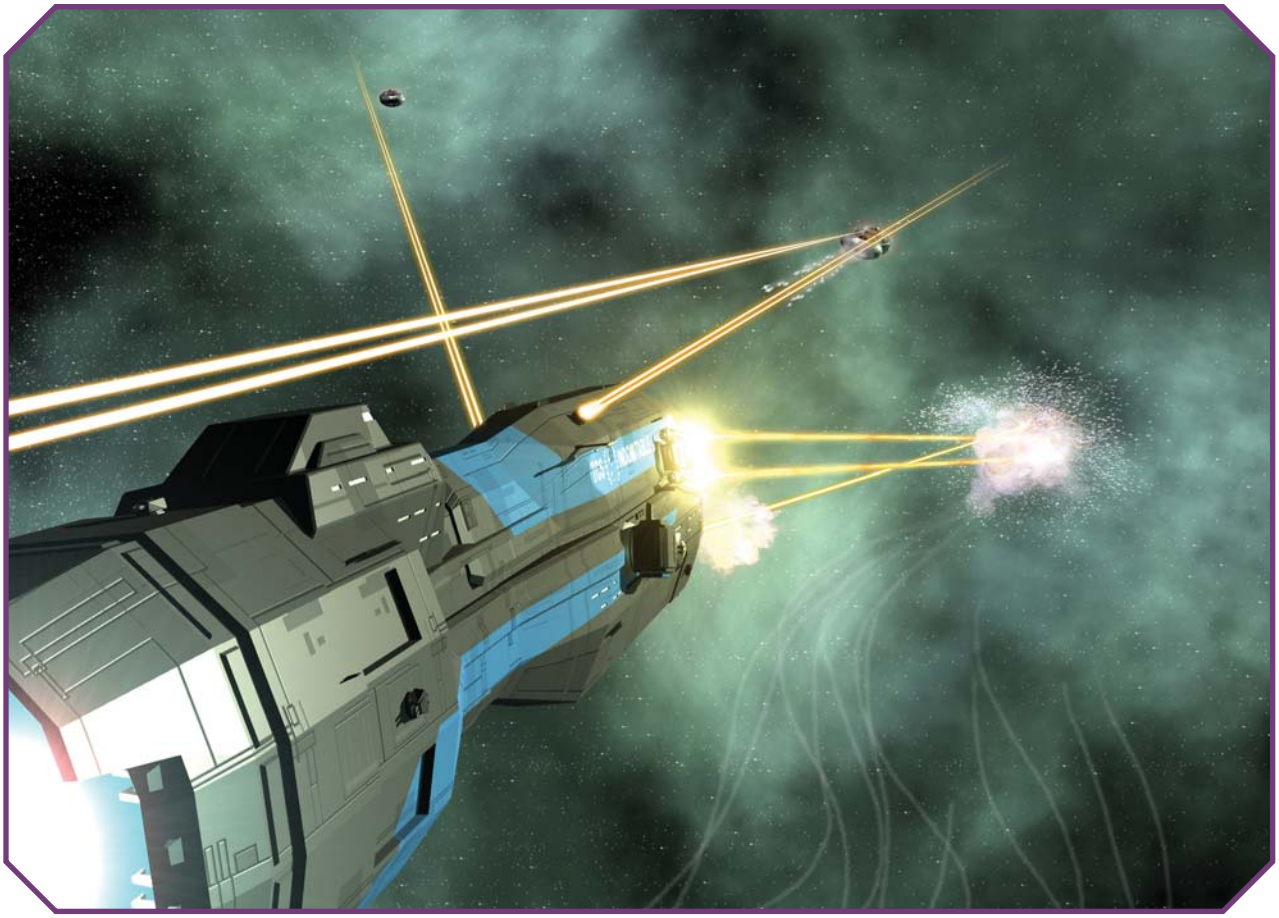
Passengers: 5 First Class, 10 Standard, 20 Low.

Indomitable-Class 30,000-dton Battleship

More than any other ship class, the *Indomitable* and its sister ships were responsible for breaking the back of the Imperial Navy.

The keel of *Indomitable* was laid in 2239, in the heady days immediately following the Eighth Interstellar War. She was the first capital ship to be constructed purely from TL11 technology. As such, she had capabilities that had never been seen before, in any Terran *or Imperial* warship. The *Indomitable* class of battleships soon became the cornerstone of Grand Admiral Albadawi's strategy for the defeat of the Imperium.

The design was eminently successful. *Indomitable* and her sister ships took part in every major naval offensive mounted by the Terran Navy, from the early battles of the Ninth Interstellar War to the final surrender of the Imperium. *Indomitable* herself served as Grand Admiral Albadawi's flagship during the Ninth Interstellar War. *Unstoppable* laid down history's first meson-cannon barrage during the Battle of Muan Kwoyen, destroying numerous Imperial ships.



Although Imperial news dispatches claimed six times that one of these ships had been destroyed, not one was actually lost to enemy fire. They did survive many close calls and near-misses – such as the incident in which *Terrible* was rammed by a Vilani destroyer during intense fighting over Sylea. Still, their sheer size, toughness, and firepower made them queens of the battlefield for over a century.

The *Indomitable* carried a double-strength squadron of 20 laser-armed fighters. These small craft were primarily used for close-in defense, freeing up the battleship's weapon mounts for ship-killing systems. On occasion, they were hurled forward for deep-penetration raids or other audacious maneuvers.

The primary weakness of the *Indomitable* class was logistic rather than tactical. The ship's hull was so tightly packed that there was almost no room for cargo, including spare parts and consumables. As a result, the battleships were unable to mount raids away from the main body of the Terran fleet. Crews sometimes packed needed goods into spare staterooms and bunkrooms, but this led to severe crowding on board.

Ships in the *Indomitable* class were usually named after martial virtues, in the style of ships of the line in the ancient Age of Sail.

Tech Level: 11.

Hull: 30,000-dton Needle/Wedge Streamlined hull, dDR 400 armor, Stealth.

Systems: 4,260 Maneuver Drive, 1,200 Jump Drive, 9,000 Fuel Tanks, 180 Fuel Processor (720 dtons/hour), 2 Command Bridge, 2 Model-9 Sensors (Scan 26), Heavy Spinal Meson Cannon, Repulsor Array, 2 Bay Fusion Guns, 2 Light Missile Arrays, 5 Heavy Turrets, 10 Fusion Guns, Hangar Bay (200-dton capacity), 8,182 Fusion Power, 75 Bunkrooms, 230 Staterooms, 2 Luxury Staterooms, 17 Workshops, 12 Sickbays, 276 Cargo.

Statistics: EMass 180,000 tons, LMass 190,000 tons, Cost M$32,000, SM +13, ASig +6, Hull dHP 300, Life Support 1,214, sAccel 4.5 G, Jump-3 (3-parsec range), Top Air Speed 740 mph.

Crew: Command Section (12 officers, 1 petty officer, 2 crewmen), Engineering Section (70 officers, 136 petty officers, 476 crewmen), Gunnery Section (6 officers, 19 petty officers, 40 crewmen), Flight Section (24 officers, 7 petty officers, 16 crewmen), Passenger Service Section (1 officer, 3 crewmen), Ship's Troops (3 officers, 22 NCOs, 54 enlisted men), Specialists (2 officers, 4 petty officers, 14 crewmen – intelligence and staff specialists), Maintenance Section (7 officers, 15 petty officers, 54 crewmen), Life Support Section (1 officer, 1 petty officer, 10 crewmen), Medical Section (5 officers, 7 petty officers, 12 crewmen), General Service Section (2 officers, 5 petty officers, 17 crewmen). Total 133 Navy and Marine officers, 217 petty officers and Marine NCOs, 698 crewmen and enlisted Marines.

Passengers: 2 Luxury, 16 First-Class, 30 Standard.

Chapter Ten
Starship Combat

June 21, 2172 – Somewhere in Imperial space:

***Cutty Sark** continued, apparently oblivious, while the Imperial patrol cruiser moved smoothly to match courses. A burst of Vilani speech came across the intership channel.*

"As before, sir. 'Terran ship, cut your engines and prepare to be boarded,' " the communications officer translated.

Captain Blake smiled. "Use the running lights, Mr. Shimanni. Sharurshid standard protocols. Signal 'Communications array malfunctioning, request escort.' "

"Aye, sir."

The patrol cruiser appeared on the unmagnified main viewer, a chip of silver against the stars, only a few dozen miles away.

"Wait for it," said the captain.

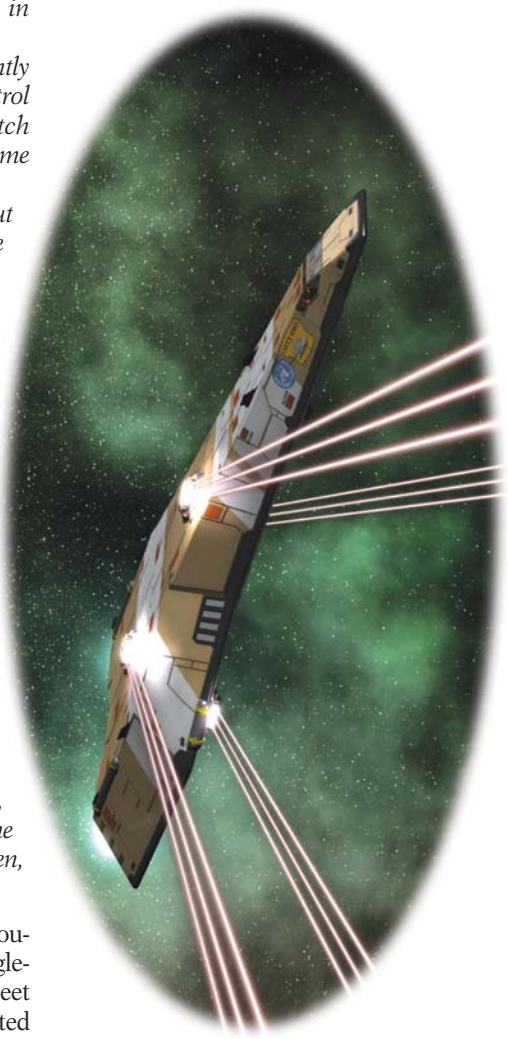
The communications officer cleared his throat. "Once again, and they're starting to sound impatient. 'Cut your engines and prepare to be boarded.' "

Blake waited one more moment, then leaned forward and opened the intercom to the gunners. "Gentlemen, let fly!"

The Interstellar Wars era saw thousands of battles in space, from single-ship skirmishes to massive main-fleet engagements. The system presented here is intended to resolve space actions on a hexagonal grid, using counters or miniatures. It is intended for vessels created with the ***Interstellar Wars*** ship design system.

Scale and Definitions

Space battles are fought in 20-minute combat rounds. One map hex is equal to 10,000 miles of distance. Each spacecraft counter represents a single vessel or a salvo of missiles. A velocity of one hex per round is equal to a speed of 30,000 mph.



Acceleration is measured in Gs. Vessels with less than 1 G acceleration use special rules for movement (p. 222).

Any unqualified use of the term "spacecraft" can be assumed to cover ships, small craft, and missiles.

Preparation

In addition to a hexagonal grid map, each spacecraft requires *two* counters. One is a *spacecraft counter* to indicate the vessel's current location, while the other is a *vector counter* to mark its future position. Both should be marked similarly so that they can be distinguished from each other and from other counters on the map, but so that the two counters for one spacecraft can easily be associated with each other.

As with character counters in the Tactical Combat System (p. B348), spacecraft and vector counters must be placed on the map so that they are fully inside a hex. Each of the two counters must always face a specific hex side, and the two counters must always face in the same direction.

Setting Up

The GM should only set up a map and counters if space combat is a possibility (or if he wants players to think that it is). While deep-space encounters are possible, most action occurs within a few hundred hexes of a world.

If space combat seems imminent, the GM should first place any planets, moons, or other large bodies on the map (see *Celestial Bodies*, p. 225). Different planets will be tens of thousands of hexes apart, but a planet/moon system is likely to fit on the map. For example, the average Earth-Moon distance is 24 hexes – and many planetary satellites will be much closer to their primaries.

The GM secretly decides on the location and course of NPC spacecraft. Before revealing the location of these vessels, he asks players to provide him with the same information for their spacecraft. Based on this, the GM should place friendly, neutral, and hostile spacecraft (except any carried aboard ships) on the map. The GM may wish to keep some unspotted craft "off the map" to surprise players, possibly stationary vessels hidden on or behind worlds.

Facing

The direction that a spacecraft or vector counter faces is important in several specific rules. A counter's facing defines its *front arc*, *side arcs*, and *rear arc* as follows.

From the center of a counter's hex, draw two lines along the closest sides of the hex immediately in front of the counter, and extend these lines as far as needed. These lines should define a 60° arc in front of the counter. Any hex that is partially or entirely between these two lines is considered to be in the counter's *front arc*.

Similarly, from the center of the counter's hex, draw two lines along the closest sides of the hex immediately *behind* the counter, and extend these lines as far as needed. Any hex that is partially or entirely between these two lines is considered to be in the counter's *rear arc*.

Any hex that is not in a counter's front or rear arcs is in one of its *side arcs*.

If two spacecraft A and B are in the same hex, and spacecraft A has declared that it is attempting to ram spacecraft B, then B is in A's front arc. Otherwise, B is in A's side arc.

You can download all the counters required for starship combat at http://e23.sjgames.com/.

Place each spacecraft's counter where the spacecraft is at the start of the engagement, and place its vector counter where the spacecraft will be next round if it doesn't maneuver. The position of the vector counter relative to the spacecraft counter indicates the spacecraft's heading, while the distance between the two counters indicates its velocity. Thus, a stationary spacecraft has its two counters in the same hex, one moving at about 30,000 mph (one hex per round) toward a planet would have its vector marker in the adjacent hex closest to the planet, and so on. Relatively low velocities (one to five hexes per round) are most playable, as faster-moving vessels will take a long time to turn around.

The distance between opposing spacecraft depends on the situation.

In a system with a busy starport (Class C or better), there is usually a great deal of traffic passing by, and captains won't begin to grow concerned until a vessel passes within half a light-second or so (seven to nine hexes). Likewise, if a PC crew is planning some sort of nefarious activity, an enemy won't usually pay much attention to them until they get within a similar distance.

In a frontier star system or an actual war zone, ship captains will be more cautious. The GM may want to start checking for detection within a light-second or two (18-36 hexes) On the other hand, if an enemy was hiding behind a planet, moon, or large asteroid, the combat could begin at much shorter ranges as it suddenly appeared within line of sight.

