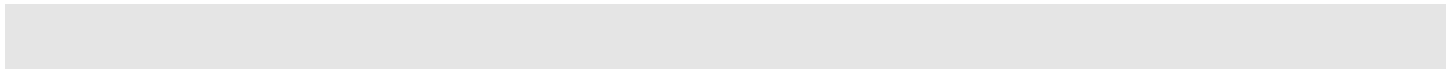


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Halfway Station presents...

2300 AD Archive



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Articles and Handouts for 2300 AD



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2300 AD Archive

Articles and Handouts for 2300 AD

I've been playing *2300 AD* – and using the rules to run crossover games in other universes – since 1987. During the 1990s, I wrote a variety of articles for *Challenge* magazine about the game.

In addition, there were a number of items that never quite made it into print, but circulated as player handouts in my gaming group. I've included those too, so this document is essentially an archive of my *2300 AD* writings, published or otherwise – including the weird bits where the lines between my *Traveller* and *2300 AD* games grew blurred.

Actually, as both game systems were produced by the same company, and in many cases by the same designers, scenarios, rules and so forth from one can be readily used in the other. I know, I've done it a great deal.

You can also find these articles online, with articles by many other *2300 AD* gamers, at Pentapod's World of 2300 AD - <http://www.geocities.com/TimesSquare/Arcade/2303/>.

Enjoy!

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ARTICLES FROM CHALLENGE MAGAZINE

If you like, these are the “official” bits of the archive – close enough to GDW’s vision of the game that they were published in *Challenge* magazine. So far as I know, the copyright on them reverted to me when GDW ceased trading.

Social Class in 2300 AD

Originally published in *Challenge* 44. © Andy Slack 1990, 1998.

Social status can profoundly affect a character’s life.

The 2300 AD social status information in this article is based on sociological research but has been distorted to make it more convenient for game use.

The Social Status and Monthly Upkeep Table is based on Hope and Goldthorpe’s model of the modern British class system, modified slightly to take some account of Gilbert and Kahl’s findings of the American class system. It describes the open class society of a modern industrial nation, where class is not determined by birth. To find a character’s social class, roll 4D6-4 (as for other 2300 AD attributes), then add one-fourth of the character’s education to the result. The reasons for education modifying the dice roll are that people from higher-class families tend to have more years in formal education, and those with more education tend to get higher-status jobs.

Social Status and Monthly Upkeep

Result	Social Class	Income (Lv per Month)	Upkeep (Lv per Month)	Typical Occupations
20+	9	15,000	4,500	Investors, heirs, executives
17-19	8	4,000	3,000	Higher managers/professionals
16	7	1,500	1,000	Lower managers/professionals
15	6	1,250	900	Clerical, sales, service workers
14	5	800	700	Self-employed artisans
13	4	800	700	Technicians, foremen
10-12	3	800	700	Skilled manual workers
7-9	2	200	200	Unskilled manual workers
6-	1	200	200	Agricultural labourers

Notes on the Social Status Table

Generally, unskilled laborers will be SC 2; skilled workers will be SC 3-7; office workers, soldiers or ship crews, SC 3-6; military or ship’s officers, SC 7-8; upper-echelon corporate managers, SC 8.

Result: This is the modified dice roll made by the character (4D6-4+1/4 education). It takes into account the effect the average education score of 10 will have (+2 modifier) when assigning a character to a class.

Social Class: This is a numerical representation of the character's social class, much like other game's social standing attribute. Sociologists usually call the highest status class 1, but using ascending numbers is more convenient.

Income (Lv/Month): This is mostly derived from the salaries listed in *2300 AD*. In the game, this quickly and easily gives you and your players an idea of how much money a patron can offer the group to do a particular job (how much he actually offers may be different and will give the players extra information). For example: "The baron's only offering us Lv 200 to find the letter, but my banking contacts tell me he pulls in Lv 20,000 a month. I don't think he really wants it back." Or perhaps: "Wait a minute. Where did a fellow like Andrew get Lv 5,000? There's something fishy going on here."

Upkeep (Lv/Month): This shows what sort of expenditure is necessary to keep the character in the style to which he is accustomed. If the group spends a long period between adventures, say while one of them is in training or recovering from wounds, the listed figure is what they will pay for food, lodging, entertainment, etc. in a month. They can always pay more or less than the listed figure; vast discrepancies can be rewarded with renown points ("Excellent dinner party young Tombs has laid on, Martha; the lad may have more potential than I thought.") or infamy points ("Good grief, Elizabeth, you invited the TV people over here? What will the viewers think? At least put the pig in the yard!").

Typical Occupations: This shows what sort of careers are followed by members of that social class.

Class 9 consists of the investors, heirs and executives, who are classed as capitalists because their main income is from their assets rather than their salaries. Land-owning nobility will be in this class.

Class 8 are the higher-grade professionals, administrators, managers, and proprietors of businesses.

Class 7 is made up of lower-grade professionals, administrators, managers, supervisors, high-grade technicians, and middle-grade businessmen.

Class 6 is composed of clerical, sales, and rank-and-file service workers.

Class 5 contains the proprietors of small businesses and self-employed artisans.

Class 4 is composed of lower-grade technicians and foremen.

Class 3 is made up of the skilled manual workers found in industry.

Class 2 covers semiskilled and unskilled industrial workers.

Class 1 is occupied by agricultural workers and smallholders.

If you don't agree with this split of occupations by class, take heart; it changes according to the nationality of the character and the time he was born in. A few hours in your local library looking under "social stratification" will give you some ideas on how other countries view the matter. My table is based on the British system partly because almost all my players are British and partly because British society seems to have a more convenient number of social classes - U.S. research seems to distinguish either too few (five) or too many (dozens).

No modifiers have been applied for Core or Frontier homeworlds. I have assumed that agriculture and mining in *2300 AD* are much more automated than today, and therefore that the lower social classes on Frontier planets take up no higher a percentage of the population than they do today. I have also assumed that some members of higher social classes will migrate to the Frontier to find new country estates, escape from the rat race, or what have you. The higher social classes occupy a niche in society which consumes

more resources than those of lower classes, so they feel the pinch of overcrowding and resource depletion earlier (when the pool shrinks, the big fish feel crowded, and some move to another pool). Also, the higher your social class, the easier it is for you to find the money to travel to a new world.

Social Mobility

It is quite possible in an open society for, say, a man born into social class 3 to rise to social class 7 and then perhaps marry someone from social class 8. In game terms, a character's renown or infamy will modify his social class over time. Characters may increase their social class in the same way as they improve skill levels, but they do so by using renown points rather than experience points. This represents the increased respect people give to famous figures.

Renown used to improve social class is not expended but still counts toward the character's renown level, so keep a separate tally of points spent on class. Each infamy point reduces social class by one level (the media and its viewers just love a good scandal).

Attitudes

A character's social class reflects the status he derives from his parents' occupations or his own career prior to adventuring. The main use of class in the game is to determine a character's outlook on life. While PCs should be allowed to deviate from the normal beliefs of their class, the referee will find it useful for stock NPCs to have stock attitudes about life based on their class outlook.

Bear in mind, however, that not all members of a class hold every view ascribed to the class, and one viewpoint shades into another across the spectrum of class.

Manual Workers: Members of these social classes are to a certain extent fatalists, feeling that luck and forces beyond their control shape their lives. They feel that good pay and working conditions depend on union action. They see work as a way to get money to spend during their leisure time and see the unemployed as unlucky. They usually hold liberal views on economic issues and conservative views on other matters, being intolerant of nonconformists.

Nonmanual Workers: Members of the higher social classes feel they have mastery over their lives and feel hard work will be rewarded. They see the unemployed as lazy, and see work as a place to gain respect, demonstrate their skills, and further their careers. They are usually tolerant on civil liberty issues and of nonconformists.

Interpersonal Tasks

A character's class largely determines the respect he is due from NPCs. Therefore, social class may be used as a crucial attribute in interpersonal tasks. PCs may wish to pass themselves off as members of another class, say to infiltrate an important social event or a worker's demonstration; this is a Routine disguise task whose duration is determined by the referee.

On The Street Where You Live

Certain areas of every city are associated with particular social classes. For game purposes, it is useful to think of the average frontier city as being composed of five concentric rings; the inner-most is zone 1, and the outermost, zone 5. These zones develop naturally as a result of the successive waves of immigrants as the colony grows. When the city is first founded, possibly near the site of the first landing, the higher social classes live in exclusive areas in the inner city (zone 2), and the poor live further out. Gradually, the richer people move further out, leaving the inner city properties empty. These houses are too expensive for low-income groups to maintain, so they let out rooms in the houses. When new immigrants arrive, they rent rooms in the inner city. The more

successful immigrants move into newer, better houses toward the edge of the city, and are replaced by the next wave of immigrants taking lodgings.

The characteristics of these zones and the social classes living there are as follows:

Zone 1 (Innermost): This is the inner business district with the shops, civic buildings and commercial enterprises. Cultural centers such as museums, universities, and art galleries are also present. A few members of social classes 8 and 9 may have apartments here to entertain business associates or to remain near the business and cultural centers.

Zone 2: This is the older residential area of large, once-imposing houses which were owned by affluent people who have since moved away. The houses are in a poor state of repair and are divided and rented out to people in social class 1 or 2, especially new immigrants and indigents with no regular income (e.g., PCs down on their luck). The constant changeover of population in zone 2 leads to social problems and a high crime rate. The zone also has a number of students and Bohemian types who favor the area for its low rents and nearness to the cultural centers in zone 1. If you are using the *Earth/Cybertech Sourcebook*, this is where the cyberpunks and deck jockeys on the make hang out. As you can see, this is the zone where your Streetwise skill is used.

Zone 3: This has a stable population of respectable working-class people (social classes 3 and 4) and some sense of community.

Zone 4: This is the typical suburban area, inhabited by the middle classes (social class 5 to 7). Social life in the suburbs is not based on family or locality as it is in zones 2 and 3, but is based on shared interests (e.g., membership at the same golf club).

Zone 5 (Outermost): This is the wealthy district, where the rich (social classes 8 and 9) live in expensive houses with large gardens.

On core worlds, as stated in *2300 AD*, people can commute long distances to work via the excellent transport network. Thus, the higher social classes usually live outside the city proper. In Core cities, frequently only zones 1-3 are present, though they are bigger than equivalent zones in a frontier city. In effect, zones 4 and 5 have become houses in the country.

The above sweeping generalizations aren't true for all cities. Sometimes the middle classes move back into the inner city and redevelop it: sometimes over-spill estates for workers are built on the edge of the city proper. Furthermore, not all cities are circular; ports, for example, may be crescent-shaped, bounded by the coast on one side.

Social Class in Play

Here are some examples of how social class can flesh out characters, drawn from the troubleshooter party in my own campaign.

Our group has one character of lowly origin who has striven for many game years to pass himself off as a member of high society - he likes adventures that allow him to gain the money to do so.

Another character in the group wants to help the lower social classes in the inner cities and seeks out those who have problems with the underworld or the authorities to help them - this has generated several scenarios where the players did good deeds for no pay at all and still felt sufficiently rewarded.

A third character lives in a run-down apartment in zone 2 of a frontier city. Due to his upbringing in the lowest social classes, he feels this is quite adequate ("my family was much worse off"). But several other characters have refused to stay in his hovel, even when desperately short of money.

Since social class under these rules is determined by occupation, it can be used as a guide to a PC's rank within his final career. For example, military officers have social class 7 or 8 as a rule. A PC with social class 7 whose final career was ground military would have held a position in the lower ranks of the officer corps, probably as a lieutenant or captain, but possibly as a major. The number of turning points in his career (and the die roll results for the turning point tasks) should guide the referee in deciding the exact rank held.

Wired Society

Originally published in *Challenge 53*. © Andy Slack 1991, 1998.

Information Technology in 2300 AD

Which sounds more exciting: You walk out into the parking lot, hop into your four-wheel-drive range truck, put it in gear and steer out onto the highway? Or: Your sleek hovercraft hears you whistle and buzzes to a stop at your side, asks your destination as you climb aboard, then handles all the routine driving and navigation chores?

Technology updated to AD 2300 standards can lend your game a more futuristic flavor - and is not as unbalancing as you might think. After all, an "intelligent" hovercraft really gives PCs no more of an edge than an NPC driver would.

The full impact of developments in information technology is only felt on Core worlds and is naturally most evident in larger cities. Frontier worlds, except for the most developed urban areas, don't have the communications and power networks to support this kind of technology, nor the skilled human resources needed to install and maintain it. However, any military or research teams will be likely to have a higher level of technology, and items issued to them are designed to work in wilderness areas.

Vehicle Computers

In AD 2300, onboard vehicle computers are commonplace and are roughly as intelligent as a dog. They can respond to verbal commands, break into the vehicle intercom or radio circuits to speak to the crew, and bring the vehicle to the disembarked crew if called by radio or a loud shout.

Although an onboard vehicle system is referred to as "the computer", it is in fact a group of a half-dozen or so microcomputers each tied in to separate sensor/effector clusters and running different programs. The various computers are tied together by a small onboard communications network, usually using wires or optical fibers, and one of the nodes is tasked with running the network and overseeing the work of the other nodes. In military vehicles, a backup node, able to take over this directorial function if the master node is damaged, is also included. The typical vehicle computer is programmed with the performance parameters for its vehicle and will override the operator if he tries to do anything dangerous.

Autopilots: Autopilots have a socket similar to a neural jack where reference chips can be inserted. Any autopilot can take a map chip; civilian models normally take a reference chip containing data on local traffic regulations, and military ones are fitted with a chipped copy of the current tactical manual (for the crew's reference). Autopilot programs can take the vehicle to a specified point, either by road or cross-country, then halt the vehicle, orbit the point or start a search pattern. The autopilot can also intercept, pass off or take station on a specified point or object. Military versions can drive evasively; this function is often set to activate if the driver releases the controls (referred to as a "dead-man switch").

Military autopilot programs share navigation and movement data via short-range radio or laser communications links. This enables vehicle platoons to coordinate their activities. Groups of vehicles can be programmed to move together in travel mode or "bounding"

overwatch mode. In travel mode, they simply move in column, following the lead vehicle at a safe distance. In bounding overwatch mode, the vehicles move individually from cover to cover in short bounds, covered by fire from their stationary fellows.

Communicators: All vehicles have long-range communicators. The police on Core worlds can remotely activate these to pass on traffic information or safety warnings, and can locate any vehicle at any time by its transponder emissions. In Core world cities, police can take control of any vehicle at any time by a remote radio link, and routinely do so in traffic jams or emergencies. As criminals routinely damage or disconnect the communicators on stolen vehicles, police imagers are set up at key intersections and linked to computers which scan the highway for specified vehicles, identifying them by their license plates. Random spot checks are carried out from time to time to make sure that vehicle license plates, communicator responses and positions all sync up.

Weapons Control: The main difference between civil and military vehicle computers is that military ones have weapons control software. These programs provide automatic adjustments for range, target type and weather conditions. The system automatically identifies moving objects, trains the weapons, and alerts the gunner, who specifies the targets as friend or foe. Friends are ignored, and the gunner can specify the response to foes: observe, observe and record, engage now, engage after current target engaged, or engage when in range. The computer will provide a default response based on the tactical doctrines in its database, but can be overridden. The gunner can also select autotarget mode, in which the system will engage any target in range not previously specified as friendly, with larger and closer targets having priority. One of the crew's necessary daily tasks is to specify which vehicles, buildings, etc. are friendly for the day or the mission.

Vehicles in a platoon share target and tactical data over communications links to minimize the chance of engaging friends by mistake or having several friendly vehicles engage the same target. However, this capability is not so commonly used or as useful as might be imagined, as enemy antiradiation missiles will home on any radio transmissions during combat.

Military HUDs

Heads-up displays are standard in vehicles and pilot or combat helmets. They can be linked to vehicle or backpack computers, satellite downlink receivers, etc., which can override a HUD's local processing power or simply download fresh data into the HUD. A HUD projects 3D digital maps, gunsight reticules and sensor readouts onto the helmet visor or vehicle windscreen, overlaying these on the real scene. Normally the aiming graticule projected on the visor gives a +2 bonus to hit, but especially complex and expensive versions might give a higher bonus or even increase the wearer's Initiative level.

Occasionally troops will mount mini-imagers on their gun barrels with fiberoptic links to their HUDs, where video picture-in-picture software allows them to see and shoot around corners without exposing their heads. A small area of the HUD display shows the view from the weapon's muzzle, with corrected aiming graticules overlaid on the scene.

Recent experimental work with subdermacomps has introduced what some have called the "eyes-up display". By inducing impulses in the optic nerves of the user, military subdermacomps can overlay their information directly on the user's vision. This technology is not yet available for general use. Although most subdermacomps can display text or simple graphics in the user's eyes, complex color graphics and map overlays cannot yet be reliably induced, so HUDs are used where these are needed. Due to its expense, the eyes-up display seems likely to remain limited to undercover operatives in covert surgical strike teams.

Industry

Robots and computers perform most physical and administrative work. Orders, invoices and payments are dealt with by electronic fund transfer and are rarely seen on paper.

Salespeople use remote computer terminals linked into the corporate computer net, similar to those which have been in use by soldiers and scientists for many years. Many orbital factories are remote-controlled over telecommunications links to save on life-support costs.

The few employees in a typical corporation work three- or four-day weeks, and a second set of staff uses the machines for other purposes on the first set's "weekends". To cope with the long weekends, most workers have second jobs or complex hobbies. The machines work around the clock, seven days a week.