If the battle is a set-piece engagement or a random encounter, the GM should be careful to place ships with converging vectors. If the engagement is the climax of a chase, place the quarry in the center of the map and the pursuers at one edge, bearing in mind that the pursuer will be unable to catch up unless he possesses a faster ship or missiles. Care should also be taken when placing things that can't maneuver (or can't maneuver much) in the context of the game – i.e., space stations, satellites, or low-acceleration ships.

Sequence of Action

Play proceeds through the following sequence each round. There are no individual turns as such – detection is checked for all spacecraft, then maneuvers are made for all spacecraft, and so on.

1. *Detection and Communication Phase*
2. *Maneuver Phase*
3. *Movement Phase*
4. *Direct Fire Phase*
5. *Point Defense and Collision Phase*
6. *Launch and Docking Phase*
7. *Damage Control Phase*

Detection and Communication Phase

Each space combat round, check to see if spacecraft detect previously unnoticed objects. Large objects like moons, planets, or stars are automatically detected. The GM may require sensor rolls to detect smaller objects like asteroids if they aren't on charts.

Sensor Stance

For each spacecraft, determine its *sensor stance* at the beginning of this phase. Each spacecraft is always in one of three stances: *silent running*, *active*, or *broadcasting*.

Silent running means that the spacecraft is using only passive sensors, and is not making any deliberate radio or other transmissions. The spacecraft's transponder, if any, must be turned off. A spacecraft in this stance can still be seen at a considerable distance, either through a telescope or through the detection of the waste heat from its power plant and drives. Missiles are *always* in silent running, but manned spacecraft need not be.

Active means that the spacecraft is using its active sensors, but not making deliberate radio or other communication transmissions. The spacecraft's transponder, if any, must be turned off. The emissions from the spacecraft's active sensors may be easily detected by other ships; this is one reason why warships should carefully consider when to "go active."

Broadcasting means that the spacecraft is making deliberate radio transmissions using its standard communications gear, or that it has an activated transponder. Spacecraft in this stance are very easy to detect from a distance. Civilian starships are almost always in this stance – indeed, it is *illegal* for a civilian ship to turn off its transponder when in an inhabited star system's traffic lanes. Note that radio communicators and transponders are designed to be easy to detect, and are usually detectable at longer ranges than a ship's active sensors. If a ship is in broadcasting stance, there is no logical reason to not be using active sensors as well.

Note that missiles are controlled with laser or "tight-beam" radio communications, which are very hard to detect from a distance. A ship may control missiles from any sensor stance, including silent running.

The GM should secretly decide which stance each NPC spacecraft is in, and then ask players to reveal the stances of their own spacecraft.

Detection Procedure

For each sensing ship and potential target, roll against the sensor operator's Electronics Operation (Sensors) skill, adding appropriate modifiers found in *Sensor Modifiers* later in this chapter (p. 227). If the ship is in silent running, the roll must use the Passive Sensors modifiers. If the ship is in active or broadcasting stance, then the roll may use either Passive Sensors or Active Sensors modifiers, whichever gives the better chance of detecting a given object.

Failure means that the object is not detected, but another try may be made next round.

Success by 0-2 means *detection*. The object's existence has been discovered, and its location and course are known. The object's spacecraft and vector counters can be placed on the map.

Success by 3-4 means *detection and recognition*. The object is detected, and its general shape resolves as a fuzzy image.

Success by 5+ means *detection and identification*. The object appears "on screen" as an actual image, and its identity can be determined if it exists in available databases.

Once detection is achieved, it is retained unless something occurs that would interrupt a direct line of sight between the vessels, such as a ship moving behind a planet. Further attempts can be made to detect the same object, in order to improve the quality of the context; in this case, ignore any results that would lower the degree of detection achieved.

Any objects launched by a spaceship after it has been detected are spotted automatically. In particular, if a spacecraft that has been identified fires missiles, they are identified as they launch.

Maneuver Phase

In this phase, every spacecraft with a working maneuver drive may maneuver. Spacecraft maneuver in order of lowest to highest sAccel rating. Spacecraft with equal sAccel maneuver in order of highest to lowest Size Modifier. Break ties with a Quick Contest of Tactics skill between the respective captains, with the winner maneuvering *last*. Each spacecraft's pilot (or the controlling gunner, for a missile) determines how the spacecraft will maneuver.

On its turn, a spacecraft maneuvers by changing facing and/or accelerating. To carry out a spacecraft's maneuver, using the following procedure:

1. Turn the *spacecraft counter* to face any hexside.

2. Turn the *vector counter* to face in the same direction as the spacecraft counter.

3. If desired, move the vector counter to a new hex. The distance that the vector counter may be moved depends on the *direction* in which it is moved. If the vector counter's new position will be in the *front arc* of its old position, it may move a number of hexes up to the spacecraft's sAccel rating (rounded down). Otherwise, it may move a number of hexes up to *half* of the sAccel rating (rounded down).

Slow Maneuvering

If a spacecraft has sAccel less than 1 G, it will not be able to maneuver every round. It requires (1/sAccel) rounds to maneuver (rounded down). Each time it maneuvers, it may move its vector counter one hex, but this movement *must* be into the vector counter's closest front hex.

For example, a spacecraft capable of 0.3 G acceleration can maneuver once every 1/0.3 = 3.33 rounds, rounded down to every three rounds. Between these rounds, it may not change facing or accelerate.

Missiles and Maneuvering

A missile can only maneuver if it is currently under the direct control of a gunner. It must be within communications range of the ship on which the gunner is working (50 hexes at TL9, or 100 hexes at TL10+). Gunners on board a given ship can only control one missile per installed missile rack, 24 missiles per light missile array, and 36 missiles per heavy missile array.

Control of a missile can be "handed off" from one ship to another, so long as the two ships are within communications range of each other. If a missile is dropped because there is no gunner is available to control it, it can be "reacquired" on the next turn. In fact, it *must* be reacquired on the next turn, otherwise it will automatically self-destruct during the Maneuver Phase.

Any one missile may only maneuver three times before running out of on-board power. GMs may wish to use a small die or another marker next to each missile counter to keep track of remaining power. Once a missile runs out of power, it will automatically self-destruct after the Point Defense and Collision Phase of that turn.

Movement Phase

Spacecraft move in any order – since there are no decisions to be made in this phase, it doesn't matter what order movement takes place in. For each spacecraft, the GM or a player should use the following procedure:

1. Pick up the spacecraft counter and put a placeholder (a small coin or die) in the hex the spacecraft counter was taken from.

2. Pick up the vector counter and put the spacecraft counter in the hex the vector counter was taken from. The spacecraft counter must face in the same direction that the vector counter did before movement.

3. Trace a line from the center of the placeholder's hex through the center of the spacecraft counter's hex and on in the same direction. Move the vector counter along that line, a number of hexes equal to the distance between the placeholder and the spacecraft counter. The vector counter must face in the same direction as the spacecraft counter. Once this is done, the placeholder can be removed from the map (but see *Gravity Fields*, below).

In effect, the spacecraft moves into the place held by its vector counter from the previous round, and the vector counter is moved to a new location along the same projected course. A spacecraft that does not maneuver will continue to move each round in the same direction.

4. Examine the line traced from the placeholder to the spacecraft counter's current position. Each gravity hex that this line enters, ignoring the placeholder's hex but including the spacecraft counter's hex, will cause the vector counter to move. If the line passes along a hexside between a gravity hex and a non-gravity hex, this doesn't count.

5. For each gravity hex in turn, visualize an arrow from that gravity hex pointing to the planet, and move the vector counter one hex in that direction. Remember to maintain the vector counter's facing.

6. Once the vector counter has been moved for each gravity hex, the placeholder can be picked up and the next ship's movement can be performed.

Collisions

If a spacecraft's course (the line between its placeholder and its new spacecraft counter position) intersects a planet-sized celestial body, it must either crash into the planet or land on it (see *Celestial Bodies*, p. 225).

Any number of spacecraft may share the same hex with each other, or with small bodies like asteroids, without risking accidental collision.

Gravity Fields

Each world with a surface gravity of at least 0.25 G will be surrounded by *gravity hexes* (see p. 225). A spacecraft that passes through a gravity hex will be accelerated, its velocity vector altered, by the world's gravity. Once the spacecraft's vector counter has been placed in Step 3 above, but *before* the placeholder is removed, add the following two steps.

Ramming

After *all* spacecraft have completed their movement, a spacecraft that is in the same hex as any other spacecraft (or other object) may attempt to ram. Ramming must be declared at the end of the movement phase by the spacecraft's pilot. The target of a ramming attempt may cooperate, attempt to evade the ram, or even announce that it is ramming a different vessel. The actual results of ramming are

resolved in the Point Defense and Missile Phase, but the decision must be made now, as a spacecraft closing to ram becomes easier to hit. A spacecraft may attempt to ram only one target per round.

Direct Fire Phase

Direct fire is fire performed using directed-energy weapons: lasers, plasma guns, particle cannon, or meson cannon. Spacecraft perform direct fire one at a time. All fire is considered simultaneous. Attacks should be resolved sequentially and can take place in any order, but any damage should not be applied until the end of the phase.

When it is a spacecraft's turn to fire, resolve fire one gunner at a time. Each gunner decides for himself whether to shoot and what to shoot at. A single gunner can fire all of the weapons in his turret or bay, if he is at the turret or bay's crew station. Fixed-mount and spinal mount weapons are fired from bridge crew stations. A Gunner program running on the ship's computer can replace a single gunner.

One gunner can only fire at one target per round; he may not "split" the fire of multiple directed-energy weapons under his control. Each weapon may only fire once per Direct Fire Phase – this represents a number of carefully aimed tracking shots fired over the entire 20-minute period of a combat round.

Procedure

Use the following procedure for each weapon that is being fired:

1. Choose a target. A weapon can fire on any target that the gunner's spacecraft has detected, is within his weapon's maximum range, and is within his arc of fire. Weapons in turrets or bays may fire in any direction. Weapons in fixed mounts or spinal mounts may only fire into the spacecraft's front arc.

2. Determine the modified Gunner skill for the firing gunner (or program) using the *Gunnery Modifiers Table* (p. 227). Roll against modified skill to determine if the hit occurred. During the 20-minute combat round, a successful attack roll may indicate multiple hits. For the purposes of space combat *only*, treat all directed-energy weapons as having RoF 20 and Recoil 2 (p. B373); one extra hit is achieved for every full multiple of two by which the attack roll is made.

3. If the target is hit, has a pilot, and has sAccel of at least 0.1 G, it may attempt a vehicular dodge against each attack that hits (p. B375). Roll against half of the pilot's Piloting (High Performance Spacecraft) skill, rounded down. A spacecraft may attempt to dodge multiple times in the same round, but may only attempt to dodge once against any given attack. A successful roll avoids one hit, plus additional hits from the same attack equal to the margin of success. A critical success dodges *all* the hits from that attack.

4. For each hit that is not dodged, roll the weapon's damage dice (see *Space Weapons Table* on p. 226). Damage is halved beyond the half-damage range. Subtract target dDR, modified by armor divisor, as usual. Sandcasters may offer extra dDR against lasers (see *Sandcasters*, p. 193). If damage penetrates armor, see *Damage Effects* below. On a critical hit, the attacker may choose to do double damage, or to have defenses protect at one-tenth of normal DR.

Pinpoint Fire

A gunner using a directed-energy weapon other than a meson cannon can attempt to use "pinpoint marksmanship" against a weak spot in the target's armor (e.g., hatches, weapon tubes, turret rings, and so on). This is difficult: when computing the gunner's effective skill, ignore the target's Size Modifier. On a hit, the target's DR protects at half normal, cumulative with other armor divisors.

Pinpoint fire may be used to knock out specific systems on the target spacecraft. In this case, the gunner making the attack must declare the specific target before firing; in effect, he may choose any one entry on the Major Damage Table (p. 227). The attack will not get any extra hits no matter how well the gunner makes his skill roll. On a hit, the target's dDR is halved, as is usual with pinpoint fire. The attack must do at least 10 dDR of damage (after armor and other defenses) to inflict the desired Major Damage result.

Sandcasters

In the Direct Fire Phase, a turret's sandcasters can be targeted toward a single enemy vessel. A single sandcaster adds dDR 40 to its ship's armor dDR against all *laser* fire originating from the targeted vessel. Multiple sandcasters can combine to protect against fire from a single spacecraft, but each extra sandcaster only adds another +5 dDR.

Damage Effects

Damage effects are calculated immediately, but do not take effect until the end of the Direct Fire Phase. Thus, everyone has a chance to fire before being crippled or destroyed.

All damage to a spacecraft is considered to be to the body. The following damage results are possible.

Major Damage: Each time the spacecraft takes 50% of its original dHP in damage from a single attack, or when the spacecraft is reduced to less than 1/3 of its original dHP, it takes Major Damage. Roll 3d on the *Major Damage Table* (p. 227) and apply the result.

Disabled: When the spacecraft is reduced to 0 dHP, it is crippled, out of power, and leaking air. It continues to move in the Movement Phase, but may not maneuver, dodge incoming fire, jump, fire weapons, use sensors or communicators, or apply any other shipboard systems that require power. Piloted small craft (such as lifeboats or fighters) can still be launched and recovered.

Destroyed: When the spacecraft is reduced to -1×dHP, it must make a HT roll. On a failure, it is destroyed. The effects are as for *disabled*, above, but the ship can no longer launch or recover small craft. Another HT roll must be made each time the spacecraft is reduced to another multiple of -1×dHP. At -5×dHP, the spacecraft is automatically destroyed.

Crew and Passenger Damage: Use the *Occupants and Vehicle Damage* rule (p. B555) to determine whether any occupant of a spacecraft is hit when damage penetrates the hull and armor. Remember that damage is in D-scale – multiply by 10 to determine hit points of damage to a crewman or passenger. Crewmen are rarely just *wounded* in space combat . . .

Point Defense and Missile Phase

If a spacecraft attempted to ram its target and was not destroyed by enemy fire during the Direct Fire Phase, the ram attempt is resolved in this phase. If multiple spacecraft are ramming each other in the same hex, resolve them in order of highest to lowest sAccel, then lowest to highest Size Modifier, breaking ties with a Quick Contest of Tactics. (This is the *reverse* of the order established in the Maneuver Phase.)

Although missiles do not attack by physically colliding with their targets, they do run very close before setting off proximity-fused explosives. For the purpose of the following rules, this is considered "ramming."

Point Defense

Before any spacecraft is rammed, it may attempt to use directed-energy weapons and sandcaster fire for point defense. Fire is allowed even if the weapon also fired during the Direct Fire Phase. Point-defense fire is resolved like normal fire against a target, except that no range modifier is applied to the skill roll.

A spacecraft may only use point-defense fire against other spacecraft that are attempting to ram it in the current phase. Point-defense fire may be performed even against incoming spacecraft that have not yet been detected; it's assumed that the incoming spacecraft appears on proximity sensors less than a minute before impact, giving enough time for an attempt to shoot it down.

Each directed-energy weapon may only fire *once* during this phase. If its gunner scores multiple hits (see p. 223), he may divide those hits among different targets rather than hitting the same target more than once. This requires that subsequent targets be no harder to hit than the first. This technique is most often used against groups of incoming missiles; on average, a single directed-energy weapon will take out two or three missiles.

When sandcasters are used as point-defense weapons, treat them as standard TL10 beam lasers for this purpose. A sandcaster used for point defense cannot hit more than one target, no matter how well the gunner does on his skill roll.

Ramming

If both spacecraft cooperate in ramming each other, the attempt automatically succeeds. Otherwise the attempt is resolved as a Quick Contest of Skill between the rammer and the target. Manned craft use their pilot's Piloting skill. Missiles use their controlling gunner's Gunnery skill. Refer to *Ramming Modifiers* (p. 227) for the modifiers to each side's skill level. If a very large salvo of missiles attempts to ram the same spacecraft, the GM may wish to break the salvo into groups of 3, 5, or 10 missiles and make a contest of skill for each, rather than rolling for each individual missile.

If the rammer loses or ties, it fails to hit the target. If this occurs, nothing happens, and the ramming spacecraft remains in the target's hex. If the rammer wins, both spacecraft collide.

Space-combat missiles do damage by proximity explosion, delivering a shaped-charge explosive warhead just before actual collision with the target. A hit from a missile always does 12d(10) burn explosion damage.

Collision damage depends on the relative velocity between the two spacecraft. This can be determined by counting the distance between their two vector counters in hexes. Collision inflicts crushing damage on *both* spacecraft equal to the relative velocity in hexes, times the dHP of the *smaller* spacecraft, times 150 *dice* of damage. Any collision between two warships is likely to destroy both!

Ramming an asteroid, planet, or moon won't do damage on a planetary scale, but it can devastate an area. Aside from any warhead effects, assume that anything nearby takes crushing explosion damage equal to one-tenth the collision damage.

Launch and Docking Phase

In this phase, spacecraft may launch missiles and small craft, and may also recover small craft. Spacecraft perform these tasks in the same order in which they maneuvered during the Maneuver Phase.

Missile Launch

A spacecraft may launch one missile per missile rack, 24 missiles per light missile array, and 36 missiles per heavy missile array each round. Note that a spacecraft can only *control* about this many missiles at one time (see *Maneuver Phase*, p. 221). One salvo will usually not be launched until the previous salvo has reached its targets.

Newly launched missiles are placed in the same hex as the launching spacecraft, with any desired facing. The missile's *vector* counter is placed in the same hex as that of the launching spacecraft, facing the same direction as missile's spacecraft counter.

For convenience, salvos of missiles that are intended to maneuver together and strike the same target can be represented by a single pair of counters. A small die or some other marker can be used to indicate how many missiles are in the salvo, and to register losses to enemy fire.

Small Craft Launch

A spacecraft may launch one small craft per vehicle bay or hangar bay per turn. A launch tube can launch up to 40 small craft per turn. A spacecraft with a dispersed structure may launch *all* of its small craft in one turn.

Newly launched small craft are placed in the same hex as the launching spacecraft, with any desired facing. The vector counter of a small craft must be placed in the same hex as the launching ship's vector counter, with the same facing as the small craft's spacecraft counter.

Docking

Two spacecraft that occupy the same hex, and whose vector counters are also together in a single hex, are said to have "matched courses." They may dock during the Launch and Docking Phase. One of the spacecraft must be capable of maneuver; the other must either cooperate, or must be crippled and unable to maneuver.

Safe docking requires careful piloting and takes an entire combat round. Neither spacecraft may maneuver in the *next* combat round's Maneuver Phase. The docking maneuver is not complete until the beginning of the next Launch and Docking Phase. Once docked, spacecraft can maneuver provided that they continue to match courses and don't exceed 1 G of acceleration (i.e. their vector counters are never moved more than one hex during the Maneuver Phase). Undocking is faster; it takes a single phase and doesn't restrict maneuver.

Small Craft Recovery

A spacecraft can *recover* small craft, storing them on board, if all the requirements for docking are met and the smaller craft can fit aboard. One small craft may be recovered per vehicle bay (assuming the small craft is designed to fit the bay), hanger bay, or launch tube on the larger spacecraft. If a bay or launch tube is used for small craft launch, it cannot also be used for small craft recovery in the same Launch and Docking Phase.

Emergency Docking or Recovery

A docking or recovery operation can be performed more quickly. The pilot of the maneuvering craft makes a Piloting skill roll. On a success, the operation takes a single Launch and Docking Phase, and there is no restriction on maneuvers next round. If the roll fails, the two spacecraft collide at relatively low speed. Both take dice of crushing damage equal to 1/10 of the smaller spacecraft's dHP.

Damage Control Phase

In this phase, engineers can attempt to repair damage to their vessel. The rules under *Repairs* (p. B484) apply.

Minor Repairs: Hit points lost due to missed maintenance, battle damage, or any other cause can be repaired by crewmen with the appropriate skills. All repair rolls during combat are at -7. This penalty is a combination of rushing the repair roll by 40% in order to make it in a 20-minute combat round (see *Time Spent*, p. B346) and of working on a very expensive item (p. B484). Outside combat, engineers can take as much time as they need, although the -3 penalty for repairing an object costing over $1,000,000 still applies. Each successful skill roll restores one normal-scale HP times the margin of success. Every 10 normal-scale HP restored will repair one dHP.

Major Repairs: Each Major Damage result, or point of lost HT due to missed maintenance, must be considered a Major Repair. If a Major Damage result is being repaired, use the cost of the individual ship's system in order to determine the cost of spare parts. If a point of lost HT is being repaired, the cost of the spare parts is equal to 1d% of the ship's base price.

Celestial Bodies

While most of space is empty, the valuable parts aren't. Many engagements will take place around planets and other strategic objectives.

Worlds

These are planets and moons whose diameter is 1,000 miles or greater. Typical inhabited worlds are less than 10,000 miles in diameter, and so comfortably fit in a single hex. Worlds should be represented on the map either by drawing a circle or by placing an appropriate counter in a hex.

Line of Sight: A world blocks line of sight past it. A spacecraft may use sensors, communicators, and directed-energy weapons other than meson cannon into (but not through) a world hex. Meson cannon may be fired through a world hex.

Gravity Hexes: Any world with a surface gravity of 0.25 G or more will generate gravity hexes. The world's hex itself is *not* a gravity hex. See *Gravity Fields* (p. 222) for the effect of these hexes on movement.

High Orbit: A spacecraft that moves one hex directly from a gravity hex to an adjacent gravity hex during the Movement Phase is in orbit. The spacecraft's movement should carry it completely around the planet without requiring any further acceleration.

Low Orbit: A stationary spacecraft in a world hex (i.e. a vessel whose spacecraft and vector counters are both in the world hex) is assumed to be in low orbit.

Landing and Takeoff: A spacecraft in low orbit can *land* on the world's surface during the Maneuver Phase, leaving the map. A spacecraft on a world's surface may leave the world by being placed on the map in low orbit (i.e. stationary in the world hex).

Large Bodies

Large bodies such as gas giants and stars will take up multiple hexes. Represent such bodies as a circle (Diameter/10,000) hexes across. A large body's gravity hexes are represented by a larger circle with a diameter of 4 × *Square root*(Mass). Don't worry about aligning a large object on the hex grid; it won't fit. Just draw a circle for the given diameter, and if the 1-G gravity well is larger, a second circle for it.

Large bodies will block line of sight as worlds do. Realistic gravity and orbital mechanics for large bodies are beyond the scope of this system. GMs can apply gravity effects as in the standard rules, except that the gravity zone may be a number of hexes deep.

A ship that enters a gas giant or star hex is immediately destroyed. Ships that perform wilderness refueling (p. 192) skim the very thin outer fringes of the gas giant's atmosphere, just outside the planet's radius as drawn on the map.

Small Bodies

Small bodies include asteroids (a few yards to several miles across) and small moons or planets up to 1,000 miles in diameter. In the space combat system, such bodies do not affect detection or fire unless a ship is in the same hex and is deliberately keeping the small body between itself and another spacecraft.

Ships may pass freely through hexes containing small bodies. They do not generate gravity hexes.

Special Rules

The following rules elaborate on various aspects of space combat.

Crew Positions and Skill Rolls

Smaller vessels often have the same crewman performing multiple roles. If a crew member is undertaking multiple tasks during a single space combat round, he suffers a -2 penalty to *all* skill rolls for each extra task he is performing.

Actions counted as tasks are: piloting; firing one weapon or one set of identical weapons at the same target (sandcasters may not be fired in groups); controlling any number of missiles; acting as a sensor operator; damage control; complex communications (GM's option; e.g., coordinating a squadron or tracking a signal).

A ship with more than two crew engaged in the above tasks should also have a captain, who does nothing but give orders. If no captain is on hand, the GM should apply an extra -1 penalty to everyone's skill rolls!

Fighters and similar small craft are often designed to make it easier for a single crewman to manage multiple tasks. The GM should permit fighter pilots (and other small-craft commanders, at his discretion) to perform piloting, gunnery, and sensor operations all at the same time without penalty.

Jump

A starship with a working jump drive and enough fuel may prepare for a jump in any Maneuver Phase. The ship may not maneuver in that phase, and jumps at the beginning of the next Maneuver Phase.

A safe jump entry (or exit) requires a distance from any large body of at least 100 diameters. Thus, starships may jump in or out safely from (planetary diameter in miles/100) hexes. See p. 171 for jump procedures.

Ships jumping *in* appear at the beginning of a Maneuver Phase, retaining whatever vector they had when they went into jump.

Missile Statistics

Both Imperial and Terran ships use very similar ship-to-ship missiles throughout the Interstellar Wars era. The statistics, using the same abbreviations as for spaceships, are as follows.

Note that almost any hit from a space combat weapon will disable a missile, preventing it from finishing its attack run. The GM may rule that one hit from any weapon will destroy a missile without needing to roll for damage.

Tech Level: 10.
Hull: Cylinder Streamlined hull, dDR 4 armor, Stealth.
Statistics: EMass 0.15 tons, LMass 0.15 tons, Cost $30,000, SM +0, ASig -6, Hull dHP 2, no life support capacity, sAccel 8.0 G, no jump capacity, Top Air Speed 740 mph.
Crew: None (remotely controlled).

Transponders

In both Imperial and Terran space, civilian ships are required to carry active transponders that constantly broadcast their location and identity. This means that they are normally in the broadcasting sensor stance. Transponders can be turned off, but naval patrols reserve the right to fire on any detected ship that is running without a transponder.

Charts and Tables

Space Weapons Table

Weapon/TL	*Damage*	*sAcc*	*Range*
Beam Laser/9	6d(5) burn	0	1/3
Beam Laser/10	7d(5) burn	2	2/6
Beam Laser/11	8d(5) burn	2	2/6
Pulse Laser/9	3d(5) burn	0	1/3
Pulse Laser/10	4d(5) burn	2	2/6
Pulse Laser/11	5d(5) burn	2	2/6
Plasma Gun/10	12d(3) burn	-1	0/2
Plasma Gun/11	14d(3) burn	-1	0/2
Fusion Gun/11	16d(3) burn	-1	0/2
Heavy Particle Cannon/9	6d(10) burn	2	2/6
Heavy Particle Cannon/10	8d(10) burn	3	3/9
Heavy Particle Cannon/11	10d(10) burn	3	3/9
Light Particle Cannon/10	6d(10) burn	3	3/9
Light Particle Cannon/11	8d(10) burn	3	3/9
Bay Plasma Gun/10	6d×4(3) burn	0	1/3
Bay Plasma Gun/11	6d×5(3) burn	0	1/3
Bay Fusion Gun/11	6d×6(3) burn	0	1/3
Heavy Spinal Particle Cannon/10	16d(10) burn	4	4/12
Heavy Spinal Particle Cannon/11	20d(10) burn	4	4/12
Light Spinal Particle Cannon/10	12d(10) burn	4	4/12
Light Spinal Particle Cannon/11	16d(10) burn	4	4/12
Heavy Spinal Meson Cannon/11	20d(*) burn ex	3	3/9
Light Spinal Meson Cannon/11	16d(*) burn ex	3	3/9

* Meson cannon *ignore* all DR, from armor or any other source.

Damage is given in D-scale dice. Multiply by 10 to get normal scale damage.

sAcc is the weapon's *space accuracy*. Add 30 to get its normal Acc score.

Range is the half-damage and maximum range, in space combat hexes.

Space Range Table

Hexes	*Modifier*
Point Defense	+0
0	-10
1	-12
2	-14
3	-15
4-5	-16
6-8	-17
9-11	-18
12-17	-19
18-28	-20
29-39	-21
40-56	-22
57-85	-23
86-113	-24
114-170	-25

Sensor Modifiers

In the following modifiers, "being within a planetary atmosphere" assumes that the spacecraft is surrounded by an atmosphere denser than Trace. This can be the atmosphere of a terrestrial planet or of a gas giant.

Basic Modifiers

Skill: Add the sensor operator's Electronics Operation (Sensors) skill level.

Sensors: Add the Scan rating of the sensor systems, based on the model number of the sensor and TL of the ship (p. 193).

Range: Count the distance in hexes between the sensing spacecraft and its target, and get the appropriate modifier for that distance from the *Space Range Table* (p. 226).

Prior Detection: If the object has been detected on a prior round by the same ship, or by an ally sharing information, +4.

Passive Sensors

If the sensing ship is using passive sensors, apply the following modifiers to see if it can detect a given target.

Passive Sensors: -6 for all detection attempts using passive sensors.

Passive Signature: Add the target's Size Modifier (SM). If the target has a *needle/wedge* or *cylinder* shape, and the sensing ship is in the target's front or rear arc, -2; if the target has a *flattened sphere* or *close structure* shape, and the sensing ship is in the target's front or rear arc, -1.

Target Sensor Stance: If the target is in the active stance, +20; if it is in the broadcasting stance, +30.

Target Location: -2 if the target is in the same hex as or in a hex adjacent to a planet or moon, but not within a planetary atmosphere; -6 if the target *or the sensing ship* is within a planetary atmosphere.

Active Sensors

If the sensing ship is using active sensors, apply the following modifiers to see if it can detect a given target.

Active Signature: Add the target's active signature (ASig). If the target is not a spacecraft and doesn't have an ASig score, use its Size Modifier instead.