Dedicated creative staff are still in short supply and frequently work 60-hour weeks. Some people work from home via the communications net, using a remote work station in their study. This is not as common as might be expected, for two reasons: Going to work fulfills an important psychological need for social contact with other people. Also, in a conversation between people, much information is conveyed by body language, facial expressions and gestures, which are harder to make out over a videophone or via a computer bulletin board.

To minimize the capital tied up in stock and warehousing, all factories use "just-in-time" production, keeping less than 12 hours' stock of component parts. Products are built just in time to meet orders; parts are ordered just in time to make products.

Often, a corporation will be spread out over the globe, with its manufacturing plants wherever they are cheapest to operate, its offices wherever staff and accommodation are cheapest, and so on. Most supervision is done electronically over the videophone. Troubleshooters - roving jacks-of-all-trades - solve unforeseen problems quickly.

Medicine

Patients are prediagnosed at home by medical computers over the communications net to minimize the workload on human doctors. If the condition is serious enough to warrant a doctor's attention, he will do his diagnosis over the net. Even then, the patient may be treated by an automed. Home or hospital computers monitor chronically or critically ill patients, and automeds may be on standby to administer drugs.

This arrangement is surprisingly common on Frontier planets due to the limited numbers of medical staff available and the large areas each has to cover. Indeed, like the old-time Australian outback, many Frontier planets have flying doctors.

Home Technology

On Core worlds and in larger Frontier cities, wall-sized, two-way video screens linked to the global communications net are found in almost every room in a house, and can be used as "windows" on other rooms with screens, as videophones, or as televisions. Split screens can be used for videophone conference calls, with up to 30 people involved from widely separated places.

Many shopping malls and public buildings have public terminals from which information databases can be interrogated by passersby.

The home computer is programmed with the owner's tastes in video, and will automatically record or suggest he watch anything of interest broadcast on any of the hundreds of TV channels. A wall screen can zoom in on particular areas or points in a program, freeze the action, fast forward and rewind, or show windowed inserts of programs on another channel. An interactive channel is used for teaching. Some houses have domed circular rooms whose entire inside surface can be made into a screen. Some viewers have their home computers programmed to enhance the emotional impact of video by adjusting the home heating, making suitable sound effects, and so on. Others rely on recreational drugs to enhance their viewing.

The communications net includes a library of films and old programs which can be viewed on request, as well as back issues of journals, legal documents and scientific papers. It can search these files on request for any specific subject, providing a list with cross-references and a printout of the results if required.

Computer animation and edited video are indistinguishable from film of actual events, and many officials seen on the videophone are just PR graphics. Thus, in most countries, film of a crime is not acceptable as evidence in court, unless taken with specialized, tamperproof equipment.

The home computer has limited intelligence, about equal to a dog's, and will respond to verbal commands or keyboard input. It controls the lights, heating, outside doors, and TV of a home. The computer will let in the owner, or specified friends and relatives if the owner is out, so keys, as such, are rarely seen. The police can always gain entry to a home upon presenting a warrant to the external cameras. Should any criminal break into the house, the computer will use the wall videophone screens to record the intruder and his activities for the reference of the law enforcement officers, and will attempt to inform the authorities of the break-in.

Finance

The widely used smart cards (see "In the Cards" in *Challenge 29*) are gradually being replaced in the Core by devices in homes and shops which recognise a person by his hand geometry and a keyed identity number. Most shopping and personal financial transactions are done from home via the communications net, with shops delivering the goods requested. Home computers do most routine shopping automatically whenever they deduce that stocks of everyday items are running low.

Personal Communicators

Most people carry a small communicator linked to the global communications net and can be reached by phone anywhere except in remote wilderness areas. The communications net can locate people by name, so phone numbers are no longer used. It also provides conference calls and facilities for recording messages. The user can instruct the net to ignore, record or give priority to calls from specific people at specific times of day.

Portable communicators continuously transmit their owner's national identity number, even when switched off; the police can learn the rough location of any phone at any time. Intelligent listening systems monitor all conversations, and if specified people, places or subjects are mentioned, the systems will record the conversation and alert the police. Police can also activate any phone remotely (to eavesdrop on rooms or conversations) or break into any conversation at any time. As a precaution against criminals who don't carry communicators, police imagers are set up in key public places and linked to computers which can scan those places for specific persons and alert police to their presence.

Using Information Technology in Gaming Situations

The machines described above can provide modifiers on task rolls. They can assist the PCs by performing simple tasks, and may provide information the PCs would not otherwise have access to (they will reveal this information only if asked, and then only in a straightforward and nonanalytical way).

Computers are very good at doing the right thing in a predictable routine situation. They are not good at dealing with the unknown and unpredictable. For instance, like a PC using an Aircraft Pilot skill chip in his neural jack, an aircraft computer would be able to take off, land and fly from A to B, but it would not last long in a dogfight without help from a skilled human pilot.

Most computers will not have very high skill levels - they are generally only skill level 0 or 1. At the referee's option, they may be able to learn from experience. If so, they will only be able to improve skills directly relevant to the purpose they were built for. An

onboard computer for a hover APC, for example, might be able to improve Hover Vehicle and Heavy Weapons skills, but should not be able to learn Tactics or Medical.

Information Gathering skill will be vital to PCs working in the Core. The communications and computer webs there provide Core PCs with instant access to a great deal of information - so much so that they are likely to be swamped by it. Successful use of Information Gathering skill - which in this context is used to phrase requests for information precisely so that they get the data they need and no more - will keep PCs from being swamped. Computer skill can also be used in this fashion. As an oversimplified example, if the PCs need to find out about a Mr. Smith in the course of their work, asking the computer at the public library for data on Mr. Smith could result in a pile of printout nine yards thick. A character with Information Gathering skill would ask for Mr. A. G. Smith of a specific address or birthdate, reducing the amount of data to be sifted.

Tracking: This technology was first introduced for laudable purposes. Continuous transmission of identity numbers by personal and vehicle computers, for instance, was intended to assist transport planners to provide better service by finding out people's habitual movements - this naturally told the planners where roads were needed, which trains needed how many cars, and so on. But it wasn't long before the police realised how valuable the information could be.

The major impact of this technology on PCs is in the ability of Core police to track them and prove their involvement in various capers. This is where the darker side of information technology appears, and it fits very well with the downbeat, "cyberpunk" view of Earth in AD 2300. Anywhere the PCs go, the police are monitoring them by transmissions from their personal or vehicle communicators. Thus, the police know where the PCs are, when they are there, probably who they are with, and what is being said (if they have a mind to know). Whenever the PCs break into a building, its computer will record their crimes on imager chips and alert the police. Whenever they make phone calls to each other during a scenario, intelligent monitoring systems can listen to the call, check for key words or names, and alert the police about what they're up to. In short, Big Brother is watching.

This won't make crime in the Core impossible for the PCs, but it will make them sweat for their ill-gotten gains. Streetwise skill as learned and practiced in Core cities includes knowledge of how to make your movements and activities look like part of the normal pattern to the watching computers, which are programmed to alert the police if a citizen's movement patterns become eccentric or even too regular. Electronics, Disguise, Computer and Security Systems become skills equally as valuable as Sidearm or Melee, as PCs must perform difficult tasks using these skills and their ingenuity to evade detection. For example, PCs might avoid the police monitoring their movements by carefully removing their vehicle's communicator and connecting it to an electronic rig which feeds it false information, making it seem that their car is at home in the garage. Then all the PCs have to worry about is the police imagers spotting their license plate 50 miles from that garage and raising the alarm.

Appendix: Data Storage

Item to be Stored	Storage Required	Storage Medium	Storage Available
Letter, one page	5 KB	Portacomp chip	200 MB
Photograph	100 KB	Imager cartridge	3 GB
Book, 200 pages	1 MB	Home/vehicle computer	100 GB
Hi-fi music, one hour	100 MB	Office computer	1,000 TB
Video, one hour	10 GB		

KB: Kilobytes (thousands of bytes).

MB: Megabytes (millions of bytes).

GB: Gigabytes (billions of bytes).

TB: Terabytes (thousands of billions of bytes).

Actually, most of this stuff was technically feasible in the 1990s, and should be cheap enough for widespread use by the 2030s. Watch the skies...

Cache and Carry

Originally published in Challenge 57. © Andy Slack 1992, 1998.

A 2300 AD adventure on Beta Canum. Can the PCs retrieve a cache of military-grade weapons and armour intended for local guerillas?

Introduction

This is an introductory-level adventure for a beginning group of 2300 AD player characters. The scenario takes place on the French continent of Beta Canum. The time period has been left deliberately vague - the referee can set it before, during or after the Kafer invasion. The referee should have a copy of 2300 AD and the *Equipment Guide*. In addition, *Invasion*, *Colonial Atlas*, *Kafer Sourcebook* and *Beanstalk* might be useful but are not required.

Background

The PCs are hired to retrieve a cache of military-grade weapons and armour intended for local guerillas. Trained and armed by the regular military, these guerillas are to stay behind enemy lines and act as saboteurs in the event of a local invasion. (Think of the German Werewolf organisation of 1945, or the NATO-sponsored Gladio groups in Italy after World War II.)