Target Location: -4 if the target is in the same hex as or in a hex adjacent to a planet or moon, but not within a planetary atmosphere; -6 if the target *or the sensing ship* is within a planetary atmosphere.

Gunnery Modifiers

The following modifiers apply for any attempt to hit a target with directed-energy weapons.

Skill: Add the gunner's Gunner (Beams) skill.

Accuracy: Add the weapon's sAcc rating, as taken from the *Space Weapons Table* (p. 226).

Range: Count the distance in hexes between the sensing spacecraft and its target, and get the appropriate modifier for that distance from the *Space Range Table* (p. 226).

Target Size: Add the target's Size Modifier (SM). If the target has *needle/wedge* or *cylinder* shape, and the firing ship is in the target's front or rear arc, -2; if the target has *flattened sphere* or *close structure* shape, and the firing ship is in the target's front or rear arc, -1.

Sensor Stance: If the firing ship is currently using active sensors, +2.

Meson Targeting: If the target has *dispersed structure* shape, and the firing weapon is a meson cannon, -4.

Ramming Modifiers

The following modifiers apply to *both* sides in any ramming attempt.

Faster Spacecraft: The spacecraft with the higher sAccel rating adds half of the difference between the two sAccel ratings (rounded down).

Target Size: The ramming spacecraft adds the target's Size Modifier (SM). The target's shape does not affect ramming.

Missile Control Range: If the ramming spacecraft is a missile, -1 for every three full hexes range from the controlling spacecraft to the target.

Missiles and Repulsors: If the ramming spacecraft is a missile and the target has at least one repulsor array, the target adds +15. A single repulsor array can be used against only 100 incoming missiles in one round.

Major Damage Table

3-4: One bridge or cockpit is knocked out. If all bridge or cockpit systems are disabled, the ship can still be controlled, but all skill rolls are at -4.

5-6: Communications disabled. Ship cannot communicate with other vessels or maintain control of missiles.

7: Sensors damaged. Scan rating is reduced by four.

8: Cargo holds damaged. Cargo or freight is destroyed equal to one-quarter of the ship's original cargo capacity.

9: Power plant damaged. Ship loses half of its original sAccel and jump capacity.

10: Weapon(s) knocked out. Choose one fixed mount, turret, bay, or spinal mount. All weapons in that mount are disabled.

11: Fuel tank shattered. Half of the ship's original fuel capacity is lost.

12: Maneuver drive damaged. Ship loses half of its original sAccel.

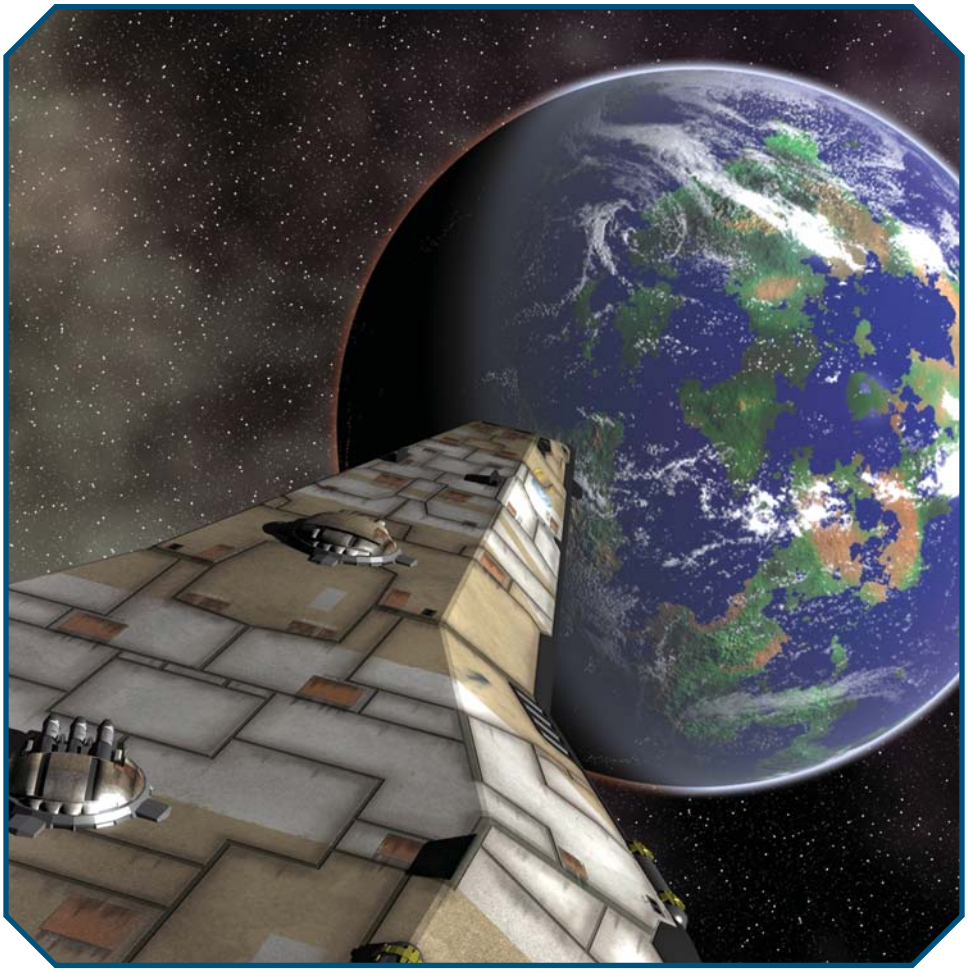
13: Jump drive disabled. Ship cannot jump.

14: One vehicle bay, hangar bay, or launch tube is disabled. The facility cannot be used to launch or recover small craft. At the GM's discretion, small craft being carried may also take damage.

15-16: Life support damaged. 20% of the ship's original life support capacity is lost (see *Life Support Systems* for details, p. 200).

17-18: Fuel processors (if any) are disabled.

Chapter Eleven
Campaigns



April 15, 2174 – Nusku star system, in the war zone:

Shimannii reached the bridge in time to see the jump-emergence tumble begin. A flash of blue-white light washed the hull cameras, and then stars wheeled all around ***Cutty Sark****.*

"Emergence confirmed," said the navigator, watching her instruments. "We are in Nusku space, on the 100-diameter stellar limit as expected."

"Well done," Shimannii replied. "Comms, find Orbital Control for me, please."

"Done," reported the little alien at the communications console.

"Nusku Orbital Control, this is ***Cutty Sark****, Nusku registry, arriving from the Apishal jump point at 1935 standard time, 15 April 2174. Request transponder code assignment and flight plan to Nusku Down starport along minimum-time trajectory."*

Almost four minutes before Nusku starport would reply. Shimannii used the time to review the voyage. Four years away from Terran space. The Captain and a third of the crew lost. The ship nearly crippled, then repaired, then damaged once more. Trade links forged, and then most likely lost with the renewed outbreak of war. No freight in the hold, no passengers in the staterooms, the ship frankly running for home through the war zone. On the other hand, the ship carried a priceless cargo of experience – friends won, contacts made, knowledge gathered from dozens of Imperial worlds.

Shimannii and ***Cutty Sark*** *were coming home, to Nusku rather than to the Terran homeworld that neither had ever seen.*

*"****Cutty Sark****, this is Nusku Orbital Control. Your arrival recorded and accepted. You are cleared for a minimum-time trajectory for Nusku, squawk 2771, maintain contact on channel 5. Welcome home."*

Shimannii nodded. "Thank you, Control. Transponder set to 2771, contact on channel 5. See you soon." He tapped at his controls, setting the ship moving along the course that the navigator had already plotted.

"Sir?" It was young Alexia Dergan, a technician promoted to Sensor Officer after the position's former occupant had been killed.

"Yes, Officer Dergan?" Shimannii prompted.

"Do you think we'll go out again?"

Shimannii stifled a smile. Terrans! Drag them through fire and death, and the ones who survived still continued to think ahead to the next venture. They were nothing like Vilani, and Shimannii realized that was just how he liked them. "That's up to the Consortium, Officer Dergan," he said, and turned to look at the stars. "Still, I imagine we will."

This chapter provides the GM with some suggestions as to how to get started with the ***Interstellar Wars*** setting.

The Default Campaign: Terran Free Traders

Interstellar Wars was designed under the assumption that a campaign will most often focus on Terran Free Traders operating within the Vilani Imperium. Free Traders travel through Imperial space, buying and selling goods in order to make a profit. They must deal with varying situations on many different Imperial worlds. They will be faced with Imperial disapproval, but they may also make friends in surprising places in Vilani society.

Setup

To set up a working Free Traders campaign, the GM should consider designing some or all of the following materials ahead of time.

Timeframe

The GM should decide the date of the beginning of the campaign. Refer to Chapter 2 and settle on a period that seems likely to give the best "flavor."

Most of the material in this book assumes a "default present" of 2170. At this time, Terra has survived several Imperial attacks and has attained rough parity with Imperial technology. However, Free Traders are only beginning to explore deep into Imperial space, with the limits of well-known space less than 20 parsecs from Terra. Adventurers will have plenty of opportunity to visit worlds that are completely new to Terran experience. Meanwhile, storm clouds of renewed conflict are gathering on the horizon. Within a few years the Imperium will launch another war against Terra, and the outcome is by no means certain.

In earlier eras, the Free Trade movement does not yet exist or is just getting under way. Terran entrepreneurs will be at a technological disadvantage, and will be limited to operating in space very close to Terra. They may spend as much time helping to start the first Terran colonies as they spend opening markets in Imperial territory. The Imperium is a much more present and overwhelming threat.

In later eras, Free Traders are very active, penetrating dozens and even hundreds of parsecs into Imperial space. They become very self-confident, conscious of their position in the vanguard of Terran power. They know that wherever they go, Terran battle fleets and Terran government will one day follow. Of course, the era is also one of more frequent (and more chaotic) warfare – Terran merchants are very likely to get caught up in a flare-up of violence along the military frontier.

In general, the more the GM wishes to challenge the players with strange worlds and powerful Imperial adversaries, the earlier he should place his campaign. If the players are more interested in doing as they please against the backdrop of a decaying Imperium, the campaign should be set later in the era.

The Field of Play

Unless the campaign is only going to last for a few sessions, it will need at least a dozen interesting worlds to serve as a backdrop (where "interesting" can be defined as "worth visiting repeatedly"). This implies that at least half a subsector will be needed, with about 20 worlds in all. A full subsector will provide plenty of extra space, and will be useful if the campaign needs to shift its focus on the map for any reason.

If the campaign is to take place close to Terra, one of the subsectors already mapped out in Chapter 5 may be a good choice. The Dingir subsector (p. 109) is quite close to Terra; the PC merchants will probably face a great deal of competition from other Terrans, and they will find themselves right on the front line if a new war breaks out. The Apishlun (p. 107), Urima (p. 103), and Duusirka (p. 105) subsectors are more distant without being entirely cut off from Terran space. The Urima and Duusirka subsectors are particularly interesting because they are the core of the Imperial rim province, as well as the home territory of the enigmatic Vegan species.

Free Traders who truly strike out for new frontiers will pass beyond the Chapter 5 maps. For such a campaign, the GM should generate a field of play using the world-design rules in Chapter 5. The GM should also decide about where the generated region falls on the map of known space (p. 100) and how far it is from Terra in terms of travel time. The campaign can begin with the adventurers entering the generated region for the first time, with several weeks or months of previous travel assumed to be in the back story.

The GM should use the rules in Chapter 5 not as a set of dictates, but as a springboard for his own creative ideas. If he wishes to generate a region of space that is somehow atypical, he should feel free to change the world-design procedure to suit himself.

Once the field of play has been designed in broad details, the GM should at least consider how to expand on the bare-bones description of the most important worlds. Are the worlds of the region settled by traditional Vilani, or has local culture diverged from the Imperial norm? Do any Imperial subject races have significant settlements in the region? Are there any local races not well known to Terrans? Where are the hub worlds located, and which of them is likely to be the local political center? Are there any minor worlds that nevertheless sit at the junction of several trade routes? Which worlds have very repressive governments (Control Rating 6), and which are unusually free or anarchic (Control Rating 1 or less)? Are any worlds technologically backward, possibly indicating isolated societies?

The Ship

The adventurers will need a ship in which to travel, carry cargo and freight, and meet interesting passengers.

Several of the ship classes in Chapter 9 are appropriate for a Free Traders campaign. The *Hero*-class private merchant would be good for a relatively small crew, possibly operating on a shoestring budget without the sponsorship of a major corporation. Larger crews could use the *Lightning*-class frontier merchant or the *Karl Marx*-class heavy merchant. These are all designed to be good "adventurer's ships," capable of working as privateers if the crew decides to go over to the wrong side of Imperial law. On the other hand, these ships are harder to operate at a profit as legitimate traders. If the GM doesn't wish to make the mercantile life difficult for his players, he should provide them with corporate sponsorship to relieve some of the profit-making burden.

Most of the merchant ships in Chapter 9 are not listed with installed weapons. If the GM wishes, he can revise the design to include a weapons loadout. Alternatively, he can force the crew to enter Imperial space unarmed, hoping to acquire ship's weapons later on (doubtless after a series of adventures).

Characters

Once a region of play and a ship have been selected, the players can begin to think about character design.

This process should be driven by the selected ship class. Each ship design includes a listing of the most typical crew roster. The GM and players should work out the complete department organization and chain of command on board the adventurers' ship; these do not have to exactly follow the roster given for the ship design.

The ship should have a Senior Captain (Merchant Rank 4) or Captain (Merchant Rank 3) in command. Other "officers" noted under the ship's design should hold the rank of First or Second Officer, with Merchant Rank 2. "Petty officers" should actually hold the rank of Third or Fourth Officer, with Merchant Rank 1. "Crewmen" will be Spacehands or Apprentices, with Merchant Rank 0.

The bridge crew should include at least a command pilot and a navigator, and may include communications, computer, or sensor officers as well. The engineering section should include a chief engineer, and possibly an engineer's mate and a senior maintenance technician. If there is a gunnery section or a section of ship's troops, each should have a leading crewman. The senior "enlisted" crewman on board (Merchant Rank 1 or less) may be designated the "bosun," and given special responsibilities in managing the crew. The leading crewman in either the passenger service or the cargo service sections should be designated the ship's purser, the officer most responsible for record keeping while the ship engages in commerce.

Assign players to the available shipboard roles *before* starting character design, then design PCs to fit the assigned roles. For all but the smallest ships, most of the crew will be NPCs. The GM can simply keep track of what positions are filled by NPCs, naming them and generating their character traits only as needed. Of course, a large crew can serve as a pool of replacements for any PCs that are killed or lost.