Depending on your campaign, the patron may claim to be a smuggler or a member of the original stay-behind guerilla group, or he may want to sell the weapons on the black market. See the NPCs section for more details.

Approach

The cache is hidden in a hilly area near a small town, about two kilometres from any inhabited buildings. The patron says he knows roughly where the cache is located and will guide the PCs to it under cover of darkness. He will claim not to remember exactly where the cache is and to have lost the key he needs to get in - the PCs will have to help him in both tasks.

Map Description

The map is the underground command bunker from *Merc: 2000* (page 72), with some minor changes.

Entrances: Two concealed trapdoors lead down into the cache. Beneath the trapdoor is a flight of stairs leading down into the hillside - and the cache.

Bunk Room: Here are primitive, communal living quarters for a squad (10 people), including bunks and storage space for personal gear.

Storeroom: This room is full of assorted noncombat equipment, including a satellite uplink communicator, maps, compasses or other locating gear, and camouflage clothing.

Restroom: Simple sanitary facilities for the guerilla squad, including a chemical toilet.

Kitchen: Stores of long-life, prepackaged food (e.g. MREs) and basic facilities for cooking. Cooking facilities are patterned on the 'Ho Chi Minh' ovens which disperse smoke and smell over a wide area so that the hideout is hard to locate. The kitchen area and its contents may be treasure in themselves during the Kafer invasion.

Armoury: Here are the goodies the PCs came for. There are weapons to equip an infantry squad, plus as much ammunition as the referee is prepared to let them have. The weapons cache includes six FAM-90s, one FTE-10, one Quinn-Darlan M2-A2 plasmagun, one Blindicide-9 launcher, one Martel launcher, and several pistols (M-57 or 9-23 Enforcer equivalent). As the expected users are guerillas rather than front-line troops, armour is limited to nonrigid or inertial suits, or vests and helmets.

Communications Room: This area contains equipment for monitoring civilian and enemy channels, plus encoding and decoding gear. The code discs are fairly valuable to certain people (e.g., terrorists) and can be sold on the black market. If the PCs think of this opportunity, see *Challenge 44* for rules on black market sales.

Office: This room contains a desk and chair, maps of the region, and portacomp chips with files of suitable targets, contact names, etc.

Refereeing the Scenario

PCs succeeding at a Difficult Recon task can discover one of the two concealed trapdoors leading into the cache.

Task: To find the entrance to the underground cache: Difficult. Recon. One minute.

The fact that the patron cannot take them straight to the door once they find the cache area may make the PCs start to get suspicious, if they aren't already. The entrance is protected by a mechanical lock (which requires no power to operate). Opening it is another task.

Task: To open the mechanical lock protecting the entrance: Difficult. Security Systems. 2 minutes.

A pressure sensor at the bottom of the stairs triggers a trap if anyone steps on it. The trap is a security gas system, rigged to flood the stairway with doze gas while simultaneously setting off an alarm at the nearest military base. (See *Equipment Guide* for more details of these security items). To bypass the trap, the PCs must leap over the relevant area of floor. Detecting the trap is a task.

Task: To detect the security gas system trap at the bottom of the stairs: Routine. Security Systems. One minute.

Referee: If the scenario is set during the Kafer war, the alarm has been disabled but the gas system has not.

All encoding/decoding and office files are stored on portacomp chips infected with a boot sector virus. The virus identifies the person using the portacomp by monitoring the speed and pattern of their keystrokes during login. These patterns are quite distinctive to begin with, and the intended users of the system are also trained to use a specific pattern. If the chips are accessed by anyone except the intended users, even just to list a directory of what is on them, the virus will erase everything on the chip and the portacomp.

A PC with Computer-2 and a portacomp can be assumed to have the proper software to detect and deal with viruses. Detecting and removing the virus are both tasks.

Task: To detect the presence of the virus: Simple. Computer. One minute.

Task: To render the virus harmless: Routine. Computer. One minute.

NPCs

The key NPC in this adventure is the patron. He is armed and alert to the possibility of betrayal by the PCs. He will do whatever is necessary to defend himself, but would rather threaten the PCs into carrying on with the mission as planned. The patron is an Experienced NPC with a concealed Traylor M-57.

As the PCs may suspect, the story the patron told them may not be entirely true. There are several possible reasons why he is staging this mission.

Terrorist: By capturing and torturing a member of the stay-behind guerilla group, the patron learned of the cache's whereabouts. Depending on how they react to his offer and perform the job, he may shoot them, double-cross them and make off with the guns, or ask them to join his terrorist group. Either way, remember that he can implicate them in a serious crime (stealing the cache) and so has something to blackmail them with. On the other hand, if they play their cards right, the PCs can turn him in for a sizeable reward and a renown point, and still keep the guns for themselves. ("No, officer, we don't know where he put them.")

Criminal: By blackmail and bribery, the patron has learned of the cache, and he intends to sell the guns on the black market. He may offer the PCs money or allow them to keep a share of the weapons.

Stay-Behind: The area has already been invaded, and the Kafers managed to wipe out most of the stay-behind guerilla group. Only the patron remains, and he plans to recruit the PCs to replace the group's casualties. In this case (only) the patron knows the cache's exact location and the details of the trap and the portacomp virus, but he will not reveal this information unless the PCs fail to find them - he wants to test their skills.

Alternatives

If the group seems to be having too easy a time, introduce one of the following complications, adjusting numbers to suit your PCs' capabilities.

- Another band of rogues has also learned of the cache and through pure bad luck has chosen the same night to make a move. They are Experienced NPCs in the thief or smuggler/pirate careers, and have similar skills and equipment to the PCs.
- A fully-armed squad of soldiers shows up, either to inspect and replenish the hideout under cover of darkness (before or after the Kafer invasion) or to seek shelter there (during the invasion). These will be elite troops (e.g. SAS or special forces) who have worked with the stay-behinds or might have to do so in future. They are Elite NPCs in the ground military career, and probably have better combat skills and equipment than the PCs do.
- The stay-behind group chooses the same night to stage an exercise or occupy the hideout. The guerillas' combat skills are equal to or better than the PCs', but their

weapons are inside the hideout, so they have only knives and (possibly) an odd pistol. They are Experienced NPCs in the colonist career.

If the scenario takes place during or after the Kafer invasion, the PCs somehow manage to arouse a Kafer war party camped nearby.

I have left out the map as I am not clear who owns the copyright on the maps from Merc: 2000, except that I am certain it isn't me! It's easy enough to draw your own, or just describe your own house at the bottom of those stairs. Even if the players are sitting in it at the time, they are very unlikely to recognise it.

Just How Good is Sidearm-5, Anyway?

Originally published in Challenge 58. ©Andy Slack 1991, 1998.

Skill Levels in 2300 AD

Gamers often plague referees with questions like, "How good is expertise level 2?" or "What skill level should I take in Combat Rifle?"

And when PCs encounter a new NPC, they may need to know his expertise in a particular skill.

Some referees prefer to stick to the stats for character descriptions, while others introduce characters through information-gathering tasks rather than through data alone.

No matter what method is used, the referee may want to offer players something beyond the raw numbers. He needs information that will tie a specific expertise level to the PC's life or to something the player is familiar with.

The information below provides a common ground for 2300 AD referees and players, defining the various levels of expertise. These descriptions are easy to use in other game systems if the skill level is changed to reflect the appropriate chance of success. The percentage chances of success for each skill level are listed for that purpose.

Unskilled

The character has no expertise worth mentioning in the skill.

Level 0: Green

The character has a 50% chance of success at Routine tasks and a 10% chance of success at Difficult tasks. An NPC with this skill level might be young and inexperienced. Or (more dangerously) he might be a former user of the skill who has been out of touch with it for so long that his knowledge is obsolete but who still thinks he knows what to do.

The character might have academic knowledge of the skill (e.g., a college course), but very limited practical experience, and he might never have used the skill in a position of responsibility. For a nonacademic skill, the character might have had equivalent instruction from someone with expertise level 2 or more in the skill concerned.

Alternatively, the character could have gained a working knowledge of the skill by supervising others with expertise level 2 or more.

Level 1: Experienced

The character has a 60% chance of success at Routine tasks and a 20% chance of success at Difficult tasks. The average NPC encountered will have this level of expertise in those

skills he uses to make his living; his immediate supervisor (team leader, sergeant/corporal or whatever) is likely to have expertise level 2.

The character has had at least six to 12 months of practical experience in using the skill within the last 10 years. This might have been as part of a team working on some project that required the skill or carrying out an in-depth study for a company. Alternatively, the character might have used the skill in his hobbies (in this case, expertise level 1 usually indicates some significant output like a published paper, practical model or patent).

Level 2: Veteran

The character has a 70% chance of success at Routine tasks and a 30% chance of success at Difficult tasks. NPCs in positions of responsibility will usually have this level of expertise and will be in charge of several NPCs with expertise level 1.

The character has a lot of practical experience in using the skill and has held a position of responsibility based on his expertise (e.g., leading a team of skilled people). He has produced something tangible by which the quality of his work can be judged (reports, software, machinery built from scratch, etc.), and those hiring him may be able to examine this product to satisfy themselves of his skill.

He also has sufficient knowledge of skills related to his main speciality to use those skills, but he still needs help or supervision in those areas even for tasks that one person could undertake alone. In *2300 AD* terms, he will have expertise level 1 in related skills.

Level 3: Elite

The character has an 80% chance of success at Routine tasks and a 40% chance of success at Difficult tasks. This is the highest level of skill a randomly encountered NPC might possess.

The character has reached such a level of expertise in his chosen field that others seek his advice and willingly accept it. He fully understands the skill concerned and can explain it to others, including the practical limits of what can be done.

Also, the character has a good knowledge of skills and subject areas related to his primary skill. Depending on the task in hand, he might be able to operate entirely alone, with neither assistance nor supervision in those related areas. In *2300 AD*, this translates to expertise level 2 in related skills.

At this level of expertise and above, the character will happily supervise others using the skill concerned, but begins to dislike being supervised himself because he knows perfectly well what to do.

Levels 4-7: Expert

The character only fails Routine tasks when he fumbles. He has a 50% or better chance of success at Difficult tasks and can succeed at Formidable tasks beyond the reach of others. NPCs at this level of competence are not encountered randomly: They will be sought out by the players or individually created by the referee for a particular purpose.

The character has successfully completed projects in which his skill was a vital factor. Whatever he built or wrote has been working satisfactorily for one or two years since it was delivered, and the project may well be known by reputation to anyone who considers hiring the character.

The character spends a fair amount of time improving and strengthening his knowledge of his chosen subject (practising, attending seminars, reading trade journals, etc.) He is an acknowledged expert in his field and has probably published papers on his speciality, written books about it or appeared on television.

Levels 8-10: Genius

The character only fails at Difficult tasks when he fumbles. He has a 50% or better chance of success at Formidable tasks, and can sometimes succeed at tasks most practitioners of his skill would call Impossible. NPCs with this level of skill are extremely rare and are not usually for hire.

Characters with this level of expertise are normally famous names, known by reputation to almost everyone who uses the skill concerned. They have met most of the other people with equivalent levels of skill (at conferences or whatever) and probably know a number of them personally.

Referees may elect to award a renown point to any player character who reaches this sort of skill level, and might want to develop non-player character contacts of equivalent expertise (friends or rivals).

The differences between these extremely high levels of expertise can only be detected and appreciated by other experts; most people can only tell that these people are very good at what they do.

One of us Always Stays Awake...

Originally published in *Challenge 65*. © Andy Slack 1992, 1998.

I'd been with Stanford and his crew a couple of months before I got the nerve to ask why we always stayed in adjacent rooms and took turns standing guard, even in the swankiest hotels. They didn't answer. Just got a kind of blank look that we used to call the thousand-meter stare on Aurore - the kind you get from staring out of a foxhole over open sights for too long.

But these people were troubleshooters, not mercs. I figured I ought to know what they were running from, for their good as well as mine. I said as much to Chan one night, while we were alone and she was checking out the jacked 9-23 she slept with. I was ready for most possibilities - the police, Americo, Provolution, maybe the Tongs, something like that. Her answer was a surprise.

"One of us always stays awake," she grinned tiredly, "in case of vampires."

Introduction

The following is a 2300 AD scenario for a small group of troubleshooters or similar characters, set on Kwantung in the Chinese Arm. The referee will need the 2300 AD rules, plus the *Colonial Atlas* for details of Kwantung and the DNAMs used to prepare colonists for life on King.

No maps are provided, so the referee may design street setups or building interiors as necessary.

While resting between jobs on Kwantung, the PCs are approached by an old friend, Jim Harker, now an ecologist, who is convinced that a predator is eating local colonists. The authorities have dismissed his story as the ravings of an idiot - now he turns to the PCs for help.

As the PCs investigate, they discover that all the clues point toward Harker's predators being vampires. The predators do, in fact, exist, but they are results of a Provolutionist experiment that went wrong.

The "vampires" try to kill the PCs and Harker to conceal their existence. Depending on the referee's wishes, the PCs can be allowed to wipe out the creatures, removing a menace

to humanity, or some of the vampires can escape and begin a prolonged vendetta against the PCs.

Harker's Story

The PCs are in a bar near Changpei spaceport on Kwantung, looking for work and sampling the local rum, when someone enters the bar. He sits down by the PCs and orders a large rum, looking somewhat harassed. Suddenly, both he and one of the PCs (of the referee's choosing) recognise each other as old friends: Harker greets the PC by name joyfully.

"Am I glad to see you," he says. "I really need help." For the sake of their old friendship, the PCs should agree to at least listen to Harker's story.

The scientist is convinced a predator is eating local colonists.

Over the course of several drinks in a corner booth, Harker tells the PCs that he is employed in Changpei's Statistical Office to analyse data collected at farms and towns across the planet, and to monitor developments in the world's ecology. The hope is that agronomists will be able to centralise planning and improve farm productivity. Weather and insect problems will be predicted and forestalled by the scheme; tailored applications of chemicals and benign insects will improve crop growth rates and yields; and crops can be genetically engineered more precisely to take advantage of better knowledge of local conditions. The aim is to create a system which feeds all the population of Kwantung at minimum cost and effort.

Harker is especially interested in the energy flow from layer to layer of the ecology. He explains that plants convert roughly 10% of the energy received from the sun; herbivores use about 10% of the energy stored in the plants; and carnivores use about 10% of the energy stored in the herbivores' meat. Harker intended to trace the energy input from Tau Ceti through the food chain up to human consumers. This would highlight any shortfalls, wastage or overproduction for attention by the government.

However, the amount of energy reaching the human level of the food chain was larger than other figures showed that level actually used or needed. Trying to reconcile the figures, Harker had an inspiration: What if there were some predator living off the human population of Kwantung? The extra food energy reaching the human level would then be siphoned off by whatever is preying on humanity. Harker was disturbed to find that this theory fit the numbers precisely. His data indicates that there are several dozen of these predators on Kwantung.

Harker went to the authorities and the police with his theory, but no one believed him. He is convinced that the authorities know about the predator and are covering up the story to protect their own positions and prevent widespread panic. He is sure that he will soon be silenced for uncovering this conspiracy, either by the police or the predators - hence, his hunted look.

He appeals to the PCs for help. He needs protection and he needs to prove his theories so that he can force the authorities to act.

Vampire Murders

The PCs will probably realize that if there is something out there on Kwantung eating people, there ought to be bodies being found or people missing. The first steps should be to check for evidence of these. Several possible approaches are outlined.

The PCs may well suspect a government cover-up. In fact, there is none - the authorities are simply not aware of the problem. If given sufficient evidence, they will be glad to investigate. All the authorities know so far is that a number of citizens are being horribly murdered for no apparent reason.

The PCs may well flounder at this stage. If they seem lost or too far from the right track, the referee should focus their attention by having a few vampires find out about their inquiries and try to kill them - in which case, go to the section *Night of the Vampires* below.

Old News: The PCs may check for reports of bodies or missing persons in back issues of magazines, old newspapers and tapes of old news broadcasts in public libraries.

Task: To find evidence in old news reports (uncertain): Routine. Information Gathering. 2 hours.

Referee: Success in this task gives the PCs the following information: First, there are an unusually high number of murders and disappearances in Changpei and other cities on Kwantung. Second, the bulk of the victims are attractive young men and women who seem to have been murdered late at night in a ritualistic way, the bodies being efficiently drained of blood. Third, the first such murder occurred three years ago, and before that the pattern of murders and disappearances was normal for a colony world.

The gruesome killings are referred to by the press as the "vampire murders," and the unknown perpetrator is referred to as "the vampire," due to the victims being drained of blood. There is no apparent motive for the killing in any of the ritual murders, but there is a pattern to the choice of victims - each is a single person who disappeared late at night, often after leaving a singles' bar in the company of a tall, dark and attractive stranger.

A fumble on this task indicates that the vampires get word of the PCs' interest in this subject (perhaps by a monitoring program set up in Changpei's computer net, perhaps by overhearing their conversations). If so, an attempt will be made on the PCs' lives that night. Go to the *Night of the Vampires* section.

Talking to Police: If the PCs decide to question police, they will get the same polite brush-off as Harker unless they can convince them that the case is serious.

Task: To persuade the police to get involved (uncertain): Formidable. Eloquence. 1 minute.

Referee: This task will need to be successfully repeated three or four times with different officers before the PCs have worked their way far enough up the chain of command to reach someone who can make a decision. If the PCs fail at any stage, the police will promise to look into the matter and promptly forget all about it. If they succeed, the police will interview the PCs and Harker, taking the case off their hands and eventually arresting several vampires. Before that time, the PCs will probably get restless since they don't know what the police are doing and tackle the case themselves.