One approach to handling a large crew is a "troupe play" technique, permitting each player to generate two or more characters in different positions. For example, each player might have one senior officer and one lower-ranking crewman. The player would then choose which character to play in a given adventure; if the other character is needed, the GM can handle him briefly as an NPC. This style of play provides variety, and reduces the chance that a player will find himself without a character who could reasonably be involved in a given adventure.

Another point to consider is whether to permit a player to take on the role of the ship's captain. Some play groups will find a player-run commander to be uncomfortable, as other players resist taking orders. One approach to this situation is to permit the players to briefly drop out of character when a critical decision point arrives, so that they can discuss the matter and make decisions cooperatively. Once the players have reached a decision in a manner they're comfortable with, they can return to character and the commander can give the appropriate orders. Alternatively, the ship's captain can be an NPC, used by the GM to provide guidance and direction to the crew.

Initial Conditions

Once the field of play, the ship, and the characters are ready, the campaign can begin. Place the ship and crew on a world on the edge of the field of play, and assume that the ship has just arrived there after some period of traveling from Terran space.

The GM should determine how much cash is currently in the ship's operating fund. An amount equal to about one month's expenses is appropriate. The hold should initially be nearly full of speculative cargo at the start of the campaign (the GM can allow the players to select cargos from the table on p. 180, or roll randomly) and the port fees for this world unpaid, as if the ship is newly arrived. The passenger staterooms, however, should be empty. The crew will doubtless make acquiring new cargo, freight, and passengers an early priority.

Goals

By definition, Terran Free Traders will have several closely linked goals.

Trade

First, Free Traders need to *trade*. They must turn at least enough profit to pay operating expenses and crew salaries, while keeping the banks or the corporate sponsors happy. To make a profit, the crew will have to continually search out commercial opportunities. More basically, the ship will have to keep moving from world to world – if the adventurers linger too long in one place, they will find themselves falling behind on their expenses.

Exploration

Second, Free Traders are *explorers*. Even if they fail to make much profit through trade, they can still earn rewards by recording what they observe on new worlds, and returning those observations to Terra. On each

world they visit, they should inquire into the basic facts of local society. Who lives on the world? What are the quirks of local culture? Who are the political decision-makers, and what factions exist among them? Is the population loyal to the Imperium, are there dissident splinter groups, or is the world just waiting for a chance to rebel? Can the crew make any local friends or allies, to be called on later? Answering these questions may well involve the Terrans in short-term adventures on each world they visit.

Survival

Third, a Free Trader crew working deep inside Imperial space will need to see to its own *survival*. If hostilities break out again between the Imperium and Terra, Free Traders may find themselves surrounded by foes. Meanwhile, the Imperium itself is no longer stable. Local civil wars and rebellions can break out at any time, catching Free Traders in the crossfire.

Long-Range Goals

Aside from these general goals, the GM should come up with one or two long-term plot arcs to give his campaign its own shape.

A Free Trader ship may have a *mission* other than its obvious purpose of trade and exploration. Many Free Trader ships are owned by a large Terran corporation, which can assign long-range tasks: finding trade goods of a certain description, setting up trade agreements with leading figures on specific worlds, and so on. Other Free Traders cultivate a relationship with Confederation military intelligence, acting as couriers or operatives for special missions. Still others may ally with an Imperial leader or faction, carrying out tasks that their allies can't handle through normal channels. All of these connections can serve as a source of extra income, making it easier for a Free Trader crew to meet its expenses.

An *enigma* is often a good way to give a campaign long-term interest. Every new world the adventurers visit is going to be a mystery of sorts, but in the normal course of events that mystery will be "solved" by the time the ship lifts. A true enigma is a far-reaching mystery with clues scattered across several worlds, a mystery that will take many play sessions to unravel. Typical enigmas for the ***Traveller*** universe include wide-ranging political conspiracies, mysterious alien or minor-Human races, or high-technology artifacts that date to before Human history.

Campaign Character Packages

When designing characters to fill out a Free Trader crew, several character traits may be best considered as being shared among all the PCs. The GM should design a "campaign package" of character traits, to be taken by every PC in order to fit the campaign. It may be possible to set the total character-point cost of the package at zero – in any case, the traits in the package should not count against the campaign's limit on disadvantages. A similar package may be set up for group-design situations in other campaign types.

Character traits that can go into the campaign package include Contacts or Contact Groups (representing known contacts that anyone in the crew can use), Duties (representing the obligations imposed by a corporate, military, or Imperial sponsor), Enemies (persistent villains faced by the full crew), or Patrons (the ship's organizational sponsors).

Every PC should take a frequency of appearance of "quite rarely" (6 or less) for each of these traits; very small play groups (two to three players) might use "quite often" (9 or less) instead. The GM should roll for Duties, Enemies, or Patrons for each player once per adventure; the level to which the shared trait comes into play depends on how many players make their appearance roll.

For example, suppose that every member of an adventuring party composed of six PCs takes an Enemy, who appears on a 6 or less for any one crewman. The Enemy will appear in about 45% of adventures. In about 10% of adventures, more than one player will succeed in the appearance roll; the GM can make the Enemy a leading factor in those adventures.

Sample Package

The GM plans a campaign package for the PC crewmen of a Free Trader starship. The ship is associated with Terran Navy Intelligence, which will occasionally send money or other resources, but will also require the crew to perform hazardous missions. Meanwhile, an Imperial Navy captain opposes the Terrans, and directs patrol vessels and law-enforcement officials to harass them.

Terran Navy Intelligence counts as a Patron. In Terran space it would count as an "extremely powerful organization," but deep inside Imperial space its resources are much more limited; it counts only as a "very powerful organization" worth a base cost of 20 points. It appears "quite rarely," and so is worth only 10 points to each PC. The GM decides that aside from providing information and "pull," the Patron will sometimes make up the shortfall if the Free Trader's ship fails to meet its expenses.

The missions assigned by Navy Intelligence count as a Duty, which applies to the crew as a whole. The Duty comes up "quite rarely" for each player, and the missions are not overly hazardous. The Duty is worth -2 points for each PC.

The Imperial officer who pursues the crew is the leader of a medium-sized group, which includes several formidable individuals (including the officer himself). He counts as a Rival-level Enemy, since he only wishes to harass and inconvenience the crew rather than destroy it. He or his minions appear on a 6 or less for each PC. This Enemy is worth -30 × 1/2 × 1/2 = -7-1/2 points, rounded down to -8 points.

The total cost of the campaign package is 0 points.

Obstacles

Every planetside visit will likely carry its own obstacles. Starport officials, *shangarim* representatives, Imperial military officers, and ordinary citizens, will all tend to look at Terrans with suspicion. Of course, even friendly Imperials are alien to Terran experience. Misunderstandings of language or culture can complicate the simplest of adventures. Meanwhile, both the mission and the enigma will carry their own obstacles.

Aside from these continuous low-level hindrances, the campaign should have at least one recurring villain, a *personal* opponent who will make life difficult for the adventurers. Possibilities include a *shangarim* official who regards the Free Traders as dangerous competitors, a Navy officer who directs patrol ships to follow and harass the Free Trader vessel, or an aristocrat who despises "barbarians" and does his best to oppose the crew's actions.

Resolution

In theory, a Free Trader campaign can go on indefinitely. The GM may wish to have a final series of adventures in mind, in which the mission, enigma, recurring villain, and any other plot arcs can all be resolved. Once the resolution is complete, a new campaign can be set up using different premises. Perhaps the characters are sent to a new region of space with a new mission, or perhaps they have accumulated enough money that they can go into business for themselves.

Alternative Campaigns

Aside from the "Terran Free Traders" premise, the ***Interstellar Wars*** setting can support a wide variety of other campaign frames.

Main Fleets

Although the Interstellar Wars era is best known for massive naval campaigns and space battles, setting up a campaign centered on such events can be very challenging. Serving naval officers and crewmen have little freedom to move about and adventure, especially in wartime or when assigned to a major battle fleet. There is also the problem of the campaign's *scale*. It is difficult to set up a campaign involving large-scale fleet maneuvers and battles while still leaving PC adventurers with anything significant to do.

Possibly the best compromise is to permit the players to take on the roles of senior officers aboard a large warship, possibly even a capital ship (like the *Indomitable*-class battleship described in Chapter 9). Such a ship can be a base for wide-ranging adventures, especially late in the Interstellar Wars era when Terran fleets are advancing across whole sectors. Adventures involving maneuver and battle can be interspersed with adventures about intelligence gathering, interaction with Imperial populations, or even shore leave in exotic ports. The adventurers' ship will be very significant even in the largest battles, and will serve as a safe home base for other adventures. Players can also generate more than one character each, permitting a mix of high-level "command" adventures and low-level "ordinary crew" adventures.

Commerce Raiding

A campaign can still focus on naval adventure, while avoiding many of the scale problems of a main-fleet situation. Terran commerce raiders often operate independently, well behind the military frontier where they can't rely on orders or support from their superiors. They have wide discretion as to where to operate and which targets to attack. They often operate at a disadvantage in technology or numbers, and must be clever if they are to succeed.

Of course, successful commerce raiders rarely operate entirely alone. Some find allies among subject-race or dissident populations on Imperial worlds, giving them a place to go for repairs and to unload captured goods. This often draws them into factional conflicts within the Imperium – and even encourages them to *start* such conflicts where they can.

A commerce-raiding campaign shares many features with a merchant campaign, and in fact many Terran Free Traders turn to commerce raiding in wartime. Commerce raiders will engage in space battles with freighters and small escort craft, but they also carry ship's troops in order to carry out raids on undefended groundside targets.

Ground Warfare

The Interstellar Wars era saw hundreds of major ground campaigns and thousands of minor battles. Although this book doesn't include extensive detail about the organization and tactics of ground forces, the GM may wish to design a campaign around such operations.

Terran Malcontents

No matter what the campaign frame, the GM should bear in mind that the Interstellar Wars are not a campaign of Good against Evil. Terran propaganda is reminiscent of that used by the Allies during the World Wars – casting the war as a noble crusade, exhorting the populace to be unified in purpose, demonizing the enemy as inhumane and un-Human. Even so, many Terrans find it easy to be cynical about this portrayal, seeing the Terran Confederation as an institution designed mostly to protect the privileges of a small minority of Terrans.

Terran travelers can easily be from backgrounds that are likely to make them skeptical about the Terran social structure: citizens of poor nations, poor citizens of major nations, citizens of colony worlds that are shut out of meaningful participation in Confederation government. How much any one adventurer may resent or resist the Terran establishment is up to the player.

Meanwhile, the GM should make a conscious choice about just how much skepticism about the Confederation is warranted! A "good" Confederation may be very much as the propaganda portrays it: honest, competent, and devoted to the survival and growth of Terran civilization. An "evil" Confederation may be far more corrupt than even the average Terran citizen believes.

A campaign centered on a major ground war would probably involve no more than one world, usually a Garden world with a large Imperial population. The GM should develop this world in considerable detail: regional and local maps, the structure of pre-invasion government, the size and composition of Imperial forces, and information about local populations and factions. Terran troops will take part in combat missions of various sizes. Between battles, they will gather intelligence, borrow from the local economy, and otherwise interact with the civilian population.

Ground-warfare campaigns rarely involve months of all-out combat. Once Terran forces secure space around a given world, Imperial forces will quickly be reduced to guerrilla and small-unit resistance. A campaign will involve lots of foot or vehicle patrols, occasional skirmishes with Imperial troops, and rare major confrontations with plenty of artillery or aerospace support.

An alternative way to approach this kind of campaign is to center the game on the adventures of a Terran mercenary unit. Terran mercenaries do travel from world to world frequently, and face a wide variety of opponents. They are usually hired for very specific objectives, so their mission is usually clear and short-term (although there is always the possibility of treachery by an employer). Mercenaries will usually operate far from support, so if things go badly there may be nothing to prevent a disaster.

Occupation

Once a world has been secured, Terran forces may remain stationed there for many years. During this occupation period, Terran colonists and administrators will arrive, beginning to integrate the world into the Terran Confederation. The period can be one of considerable social change, conflict, and opportunity.

An entire campaign can be centered on the transition of an Imperial world to full membership in Terran society. Adventurers can come from the Terran Army, serving in the garrison, possibly accepting discharge locally in order to settle permanently on the occupied world. Others will be administrators, merchants, and colonists, come to build a Terran enclave among the Vilani or subject-race population. The goal is to build a thriving hybrid society, and possibly to win independence within the Terran Confederation.

Armed civilian resistance was rare on Imperial worlds; once Imperial troops were forced to surrender, the local population usually tried to accommodate itself to the Terran presence. There were exceptions, of course – and even on a "pacified" world, some formerly Imperial citizens may be willing to conspire against the Terran regime. Meanwhile, not all of the Terran immigrants were honorable people. Many adventures can revolve around the effort to prevent unscrupulous Terrans from exploiting the populace or trying to carve out an empire independent of Terran control.

Exploration

Plenty of worlds within a year's travel of Terra are unknown. Even in Imperial space, there are worlds that remain uninhabited and have almost never been visited. To rimward and trailing of Terra is a vast expanse of unexplored territory, never colonized by either Terrans or the Imperium. Many Terrans of the Interstellar Wars era regard this region as the best hope for their future, a place to establish whole civilizations out of the military (and cultural) reach of the Imperium.

An exploration campaign can be organized much like a naval or Free Trader campaign, in that the PC group fills out the crew of a survey vessel. Most of the same techniques for character design apply here as well. The *Zheng He*-class survey vessel is ideal for this kind of campaign, and is typical of the exploratory ships operated by the Terran Navy throughout the Interstellar Wars era.

The design of an exploration campaign can provide a serious challenge for the GM. Explorers don't have the constant pressure of making a profit to drive their efforts, so the GM will have to come up with some other ongoing challenge to maintain suspense. Meanwhile, explorers by definition won't be dealing with the Imperium very often, so there will be a shortage of interesting NPCs (including villains) and character-driven tasks. The GM may want to consider introducing an alien civilization, renegade Terrans, or some other party to provide both an ongoing challenge and a source of NPC interactions.

Colonization

During the Interstellar Wars era and afterward, most Terran migration is to the worlds of the Vilani Imperium. However, Terrans also settled dozens of worlds that were previously uninhabited, carving new civilizations out of the wilderness. A complete campaign can be set up around the events on a single colony world.

The GM will need to design the colony world in considerable detail, mapping existing settlements, placing sites of interest to explorers, deciding what local flora and fauna may exist, and so on. Important colonists will need to be drawn up as NPCs.