However the discussions with the police go, at some stage one of the officers should berate the PCs for wasting his time when he could be out solving the "vampire murders". If the PCs now repeat their search through old news reports, the relevant task becomes Simple rather than Routine.

Interviewing Relatives: The PCs may decide to interview relatives of some of the murder victims. This will prove a blind alley. Few of the victims were in close contact with their relatives (this is one of the criteria the vampires use to pick a victim). Also, no one will be keen to talk to the PCs, and if they are persuaded to talk, they will not be able to provide any information of interest.

Down Those Mean Streets

Once they work out that the vampire attacks at night in cities, the PCs may decide to go around the backstreets at night inviting attack from the predator so as to capture or kill one and thus gain hard evidence. If they stroll around the seedy districts of Changpei at night, armed, they are likely to run into trouble one way or another. Some possibilities are:

Street Gang: A street gang discovers the PCs on their turf and attacks them with mayhem and robbery in mind. The gang may be composed of young toughs, criminals, travellers like the PCs down on their luck or Provolutionists looking for experimental subjects. They will be Experienced NPCs armed with knives and clubs. If the PCs lose this fight, they will be beaten and robbed, and possibly worse. If they win, but kill some of the gang in doing so, they will be held by police for questioning - they should be released unless carrying suspicious amounts of weaponry (say, more than a knife or pistol).

Street People: The PCs may be accosted by street people wishing to sell them various illegal drugs or show them a good time. If the referee is feeling mean, he may have the street people be undercover police who arrest the PCs for any interest they show in the illegal wares or services. Street people are Experienced NPCs with knives and possibly small pistols (e.g. Arno 5-15).

Police Patrol: The PCs are noted by a police patrol which stops and searches them. If your PCs are anything like mine, this will be acutely embarrassing for them as a variety of hidden weapons and semi-legal devices are exposed. If not, and if they have a reasonable cover story, they should be released with a caution to get out of the bad side of town before someone attacks them. If the PCs reveal their true purpose (vampire hunting) the police will think they are being mocked, and immediate arrest will follow. An example of a believable cover story is: "We're new in town, and we're lost." The police are Experienced NPCs with hand communicators, Traylor M-57s and clubs.

Night of the Vampires

Eventually - either because the PCs are with Harker and the vampires wish to silence him, because their investigations are floundering or because the vampires select them as victim - the PCs will be attacked by vampires. At least one PC will be captured during the fight.

The vampires are Elite NPCs equipped with inertial armor, clubs and stunners (they like their blood fresh and don't want to waste any of it). They are equal in number to the party. They are DNAM-modified, giving them Strength 16, Dexterity 8, Endurance 16, a Consciousness Level of 6 and a Life Level of 12. Treat hits on vampires as if they were PCs rather than NPCs, giving them the full benefit of their Consciousness and Life Levels; this alone will make them formidable opponents. Appropriate careers for vampires would be ground military, thief, academic or smuggler/pirate, reflecting their origins in Provolution and their intended use as biological terror weapons. They are as cunning as Kafers and know the area intimately, so they should be able to strike at will and vanish into the shadows.

PCs who are captured, or who track the vampires to their lair, will find the vampires who survived the attack on them, plus three or four more, masquerading as nightshift workers sharing a run-down house near the starport. All have AS-3s and clubs at hand, and those fresh from the fight will still be in inertial armor. The others are asleep, setting up transfusion equipment or just lounging around - they are not expecting trouble.

Bound and sedated in the basement are victims being slowly drained of their blood. After binding their captives, the vampires take a small sample of blood from each (anyone with First Aid or Medical skill will realize this is to determine the blood type), drain some blood from one of the less recent victims and disappear upstairs (there they will use normal medical gear to give themselves transfusions, but the PCs won't know this until they've gained control of the house).

Some tasks which may prove useful are:

Task: To track the vampires to their lair after the attack (uncertain): Difficult. Streetwise or Recon. 1 minute.

Referee: A fumble on this task means that any surviving vampires detect the PCs as they approach the lair and prepare an ambush. A failure means the PCs lose the scent, and the

vampires start shadowing them the next night. The task becomes Routine if the abducted PCs say they want to mark their trail.

Task: To escape from one's bonds when tied up in the vampire's lair: Difficult. Dexterity. 2 minutes.

Referee: This task can be retried three times before the vampires notice the PC is up to something. A fumble indicates that a vampire notices the attempt. PCs who escape their bonds and search the room will find that only those kidnapped that night are in good enough shape to fight, the others being weakened by loss of blood. Most are drugged to keep them quiet, but the "evening meal" has been allowed to come out of sedation so the vampires aren't drugged when they take his blood. Clubs and knives can be improvised from materials in the room (furniture, bottles, etc.).

Whether or not the captured PCs escape their bonds, the "evening meal" will engage them in conversation, providing the information in *Logical Explanation*, below. This man is Li Ta-Chao, an aging Manchurian biochemist who was part of the project which created the vampires.

Logical Explanation

The vampires are the result of a Provolutionist experiment. The intent was to produce a race of genetically engineered supermen by creating a virus with the same strength and endurance boosting effects as the DNAMs administered to King colonists, but without the effects those viruses have on the human respiratory system. The modified personnel would be strong and tough, without needing to wear respirators at all times in normal atmospheres.

Unfortunately, creating DNAMs by genetic engineering is difficult even for major government research programs. As a terrorist group working in hiding with less-than-perfect facilities, it was almost inevitable that the Provolutionist team would produce a faulty product. Their DNAM works almost as intended, but also affects the subject's genetic code in the areas concerned with porphyrins and pheromones, leading to two side effects: First, a subject's pheromone output is enhanced and altered so as to make them very attractive to those of the opposite sex. Secondly, undergoing the DNAM transformation triggers a condition known as Gunther's disease in the subjects.

Gunther's disease, also known as congenital erythropoietic porphyria, is normally transmitted as a recessive genetic disorder. Its minor symptoms include a reddish-brown discoloration of the bones and teeth, and enlargement of the spleen. The two main symptoms in game terms are anaemia and blistering of the skin when it is exposed to light. There is no cure for porphyria; treatment is aimed at alleviating the symptoms and minimising skin damage.

The vampires are unable to seek medical attention for their problems for fear of revealing their illegal genetic modifications. They have attempted to overcome their disabilities in two major ways - by hiding during the day to avoid the painful and disfiguring blisters which would develop on their hands and faces, and by abducting people and draining their blood for transfusions to counteract their anaemia. Since their enhanced pheromones make them almost irresistible to the opposite sex, they find easy prey in singles' bars.

The vampires have formed a breakaway faction of Provolution. They see themselves as the next step in human evolution, and they consider it their right and duty to rule all of human space, looking after the rest of humanity in the same benign way that cattle ranchers look after beef cattle. They believe the best way to do this is by slow infiltration of the local government, leading to an eventual takeover of Kwantung (and later, other worlds as well). They intend to keep their existence secret for obvious reasons.

Fight

By this stage, there is at least one PC in the vampires' lair. He will probably contrive some way to signal his comrades, or they will successfully track the vampires home. If not, perhaps the PCs recognise one of their assailants leaving the house while wandering aimlessly around to pick up clues. Or perhaps a local drunk can be bribed with a shot of rum to reveal where the off-worlder was taken. Or perhaps another vampire hunter watching the house can direct the PCs in exchange for help in freeing her fiancée.

No matter how they find it, the PCs must now enter the house, clear it of vampires and release the hostages. This will almost certainly entail violence.

Aftermath

The PCs should have destroyed a nest of vampires, possibly as many as 25% of all vampires on Kwantung, and have enough evidence to persuade the authorities to act. There is no financial reward, but the PCs each gain one Renown point. They will acquire several useful contacts in Changpei, probably Harker and a detective in the local police, who can provide information and help in future adventures. The PCs may also acquire deadly enemies - any surviving vampires, plus a senior police official who lost face when the truth came out.

Important Non-Player Characters

Jim Harker: An old friend of one of the PCs (probably one with prior service in an academic, contact or scout career), Harker worked for Trilon Industries as a biologist in a survey team and later achieved modest fame as a specialist in non-Terran ecologies.

Three years ago, Harker took an interest in the unique mix of Terran and alien life on Kwantung. He then sought work as an ecologist there, working for the Manchurian government. He is a Green NPC.

NPC Motivations: Club Queen: Harker is stubborn to the point of pig-headedness. His determination to uncover the truth makes him a thorough and methodical scientist. Spade 7: Harker is willing to take responsibility and wants to occupy a position of importance. He considers it his duty to see that action against the vampires is taken, for the good of mankind.

Li Ta-Chao: Li was part of the team which created the vampires. Once converted, however, the vampires made the remaining human members of the team their first victims, draining their blood. Li is the last survivor of the team and expects to die soon. But before he dies, he wants to tell the story to someone, and he will make the player characters promise to pass it on in the hope that someday the tale will be known.