A Terran colony, especially in its earliest days, will have a "Wild West" flavor about it. Aside from the dangers inherent in settling a new world, the colonists themselves will often be in conflict. Culture-groups that were antagonistic back on Terra will be thrown together on the new world. Political factions will struggle to control the rising colonial government. Groups will disagree about how to use the new territory, and may try to steal land or force others to abandon their claims. Criminals will set up shop in the growing settlements, and will use force to maintain their control. Colonial law enforcement authorities may be thinly spread across whole continents, unable to maintain control on their own. Even law-abiding citizens will be forced to defend their own lives and property.

One advantage of a colony-based campaign is that the situation evolves very rapidly. PCs can easily find themselves to be important people, making decisions that will affect an entire world's future history.

Diplomacy and Espionage

This campaign frame is unlikely to require frequent starship travel or the development of new worlds. Diplomacy and espionage are most likely to take place near a center of power, such as Terra or an Imperial hub world. The GM may wish to set up one such world in considerable detail, and have most of the campaign take place there.

Diplomats spend their time representing their home government in negotiations, acting as an advocate for their fellow citizens in foreign territory, and generally trying to make friends and influence people. They rarely see violent action and are not trained for it; they are forced to think their way out of difficult situations.

Spies gather information on behalf of their home government. Very few spies are James Bond-style superagents who engage in combat-heavy missions. Most are trained in "fieldcraft," a set of techniques that enables them to recruit local allies, stay in contact with them, and gather information from them – all without attracting the attention of local authorities.

These two genres of adventure are linked because they are likely to occur together. Both Terra and the Imperium have similar diplomatic traditions. In peacetime, diplomats are relatively untouchable unless they are caught spying, and even then they can only be expelled. This makes an embassy – a Terran legation on an Imperial world, or the Imperial embassy on Terra – the most common place from which to run a spy ring. In any case, diplomats are among the most avid consumers of intelligence . . .

Campaign Seeds

Aside from the general campaign frames described above, the following special campaigns may be of interest in an ***Interstellar Wars*** setting.

Exiles to Glory

To add a bit of grittiness, have all of the Terran characters come from poor or outcast backgrounds. Terra is dominated by the most influential citizens of its wealthiest nation-states; this leaves most of the world's population shut out of political and commercial opportunities. This gives many citizens a rather cynical attitude toward unified Terra. They often regard service to the Terran government or military as a way to gain personal advancement, not as an honorable obligation. Once they are out of service, they look for a way – *any way* – to avoid returning to the poverty-stricken and powerless communities they left behind.

The best way to set up this kind of campaign is to find a common background for the PC adventurers. Perhaps they are all from the same poor nation, or they all come from the same unprivileged segment of a major nation-state's population. A common history in Terran government or military service will help as well. In any case, the adventurers begin the campaign together and familiar with each other, but with no connections, not much money, and no easy way to get more.

An "exiles to glory" campaign can use many of the campaign frames described above. Ambitious ex-Army or ex-Marine troopers may be

The Vilani Campaign

For a change of pace, an ***Interstellar Wars*** campaign can be set up on the other side of the epic conflict – with most or all of the PC adventurers being Imperial citizens.

An Imperium-centered campaign should likely still be set close to the interface with Terran civilization. In regions of Imperial space far from the war zone, conflicts tend to be quietly Byzantine, involving behind-the-scenes maneuvering and elaborate intrigue rather than direct action. Close to Terran space, Imperial society may be fragmenting, permitting Imperial characters to engage in more recognizable adventures. Meanwhile, Terrans provide a tough adversary, especially later in the era.

discharged on an occupied Vilani world, where they can seek out opportunities. People with starship experience may (somehow) come into possession of a cast-off merchant ship, hoping to make a killing in interstellar trade. Settlers on a colony world may strike out for new territory, hoping to seize valuable land or mining rights. Or they may stay in a colony's boomtowns, trying to carve out a fortune in the streets.

The main difference in a campaign of this type is that there is no assumption that "following the rules" is the right thing to do. From the poor man's standpoint, the Terran establishment is *designed* to keep him penniless and powerless. In any case, adventurers from a poor background are likely to be viewed with suspicion by Terran authorities. To get ahead, adventurers will have to be grasping, ruthless, and not very respectful of authority. Much like most PCs in any roleplaying game, in fact . . .

Grand Tour

Throughout the Interstellar Wars era, a number of Terrans made the long journey to the Imperial capital. Some went out of curiosity, others in search of business opportunities, and others as spies. Most who attempted the journey never returned to Terra, dying or finding a new home somewhere along the way. Those few that succeeded brought home fantastic tales and, sometimes, great fortunes.

A voyage from Terra to Vland and back using jump-2 transport takes 160-200 jumps, depending on the exact route taken. The trip is not likely to take less than six and eight years, and may take a good deal longer if the travelers linger anywhere along the way.

The GM shouldn't try to draw up every world along the way. Instead, the "grand tour" can be organized as a series of mini-campaigns, each involving only a few worlds. The adventurers arrive, become entangled in whatever local problem or mystery exists, and move on after the problem has been resolved. There may be as much as a year or two of "off-camera" time between mini-campaigns; the GM may hand out character points to reflect experience earned during the routine activity of these periods (see *Improvement Through Study*, p. B292, for guidelines).

Once the travelers reach Vland, the GM should have a complex and interesting series of adventures prepared for them – they are at the capital of the entire Imperium, where the wealth and intrigue of 10,000 worlds converge! Perhaps they have made friendly contact with one of the leading Imperial nobles of the outer provinces, and can use that connection to get involved in the highest levels of Imperial politics. If they have assimilated enough into Vilani society, perhaps they can win appointment to important positions in the Imperial bureaucracy. Or they may find themselves, as always, *barbarians* – shut out of any legitimate advancement, able to progress only through a high-stakes gamble.

If the Terrans win a place in Imperial society, they may wish to *stay* on Vland or somewhere else along the voyage, and the campaign can be resolved at that point. Otherwise they will return to Terra. To avoid ending the overall campaign in anticlimax, the return voyage should be significantly more challenging. Perhaps the voyagers return to find that war has broken out, and they must avoid capture if they are to return home. Or perhaps the connections they made at the Imperial capital will permit them to intervene in affairs on the provincial frontier . . .

Terra Conquered

For a real challenge, ignore the "official" historical timeline and have the Imperium conquer Terra!

Terra could have fallen under Imperial control at many different points in history. Had the United Nations and Terran Confederation not managed to keep Terra unified, some of Terra's nation-states might have been tempted to come to a separate arrangement with the Imperium. Even with Terra unified, any of the first four Interstellar Wars might have ended in a decisive Terran defeat, had the Imperium been willing to expend more effort on the task.

Yet the Interstellar Wars era was not the time of maximum danger. For about 1,000 years (from 200 to 1200) Terra was ripe for Imperial conquest. Only a few more parsecs of expansion at the end of the Consolidation Wars or during the conquest of the *kimashargur* (p. 18) would have brought Imperial armadas to Terra. Even the mightiest Terran states of the time (the Roman Empire, the Arab caliphates, or the T'ang or Sung dynasties in China) would have been unable to resist an invasion.

Alternate Interstellar Wars

If the *Terra Conquered* setting isn't exotic enough, try one of the following campaign seeds for truly over-the-top adventure.

Legacy of War

In this ambitious set-up, the campaign spans the *entire* Interstellar Wars era. The goal is to produce an episodic campaign, mimicking a historical novel in which successive members of the same families interact with major events.

The campaign is set up as a series of short story arcs, starting with First Contact with the Vilani (or even earlier) and ending with the Terran victory over the *Ziru Sirka*. Each story arc lasts for about 4-6 sessions, after which a number of years pass "off-camera." Existing characters can become much more experienced, or they may retire (or die) and give way to their descendants.

For example, one hero might be a crewman on board the *StarLeaper One*, involved in first contact with the Vilani. By the start of the First Interstellar War, he is a seasoned veteran. By the start of the Second, he may have retired from active adventuring, but perhaps his son or daughter has entered the service. Players can swap family lines over time, cross them, and introduce entirely new lines of descent – perhaps introducing a Vilani or other non-Terran Human into the cast of characters.

Past Tense

This campaign frame permits experienced ***Traveller*** players to bring their existing characters into the Interstellar Wars era. After a jump accident, an encounter with a spatial anomaly, or tinkering with some Ancient device, a group of travelers from the Third Imperium find themselves in the time of the Interstellar Wars!

Can the visitors from the future change history as they know it? *Should they*? This could be a short campaign in which the stranded travelers look for a way back home, while avoiding changing the past and dodging everyone who might wants to grab their technology or their knowledge of the future. A longer campaign can strand the adventurers in the past permanently, starting an ***Interstellar Wars*** campaign that doesn't have to stick with the "official" history . . . because the presence of the time travelers has already created an alternate universe!

Masterminds of Terra

As described on p. 135, psionics are virtually unknown during the Interstellar Wars period . . . or so *They* would have you believe. In fact, the Terran exploration of space, the Interstellar Wars, and the eventual victory over the *Ziru Sirka* are all machinations of a secret cabal of Terran psis!

After all, how else could a backwater world on the edge of the vast Imperium win such a conflict? Pundits claim the Vilani underestimated the Terrans, and were too caught up in provincial and traditional thinking – but who forged those chains of thought? Who planted the idea that the Terrans were no real threat? Who foresaw the right opportunities, and made sure the Confederation seized them?

The Terran heroes in this campaign may uncover a dark conspiracy at the heart of their homeworld. They might be unwitting pawns, or even latent psis targeted for recruitment . . . or termination, if they refuse.

The Infinite Wars

The Centrum (see p. B523 or ***GURPS Infinite Worlds***) has undertaken its most ambitious plan yet: to influence the outcome of the Interstellar Wars in favor of the Vilani Imperium! In many ways, Vilani culture is similar to Centrum's, and there is much to be gained by influencing so vast an empire. Infinity, naturally, favors the scrappy Terrans and opposes Centrum on principle. Both sides try to influence the outcome of the Interstellar Wars, without tipping their hand and revealing the Secret to the technologically advanced civilizations of this alternate. The heroes might be members of an I-SWAT team, or locals who discover the cross-temporal meddlers and their plans.

After an Imperial conquest, Terra would have been ruled by Sharurshid as a commercial colony. Vilani colonists would have arrived by the millions, setting up industries, searching out local resources for exploitation, teaching Imperial laws and customs to the Terran population. Terrans who accepted Vilani ways would have been rewarded with wealth and a position in the Sharurshid government. Terrans who refused, and disrupted the Imperial regime, would have been stamped out.

Over time, Terrans would have settled on many of the worlds of the Imperial rimward province – apparently assimilated into Vilani society, but nursing deep-seated resentment against the Imperium. There they would have met the *kimashargur*, who felt similarly . . .

A "Terra Conquered" campaign will be much like the Vilani-only campaign (p. 234), with the exception that most of the adventurers will be of Terran origin at least partially assimilated into Imperial culture. If the point at which Terra was conquered is placed early enough, the GM may want to work out an "alternate history" of events taking place after the Imperial arrival. The natural course of the campaign would be to work out how Terrans might adjust to their conquered state; this may involve violent rebellion or a long effort to win higher status within the Imperial system.

Adventure Seeds

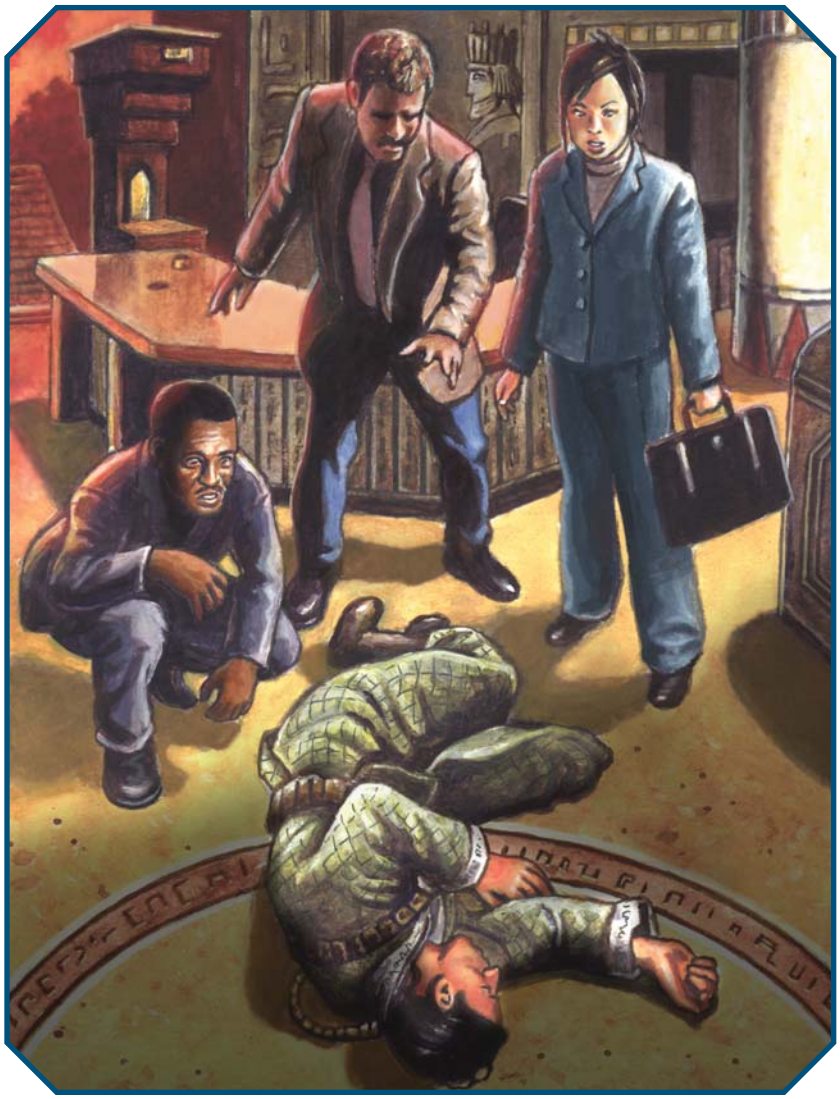
The following adventure seeds are typical of the ones most likely to be useful in the ***Interstellar Wars*** setting.

Cash on Delivery

The Terrans are assigned to sell a large cargo of electronic equipment on a Vilani world some distance behind the military frontier. Unfortunately, the Imperium has placed import controls on such goods, and the nobles governing the world in question are particularly hostile to Terrans. On the other hand, the local population would be very receptive to the goods, if properly approached. Can the merchants persuade or get around Imperial authorities, and get the cargo to its intended audience?

Heart of Darkness

Late in the Interstellar Wars era, a Terran renegade has gone to ground on a world inside Imperial space. He was once a very senior military officer, and he presently commands a mixed bag of Vilani renegades and Terran mercenaries. His troops have deposed the Vilani governor and taken over the planet, which they now run as a private fief. This is not the only world that has fallen under Terran control in a similar way, but in this case the renegade refuses to submit to Confederation authority. He's also a certifiable lunatic: paranoid, megalomaniac, and utterly ruthless toward the Vilani population of "his" world.



The Imperial authorities in the region are effectively helpless due to their own internal power struggles, and possibly because of the Terran advance. It is therefore up to a Terran team to go in and deal with the renegade, before his activities cause a subsector full of Vilani to conclude that the Terrans must be resisted to the death. Of course, the Imperium may send an observer along, a rare instance of cooperation between the two great powers.

Like a Desolating Pestilence

Terran merchants are given a cargo of vaccines and anti-viral medicines to be carried to a team of Terran physicians posted on a remote Imperial planet. When the ship arrives, they find that the Terran physicians are nowhere to be found, apparently abducted by persons unknown. Without them, the crew can't be paid for delivery, nor can the cargo be used to save millions of lives from the Terran-derived viral diseases already appearing there. The local population is already somewhat anti-Terran, aside from a few friendly dissidents, and the local government is not at all helpful. Can the physicians be found in time to prevent a disaster?

Locked-Room Mystery

While visiting an Imperial world, the Terran adventurers are invited to an audience with an important local figure – perhaps a *shangarim* aristocrat or a local dissident leader. They attend the audience, taking part in the socializing and entertainment that come before a private meeting. Then, while they are meeting privately with the Imperial leader, he suddenly collapses and dies.

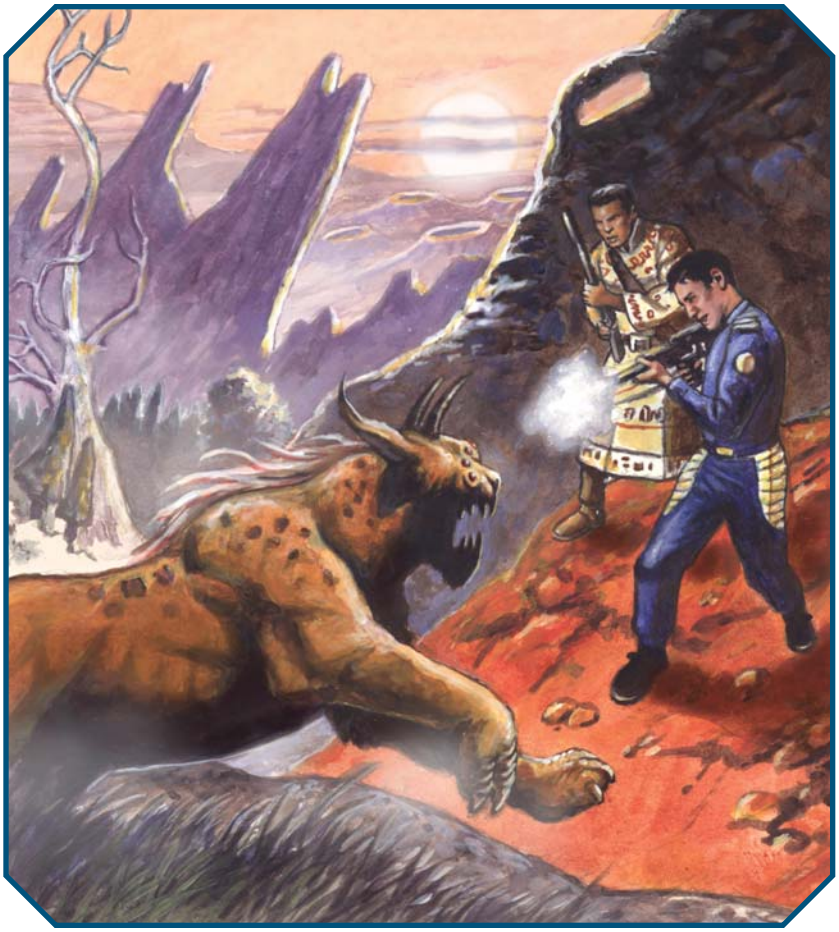
The cause of death is not obvious even to a Terran physician, much less an Imperial one. Nevertheless, the Terrans are accused of murder! Can they determine what actually happened, and clear their names?

Most Dangerous Game

Terran merchants carry an unusual group of passengers – a party of Vilani aristocrats on their way to a nearby world to hunt a particularly dangerous game-beast that can be found there. The nobles enjoy their trip on the "barbarian" ship, and end by inviting some of the crew to accompany them on the expedition. More eyes (and more guns) are always welcome, and the animal's carcasses contain certain glands and organs that are quite valuable.

The natural preserve in which the game animals are found is quite rugged. Local regulations place strict limits on the amount of high-technology equipment that can be taken into the preserve, or how many animals can be taken. Naturally, the game animals are *very* dangerous, willing and able to attack Humans.

Soon, however, the party sees signs that they are not alone in the wilderness. Then one of the Vilani noblemen vanishes from their camp with signs of a struggle. Has a family rival struck in the darkness? Or is someone else lurking in the rough country, watching and waiting to strike again?



Return of the Native

While deep inside Imperial space, the adventurers are contacted by another Terran, the representative of an extremely wealthy family back home. The representative is far out of his depth, and is effectively stranded in the Imperium with no idea how to proceed. He needs the adventurers and their experience with Imperial laws and customs.

Apparently the representative's employers have a serious problem. The head of the family is feeling his age, and wishes to hand over the family holdings to his only son. Unfortunately, the young man disappeared about two years ago while traveling in Imperial space on business. The representative has been sent to track the heir down and return him to Terra. He can pay the adventurers handsomely (on the order of $2-3 million) to guide him through the Imperium, help him find the heir, and help them return together to Terran space.

Finding the heir doesn't take very long; he is living on a world only three to four jumps away, and he isn't hiding from anyone. Unfortunately, he has "gone native" with a vengeance. He has accepted Vilani customs, taken a Vilani name, married into a Vilani aristocratic family, and accepted a position in the *shangarim* hierarchy. In short, he doesn't *want* to go home to Terra.

What follows is up to the GM. Perhaps the heir can be persuaded to come home, although he will probably want to bring his wife and a few associates with him. Or perhaps he will have to be kidnapped – after which his adopted family will doubtless send its own agents out to retrieve him.

The Man Who Would Be Saarpuhii

When the adventurers visit a remote Vilani world, one of them is sought out by a local dissident faction. The dissident leaders seem to know a great deal about him: his name, his personal history, past events that no one should know about, the names and histories of his companions, and so on. The dissidents invite him to visit their homes, where they will "reveal his destiny."

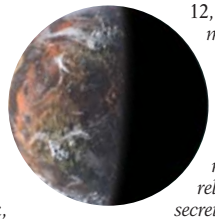
It turns out that the adventurer is *expected* here. In fact, the dissidents claim that they have expected his arrival for centuries. He is the fulfillment of an ancient prophecy, which claims that the Imperium will be overthrown and the dissidents will establish an independent state of their own under his benevolent rule. The dissidents are ready to be led to victory. What are their leader's orders?

Naturally, the adventurer and his friends will be suspicious. Still, the evidence seems overwhelming: a dissident leader of centuries past really seems to have prophesied the adventurer's arrival and his leadership against the Imperium. If the dissidents are mounting a deception, it's an uncommonly good one. Meanwhile, the local Imperial authorities are weak, so a coup might even be successful . . .

INDEX

Academician template, 146.
Addiction disadvantage, 135.
Administrative rank, 138.
Advantages, 134.
Adventure seeds, 237.
Advertising, 70.
Advisory Board, *Terran Confederation*, 54.
Agencies, *Terran Confederation*, 55.
Agidda, 113.
Agrippa-class 1,000-dton corvette, 215.
Air/rafts, 168.
Albadawi period, 34.
Albadawi, Manuel, 35, 36, 45.
al-Ghazali, Umar bin-Abdallah, 44, 68.
Alpha Centauri, 114.
Alternate Interstellar Wars, 236.
Alternative campaigns, 232.
Anachronisms, 85.
Anakundu, 80; *racial template*, 143.
Anarchy government type, 99.
Ancients, 13, 85.
Answerin, 81; *racial template*, 144.
Apishlun, 108; *subsector*, 107, 229.
Appearance advantage, 134.
Archimedes Station, 21.
Architecture, *Terran*, 52; *Vilani*, 75.
Ariirkii, 37.
Armed merchant marine, 65.
Armor, 162.
Army, *Terran*, 62; *Vilani*, 93.
Asteroid Belt world, 96.
Asteroidenbergwerke GmbH, 67.
Athenian Democracy government type, 99.
Athlete template, 146.
Athletics, *Terran*, 53; *Vilani*, 75.
Atmospheric taints, 125.
Attorney template, 147.
Awareness, 135.
Bannerjee-class 400-dton system defense boat, 210.
Barnard's Star, 23.
Barren (Ice) world, 96.
Barren (Rock) world, 96.
Basic trade system, 178.
Battle of Three Suns, 40.
Bawapab language, 134.
Behmer Aktiengesellschaft, 67.
Belter template, 148.
Biographies, 41.
Biotechnology, 160.
Birth, *Terran*, 50; *Vilani*, 72.
Black-flag Terrans, 24.
Blue helmet, 21.
Branch routes, 177.
Breakout, 31.
Bridge systems, 172.
Bureau of Colonization, 66.
Bureaucrat template, 148.
Bwaps, 82; *racial template*, 144.
Campaigns, 228; *alternative*, 232; *goals*, 230; *seeds*, 234.
Capella subsector, 118.
Capitalist template, 148.
Careers, *Terran*, 51; *Vilani*, 73.
Cash on Delivery adventure seed, 237.
Caste government type, 99.
Celestial bodies (in combat), 225.
Challenges to Imperial rule, 30.
Character packages, *campaign*, 231.
Characters, 133.
Chauvinism, 72.
Childhood, *Terran*, 50; *Vilani*, 72.
Chrysolite, 118.
Civil affairs, 64.
Civilian control, 54.
Clan/Tribal government type, 99.
Class system, *Vilani*, 73.
Clerical Investment advantage, 134.
Code of Honor disadvantage, 135.
Collectivism, 70.
Colonial administration, *Terran*, 56.
Colonial expansion, 29.
Colonist template, 149.
Colonization campaign, 234.
Combat rounds, 219.
Commerce Raiding campaign, 232.
Common ships, 201.
Communications gear, 162; *systems*, 172.
Computer Hacking skill, 136.
Computer Programming skill, 136.
Computers, *personal*, 162; *systems*, 172.
Conservatism, 69.
Consolidation Wars, 15, 18, 29, 72.
Consumables and extras, 201.
Contact era, 24.
Contact procedures, 184.
Convergent evolution, 13.
Convoy escort, 60.
Corporate merchant fleets, 66.
Corporate Official job, 157.
Corporate State government type, 99.
Corporations, *major*, 67.
Corrosive atmosphere, 97.
Cosmopolitanism, 9.
Cost of living, 143.
Courtesy rank, 143.
Covert operations, 176.
Crockett-class 100-dton picket ship, 203.
Cultural Familiarity advantage, 134.
Culture, *Vilani*, 74.
Curious disadvantage, 136.
Cybernetics, 160.
Damage control phase (in combat), 225.
Darmine, 39, 40.
Deck plans, *Crockett*-class 100-dton picket ship, 204; *Gashidda*-class 400-dton Imperial patrol cruiser, 212; *Hero*-class 200-dton private merchant, 207; *Lightning*-class 400-dton frontier merchant, 209.
Decline of the nation-state, 8.
Deep space jumps, 171.
Degen, Josep, 35.
Describing Worlds, 95.
Desert (Ice) world, 96.
Desert (Rock) world, 96.
Detection and communication phase (in combat), 221.
Dictatorship government type, 99.
Dilettante template, 149.
Dingir, 35, 110; *subsector*, 109, 229.
Diplomat template, 150.
Direct fire phase (in combat), 223.
Disadvantages, 135.
Disciplines of Faith disadvantage, 136.
Dishaan, 83; *racial template*, 144.
Doctor template, 150.
Draft, The, 51.
Droyne, 85.
Dumushir regime, 33.
Dumushir, Kidarneri, 34.
Duty disadvantage, 136.
Duusirka subsector, 105, 229.
Education, *Terran*, 50; *Vilani*, 72.
Efficiency, 71.
Eighth Interstellar War, 35.
Electronics, *Imperial*, 161.
Ember, 115.
Empty Peace, 7, 29; *playing in*, 30.
Endgame, *playing out*, 38.
Entertainer template, 150.
Entertainment, *Terran*, 52.
Environment, *Terran*, 48.
Envoys, 24.
Erasharshi, Kadur, 27, 31, 44.
ESP, 135.
Espionage, 234.
Estigarribia, Hiroshi, 47.
Evolution, *convergent*, 13.
Expeditionary forces, 61.
Exploration, 233.
Facing (in combat), 220.
FarStar Association, 67.
Feudal government type, 99.
Feudalism, *corporate*, 13.
Fifth Interstellar War, 32.
Financing, 174.
First colonies, 21.
First contact, 22.
First Imperium, 4.
First Interstellar War, 7, 25.
Fourth Interstellar War, 30, 32.
Free Traders Foundation, 26; *movement*, 26.
Free Traders, 66.
Gadgeteer advantage, 134.
Galaxy Map, 100.
Garden world, 96.
Gargarin, Yuri, 21.
Gashidda, 36.
Gashidda-class 400-dton Imperial patrol cruiser, 211.
G-carriers, 168.
Gear, *personal*, 162.
Gemini subsector, 120.
Gender roles, 133.
General Assembly, *Terran Confederation*, 54.
Generating worlds, 121.
Generation ships, 22.
Geonee, 39, 40, 84; *language*, 134; *racial template*, 144.
Glacier world, 96.
Goals, *campaign*, 230.
Government Official job, 157.
Governors, 78.
Grand Tour campaign seed, 235.
Grav modules, 22.
Great Ministers of the Four Quarters, 78.
Great Schism, 38, 40.
Green badge, 119.
Greenhouse world, 96.
Ground forces, *Terran*, 62.
Ground warfare, 232.
Gunner skill, 136.
Gunnery modifiers (in combat), 227.
Hardrada-class 800-dton commerce raider, 213.
Harmonious Repose-class 200-dton yacht, 208.
Hasegawa Limited, 67.
Hasegawa, Yukio, 43, 66, 67.
Hellenic Industries Limited, 67.
Hero-class 200-dton private merchant, 206.
Hierarchy, *Vilani*, 78.
High Frontier Development Consortium, 68.
High TL advantage, 134.
High Vilani, 15; *language*, 134.
Hill and Masterson, 68.
Home rule, 131.
Honesty disadvantage, 136.
Human origins, 13.
Igsiirdi, 77.
Iiken-class 100-dton scout/courier, 205.
Iilike, 34, 35.
Iinu, 104.
Imperial 10-dton missile fighter, 201.
Imperial-kimashargur allegiance, 98.
Imperial Terra, 37.
Imperial-Vegan allegiance, 98.
Imperium, 69; *administration*, 78; *allegiance*, 98; *Client State allegiance*, 98; *Code of Honor*, 135; *collapse*, 39; *hierarchy*, 78; *military rank*, 140; *society*, 15; *status*, 137; *surrender*, 40; *technology*, 160; *wealth*, 142.
Imperium boardgame, 4.
Indomitable-class 30,000-dton battleship, 217.
Inferno, 120.
Interface operations, 170.
International affairs, *Terran*, 49.
Interplanetary travel, 173.
Interstellar exploration, 182; *trade*, 177; *travel*, 174.
Intolerance disadvantage, 136.
Jobs, 157.
Journalist template, 151.
Jump drive, 22, 169; *mishaps*, 171; *operations*, 171.
Junction, 114.
Kaareshur, 103.
Kargash-class 2,000-dton Imperial light cruiser, 216.
Karl Marx-class 1,000-dton heavy free trader, 214.
Kaufmann Sternenschiffbau AG, 68.
Khugi, Sharrukin, 42.
Known universe, 95.
Kovacs, Arpad, 39, 46.
Kushuggi, 18; *sector*, 13.