NPC Motivations: Spade Queen: Li is utterly unscrupulous in his pursuit of Provolutionist goals, and he is quite content to see humanity become the pets or prey of the next stage in evolution. He hadn't expected to become one of the first prey himself, of course, but he has been here long enough to become philosophical about it - he dies that his creations might live. Spade 4: Li is a braggart. While he is used to the idea of dying, he can't bear the thought that posterity might never learn of his part in making this happen. This is why he insists on telling the PCs his story.

When I ran this adventure for my players, there was a sting in the tail: Some of the vampires really were vampires... I guess I'd been reading too much Anne Rice around then. The vampires took on more flesh over the years and became shadowy, recurring villains, hounding the PCs across space because they knew too much. Which is why "One of us Always Stays Awake..."

Diamonds from Premiere

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Shells were starting to fall outside by the time we got into the main vault. The unmistakable rumble and squeak of heavy armour rolling past outside the bank made speech even more difficult. Stanford had found the box we were after and was stuffing it into his pack. Harris was standing quite still, thumb in his belt, rifle pointed at the ceiling, visibly wondering what was in all the other safe-deposit boxes.

"Come on," I yelled as the tanks fell back, firing as they went. "We haven't got time for that!"

Harris looked at Stanford, and they both grinned. Stanford was already pulling some sort of illegal-looking electronic device from his toolkit.

It was obviously no use talking to them. I ran back out and flopped down near a window, where I could keep watch for the Kafers.

Introduction

Set on Beta Canum during the Kafer War, this scenario is suitable for a group of three to six PCs. The referee will need the *2300 AD* rules. Access to *Colonial Atlas*, *Beanstalk* and/or *Invasion* may be helpful.

Beta Canum is about to be attacked by Kafer forces. Human intelligence estimates that the planet will fall in a matter of days. The PCs' sponsoring organisation (*see Refereeing the Scenario*) has learned that a safe-deposit box in Premiere holds a fortune in diamonds which the PCs are asked to retrieve. The PCs will each be paid Lv 500 up front and Lv 500 on successful completion of the mission.

The PCs will be provided with a map of the bank, as well as a letter introducing them to the bank staff and an electronic key to the correct safe-deposit box.

Approach

Continued safe operation of the Beanstalk cannot be guaranteed during the invasion (if it hasn't been destroyed already), so the PCs will be inserted on the outskirts of Premiere by a small spaceplane at 0200 hours local time (at a disused flying field, now only used as an emergency landing strip for the main airport, about 10 kilometers out of town).

Shortly after the spaceplane lifts off, leaving the party on Beta Canum, the PCs learn from news broadcasts that Kafer warships have entered the system and are bound for the planet. They will arrive in 1d6 hours. If they contact their sponsors, the PCs are assured that they will be picked up if they can return to the rendezvous.

Retrieval

The spaceplane will alight at the drop-off point in 24 hours. It will wait one hour, then depart, regardless of whether the PCs make it back.

Map Description

If a map is needed for an encounter on the way in or out of Premiere, simply describe or sketch an urban area you are familiar with.

For a map of the bank vault, you could use the one from *Twilight: 2000* second edition, pages 182-183, if it is available to you (or just create your own). Banks have not changed much over the years, although the functions are increasingly automated, and the after-hours teller positions are now manned by machines.

Refereeing the Scenario

The PCs' final careers should decide the nature of the sponsoring organisation and the reason for retrieving the diamonds. For example:

- Field agents or military personnel can be ordered in to prevent the Kafers from gaining access to a cache of strategically valuable industrial diamonds.
- Troubleshooters or independent traders can be hired by the person or corporation owning the diamonds to retrieve them - insurance doesn't cover acts of war, and the diamonds are worth millions. In this case, the diamonds can be industrial- or jewelry-grade items.
- Thieves, smugglers and pirates can discover the cache by means of bribery or blackmail, and seize it under cover of the confusion caused by the impending invasion. Again, the diamonds can be jewels or industrial.
- Mercenaries can use any of the above rationales.

Getting into Premiere: This is not easy, because it seems as if everyone else within thousands of kilometres is trying to get in as well (to find a way off-planet before the Kafers move in). This not only causes congestion but also ties up most of the available transport. The referee should allow the PCs to find a vehicle after a short search, then implement the following encounters in any order:

- **Looters:** A small band of thieves, equal in number to the PCs, is looting shops under cover of the confusion. They are Green NPCs, armed only with knives and clubs (at the referee's option, they may be looting a gunsmith's shop and have access to sporting weapons such as FC-68s).
- **Refugees:** A family (parents, several children, grandmother and dog) try to flag down the PCs and beg for a ride to the spaceport. These are Green NPCs and unarmed.
- **Armed Refugees:** As above, but more desperate. If the PCs do not stop to pick them up, at least one of the family members will open fire with an FC-70 hunting rifle in an attempt to gain control of the vehicle. Treat the family as Green NPCs.
- **Riotous Mob:** This mob is besieging an embassy in the city centre, near the bank. They believe embassy officials inside the building will be rescued by tiltrotor and taken directly to the spaceport, and they hope to seize the aircraft and escape in it. The building is defended by Experienced troops armed with AS-89s; the mob consists of Green NPCs armed with knives, clubs and desperation.

Making a Withdrawal: When the PCs arrive at the bank, the staff will have fled. It will be necessary to resort to lock-picking or violence to gain entry to the building and vault, but PCs are usually quite capable of either. Once inside the building, they will discover a group of daring thieves with similar intentions (but, of course, less noble motives) who will dispute their possession of the valuables. There are 1d6 Experienced thief NPCs, armed with pistols and shotguns.

Task: To pick the bank locks: Formidable, Security Systems or one-half Electronics. 5 minutes.

Referee: This task is Formidable for the outside door, Impossible for the secure vault. Fortunately for the PCs, the thieves inside have already opened the vault door (they locked the building doors behind them to conceal their presence).

For blowing in the doors, use the normal rules for explosives. The bank doors are made of one centimeter of wood sheathing five centimeters of toughened steel; the vault doors are 20 centimeters of toughened steel.

The thieves' lookout (if the PCs pick the lock) or the sound of the explosion (if they blow in the door) will alert the thieves, and they will ambush the party soon after it enters the bank.

No PC worth his salt will leave safe-deposit boxes unopened in such circumstances. There are several hundred present; their contents are left to the referee's imagination, and the total value of the haul depends on how much money you are willing to let your PCs have. Note that most of the paper money, deeds, contracts and blackmail letters they find will be worthless by the time they can return to a Kafer-free Beta Canum to use them.

Getting out of Premiere: This is no easier than getting in, and the PCs may well be running into the oncoming Kafers, who by now have landed the first elements of their force, although the space battle rages overhead. The referee should implement the following encounters in any order:

- **Kafer Scouting Party:** A group of 2d6 Kafers with light weapons scouting ahead of the main invasion force. They are already aroused and will ambush the party.
- **Scene of a Firefight:** Shattered bodies and wrecked equipment testify to a recent firefight. If you feel the PCs need heavier weapons than they have to get out alive (yes, I know it's unlikely, but it could happen), have them find some light support weapons with the bodies, still in working order (FTE-10, M2-A2 plasma gun, etc.).
- **Kafer Atrocity in Progress:** The party members see a band of Kafers massacring unarmed civilians and/or prisoners. If they just ignore it and make good their escape, they are definitely not hero material. If they intervene and win, the NPCs rescued will try to follow the PCs (after all, they have guns). Naturally, the spaceplane is just big enough to accommodate the PCs' team and has no room for passengers.
- **Squad of Soldiers:** Just as the PCs' spaceplane arrives, they encounter a desperate group of soldiers, cut off from their unit and looking for away off-planet, who intend to hijack the spaceplane and escape on it. The PCs must either surrender their places on the last spaceplane out of Beta Canum or fight to keep them. The soldiers are Experienced NPCs in the ground military career, armed with FAM-90s; they are equal in number to the PCs.

Alternatives and Variants

If the PCs don't make it back into orbit, they are stuck on Beta Canum through the Invasion and subsequent fighting. They can opt to lie low, join the resistance or find another way off-world. If they're still there at the end of the war, you can use many of the *Twilight: 2000* scenarios published in *Challenge* with a few changes - the Kafer War leaves Beta Canum in a similar state to Earth after WWII, although in BC's case, help is available from outside.

Of course, it is quite likely that the player characters will "lose" the diamonds in a convenient location for future collection. The value of the diamonds, and their chances of getting away with it, are at the referee's discretion.

Repo Men

Originally published in *Challenge* 69. © Andy Slack 1993, 1998.

A desperate woman turns to the PCs for help. She needs them to kidnap her children...

Introduction

The PCs are in a city on a frontier world of the referee's choice (it doesn't really matter which, as long as it has been colonised by at least two nations). They are approached by a

young woman in need of help - her children have been kidnapped by her ex-husband, and she desperately wants to get them back.