Languages advantage, 134.
Launch and docking phase (in combat), 224.
Legacy of War campaign seed, 236.
Legal Immunity advantage, 134.
Legion of the Frontier, 94.
Leisure, *Terran*, 52.
Life support systems, 173.
Lightning-class 400-dton frontier merchant, 208.
Likushan, Shana, 24, 42.
Liriinan, 102.
Longevity, *Vilani*, 75.
Long-range exploration, 62.
Low TL disadvantage, 136.
Low Vilani, 15, 73; *language*, 134.
Main Fleets campaign, 232.
Major nation-states, *Terran*, 56.
Major routes, 177.
Maneuver drives, 169.
Maneuver phase (in combat), 221.
Mapping a subsector, 121.
Marine Corps, *Terran*, 59.
Marine template, 151.
Marines, *Vilani*, 91.
Markhashi, 35.
Masterminds of Terra campaign seed, 236.
Medical Equipment, 165.
Merchant organization, 66.
Merchant rank, 141.
Merchant types, 65.
Mesa, 119.
Meshan, 110.
Meson cannon, 36.
Military occupation, 65.
Military police, 64.
Military rank, 139.
Miniphant, 52.
Minor routes, 177.
Mirabilis, 29.
"Miracle drugs," 166.
Misexit, 171.
Misjump, 172.
Movement phase (in combat), 222.
Muan Gwi, 105.
Muan Issler, 106.
Muan Kwoyen, 37.
Mutual assimilation, 12.
Nanotechnology, 161.
National governments, *Terran*, 55.
National sovereignty, 8.
Nation-state, *decline of*, 8.
Naval bases, 59, 129.
Naval rank, *Terran*, 140; *Vilani*, 90, 141.
Naval strategy, *Vilani*, 92.
Navigation skill, 136.
Navy, *Terran*, 57, *Vilani*, 89.
Neodog, 52.
New millennium, 19.
New York, *Treaty of*, 20.
Ninth Interstellar War, 36, 37.
Non-aligned allegiance, 98.
Novotny Factoring, 68.
Nugiiri, 85; *racial template*, 145.
Nusku, 12, 29, 30, 33, 35, 112.
Occupation campaign, 233.
Occupational templates, 146.
Occupied worlds, *Terran*, 57.
Official history, 19.
Opening moves, 24.
Operations, *Terran army*, 65, *Terran navy*, 59.
Organic toxins, 125.
Organization, *Terran army*, 63, *Terran navy*, 58.
Outback region, 32, 120.
Overconfidence disadvantage, 136.
Oynprith language, 134.
Parsec, 95.
Peacekeeping, 8.
Peraspera, 115.
Per-capita income, 132.
Personal gear, 162.
Petty emperors, 78.
Pharmaceuticals, 160.
Phidippides-class 200-dton fast courier, 205.
Philosophy skill, 137.
Phoenix expeditions, 57.
Piloting skill, 137.
Placing populations, 127.
Placing worlds, 121.
Plagues, 30.
Planetary defense, 65.
Planetary invasion, 65.
Planetary-defense army, 64.
Point defense and missile fire phase (in combat), 224.
Point totals, 133.
Policeman template, 152.
Political organization, *Terran*, 53, *Vilani*, 76.
Political parties, *Terran*, 55.
Politician template, 152.
Pollutants, 125.
Population categories, 127.
Populations, *placing*, 127.
Power projection, 59.
Precedent, 76.
Pre-Garden world, 96.
Procyon, 32, 35, 114.
Progress, *technological*, 9.
Prometheus, 10, 29, 114.
Prosthetics, 160.
Protective gear, 162.
Provincial governors, 78.
Psionics, 135.
Psychokinesis, 135.
Psychology, *Vilani*, 69.
Public service, *Terran*, 51.
Racial templates, 143.
Ramming modifiers (in combat), 227.
Redwing Express, Incorporated, 68.
Religious rank, 141.
Representative Democracy government type, 99.
Retirement, *Terran*, 51.
Richtofen-class 400-dton missile corvette, 210.
Rim Province, 13.
Rogue template, 153.
Saris-Yenisei bridge, 120.
Savoir-Faire skill, 137.
Scientist job, 158.
Scientist template, 154.
Scrounger job, 158.
Second Interstellar War, 27.
Secretariat, *Terran Confederation*, 54.
Secretary-General, *Terran Confederation*, 53.
Sensor modifiers (in combat), 227.
Sensors, *personal*, 167; *systems*, 172.
Sequence of action, 220.
Settlement patterns, *Vilani*, 79.
Seventh Interstellar War, 34.
Shadow Emperor, 36, 76, 78.
Shamshir-class 1,000-dton Imperial destroyer escort, 215.
Sharrukin clan, 41.
Sharrukin, Arashir, 34-37, 42.
Sharrukin, Eneri, 33, 41.
Sharrukin, Khugi, 34, 37, 38.
Sharrukin, Ushan, 41.
Sharurshid standard 10,000-dton line freighter, 217.
Sharurshid standard 2,000-dton branch freighter, 216.
Sharurshid standard 2,000-dton passenger liner, 216.
Shiphandling skill, 137.
Shulgiasu, 107.
Shulimik, 34, 35.
Shululsish, 102; *subsector*, 101.
Shuruppak, 33. 35.
Siege mentality, 53.
Siege of Terra, 27.
Sionnach, 116.
Sirius, 111.
Sixth Interstellar War, 33.
Skills, 136.
Smutny Associates, 68.
Social Regard advantage, 134.
Social Stigma disadvantage, 136.
Social unrest, *Terran*, 49.
Sol, 114; *subsector*, 112.
Soldier job, 158.
Soldier template, 154.
Special rules (in combat), 225.
Speculative trade, 178; *system*, 180.
Speeders, 168.
Spy template, 155.
Standard 100-dton interplanetary shuttle, 203.
Standard 10-dton lifeboat, 202.
Standard 20-dton assault craft, 202.
Standard 30-dton ship's boat, 202.
Standard atmosphere, 97.
Standards of living, *Terran*, 49.
StarLeaper One, 23.
StarLeaper-class 1,000-dton exploration vessel, 214.
Starship Bridge Officer template, 155.
Starship Commander template, 156.
Starship Crewman job, 158.
Starship Deckhand template, 156.
Starship Engineer template, 157.
Starships, 169; *combat*, 219; *costs*, 174; *design*, 187; *operations*, 173.
Status, 137.
Strider, Lorette, 43.
Subgiant world, 96.
Subject races, 80.
Sublight interstellar travel, 174.
Suerrat, 39, 40, 86; *language*, 134; *racial template*, 145.
Suffocating atmosphere, 97.
Supreme governors, 78.
Survey operations, 182.
Survival gear, 167.
Susceptible disadvantage, 136.
Suspended animation, 166.
System defense, 60.
System survey, 62.
Tactical combat system, 219.
Tainted atmosphere, 97.
Talent advantage, 135.
Technological progress, 9.
Technology, 159.
Telepathy, 135.
Teleportation, 135.
Terra, 48; *administrative rank*, 138; *allegiance*, 98; *and colonists*, 40; *architecture*, 52; *athletics*, 53; *birth and childhood*, 50; *careers*, 51; *Client State allegiance*, 98; *colonial administration*, 56; *colonies*, 10; *conquest*, 10; *counteroffensive*, 28; *discontents*, 233; *education*, 50; *entertainment*, 52; *environment*, 48; *free traders campaign*, 229; *ground forces*, 62; *ground tactics*, 65; *international affairs*, 49; *leisure*, 52; *major nation-states*, 56; *Marine corps*, 59; *merchant marine*, 65; *military rank*, 139; *national governments*, 55; *naval tactics*, 61; *navy*, 57; *neighborhood*, 101; *occupied worlds*, 57; *political organization*, 53; *political parties*, 55; *public service*, 51; *religious rank*, 141; *retirement*, 51; *social unrest*, 49; *standards of living*, 49; *Starport Authority*, 68; *status*, 137; *strategy*, 60; *technology*, 159; *wealth*, 142.
Terran 10-dton light fighter, 202.
Terran Confederation, 7, 8, 38, 40, 53; *agencies*, 55.
Terran-Vilani allegiance, 98.
Thalassa, 117; *subsector*, 116.
Theocracy government type, 99.
Third Imperium, 4.
Third Interstellar War, 27, 28.
Topornin/Rostovtzeff, 68.
Toxic atmosphere, 97; *organic*, 125.
Trade routes, 177.
Travel times, 173.
Treaty of Ensulur, 36.
Treaty of New York, 20.
Tunguska, 119.
Underkings, 78.
Unexplored planets, 116, 119.
United Nations Space Coordination Agency, 21.
United Nations, 7, 19, 53.
United Worlds Organization, 26.
UNSCA, 21.
Unskilled Laborer job, 158.
Uplift, 52.
Urima subsector, 103, 229.
Ushiin, 104.
Vegans, 35, 36, 88; *allegiance*, 98; *language*, 134; *Polity*, 18, 36; *racial template*, 145.
Vehicles, 168.
Vilani, 69; *administrative rank*, 138; *and glory*, 89; *architecture*, 75; *aristocracy*, 23; *army*, 93; *army rank*, 93; *athletics*, 75; *birth*, 72; *campaign*, 234; *careers*, 73; *childhood*, 72; *class system*, 73; *culture*, 74; *dissidents*, 76; *education*, 72; *exploration*, 17; *hero*, 71; *Imperial administration*, 78; *Imperial hierarchy*, 78; *Imperium*, 12, 76; *longevity*, 75; *marines*, 91; *military*, 89; *naval rank*, 90; *naval strategy*, 92; *navy*, 89; *political organization*, 76; *psychology*, 69; *racial template*, 146; *religious rank*, 142; *secret societies*, 76; *settlement patterns*, 79; *way of life*, 72; *way of war*, 89.
Vostok I, 21.
Wealth, 142.
Weapons (personal), 167.
Workaholic disadvantage, 136.
World types, 96.
Worlds, *placing*, 121.
Yangila, Sharik, 30-33, 45.
Zheng He-class 800-dton survey vessel, 211.



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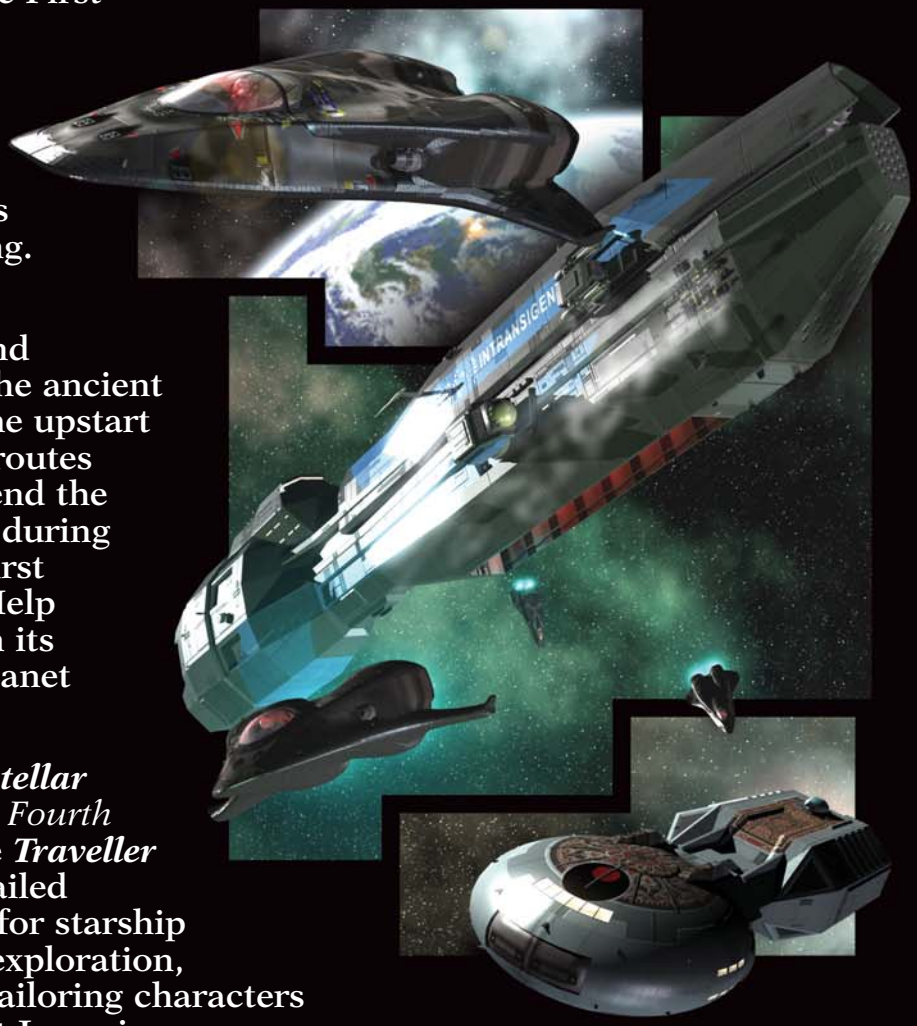

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