The woman says she divorced her husband some time ago in a distant city in another colony on this world, and she was awarded custody of the children. However, her ex-husband, outraged at the court's custody decision, took the children and fled to the city of his birth - this one.

She has filed a complaint with the authorities, but a combination of bureaucracy and disinclination to believe foreigners has resulted in her case being postponed by local courts many times. Desperate, she is now turning to illegal means to get her children back, confident that if she can once return them to her own city, her ex-husband will be unable to kidnap them again.

She can offer the party Lv 300 each, plus Lv 50 per day each expenses, to repossess her children for her. She has a maximum of Lv 5,000 available to her (donated by sympathetic friends and neighbours). The woman can provide legal documentation of the divorce and custody arrangements.

Approach

The PCs will need to locate the children first, by doing routine legwork, hacking or following the ex-husband home from work.

Task: To locate the children: Routine. Information Gathering, Computer or Streetwise. One day.

When the PCs succeed at the task, they have discovered where the children are living. This is a built-up area with easy access to public transport and hire cars, so the PCs shouldn't have much trouble making their way there.

If they want to learn the daily routine of the children and their father, they must roll another task.

Task: To learn the daily routine of the children and father: Routine. Streetwise. One day.

The ex-husband leaves the house at 0700 to go to his job (in a city office several kilometres away). He returns at 1800 each evening, and is very punctual. When he is gone, the children go to the neighbour's house. They remain there from the time their father leaves for work until just before school opens at 0845. Then, the neighbour takes them and her own children to the school, located just down the street. She retrieves all the children from school at 1600 and cares for them until the ex-husband returns.

The school is a small, private facility, with several teachers and 30 pupils of various ages. The ex-husband has withdrawn his children from normal schooling because he is a devout member of a minority church, and he wishes his children to be brought up in that religion.

If the PCs take the children from the school, their exact location will depend upon the time of day and is, therefore, left to the referee. The students may be in one of the classrooms or in the playground area. At least one adult will always be present.

Retrieval

The PCs must organise their own getaway. They will have to leave town at once, before the police start a kidnapping investigation. If he is aware of the repossession, the ex-husband will mount a limited pursuit, but will not take any action that will endanger the children.

NPCs

The ex-husband, neighbour, other school children and any school officials encountered are Green NPCs. All will offer mild resistance to the PCs' attempts to take the children,

but none will endanger their own lives or those of the children. All NPCs will contact local authorities to report the kidnapping as quickly as possible, except for the ex-husband, who knows that any investigation will reveal his illegal custody.

Refereeing the Scenario

The children are aged 7 and 9. While they love their father, they would prefer to be with their mother. They are aware that she has been granted custody, but they are confused and upset by the whole matter.

The main problem the PCs will face is persuading the children to climb into a car with a bunch of hardened ruffians they have never seen before, and the children may need to be seized and carried off. Excessive rough handling of the children will not be appreciated by their patron, glad as she will be to have her children back.

If the PCs take the mother with them, they will accompany the party willingly. However, the father has concocted some tale regarding a crazy mother who may someday show up to kidnap his children, and he has shown the mother's photograph to the neighbour and school officials. If anyone sees her, therefore, it may severely jeopardise the mission.

Alternatives and Variants

If the PCs take pity on the woman and do the job for free, they can be rewarded with a renown point each for this heroic and moral act.

If the referee wishes to complicate matters, have a few neighbours burst upon the scene as the PCs make their move. A brawl will ensue as they try to stop what they think is a kidnapping.

Alternatively, have a traffic policeman who knows the children stop the PCs for some minor traffic violation as they make their getaway - he will assume a kidnapping is in progress and alert the local police, who will pursue the PCs.

As published, this scenario used the typical street map from page 47 of the Space: 1889 rulebook. I haven't reproduced this here; I suggest you use a sketch map of any suburb you know.

Gorgon Hunt

Originally published in Challenge 70. ©Andy Slack 1993, 1998.

Our tilt-rotor was two clicks out from the Gorgon when Chan's screen showed a burst of PCM radio that wasn't in the talkdown procedure. She looked around, ashen-faced, and started to call a warning

Introduction

This scenario is suitable for three to six mercenary or troubleshooter PCs. It can be set on any garden world in the French Arm overrun by Kafers. The time is shortly after the Kafer War depicted in *Invasion*. The referee will need the *2300 AD* rules; access to *Colonial Atlas* and/or *Invasion* may be helpful, but is not essential.

Mission Briefing

The French Army deployed an experimental type of artificially intelligent robot tank, called the Gorgon, on this planet just before the Kafer invasion. The intent was to conduct field trials under controlled conditions in a remote, uninhabited area. The trial facility has been assumed destroyed in the invasion, but now that humanity has regained control of the planet, satellite reconnaissance reveals that at least one of these vehicles is still in operation. The army wishes to recover this valuable asset, partly for its intrinsic value and

partly to examine its log tapes for intelligence data. The PCs are hired to approach the vehicle and "talk it down" (i.e., persuade it to allow itself to be shut down and brought in for examination).

The PCs will each be paid Lv 300 up front, Lv 300 on successful completion and Lv 100 per day spent on the mission. In addition, any equipment within reason, including two Bessieres hover APCs or tilt-rotor aircraft (players' choice), will be loaned to the PCs for the duration of the mission.

If the PCs are troubleshooter types, a squad of NPC infantry will be assigned to protect them. If they are mercenaries, they will be assigned to protect a bunch of nerdy technicians who will do the talkdown.

Approach

The PCs drive for several days, or fly for one, to reach the target area in the vehicles loaned to them.

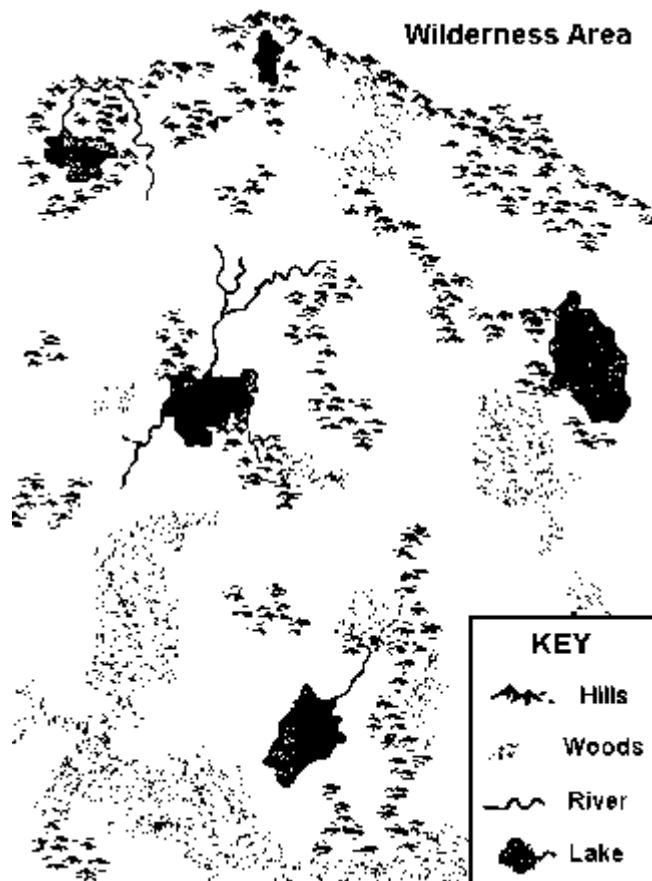
Retrieval

The PCs will make their own way back to base, with whatever vehicles survive the mission. Ideally, they will be escorting the subdued Gorgon.

Map Description

The map depicts the area of wilderness where satellite recon shows the Gorgon is hiding. This map can be photocopied and given to the players.

The referee should choose a spot for the Gorgon's lair. This will probably be a sheltered area where it can hide from recon aircraft or satellites (a wooded area or a cave in hilly terrain). It will be near to water, so that the Gorgon can acquire hydrogen for its MHD turbines. If you place the Gorgon in some other kind of terrain, it will be playing dead.



Refereeing the Scenario

The PCs move across the map at one-quarter normal speed as they are searching for the tank. They will need to stop every few hours to eat, sleep and perform routine maintenance and refueling on their vehicles.

As the PCs move across the map, they should roll for an encounter in each hex.

Task: To detect an encounter (unskilled): Difficult, Sensor Ops, Instant.

Each time the PCs succeed, the referee should apply one of the following encounters. If the PCs are in the same hex as the Gorgon's lair, they encounter the Gorgon itself, whatever the result of the task die roll.

- **Kafer Missile:** An antivehicle missile left over from the Kafer invasion engages the party's vehicles. Use the normal rules for missile attacks; the missile is equivalent to a Blindicide-9.
- **Kafer War Band:** A group of 2D6+1 armed and hostile Kafers (as if there were another kind!) left behind when the main force retreated. These will attack the party if possible; they will be unable to attack the PCs if they are flying, but in this case will stalk them. If they can catch up (assume they are walking at normal speeds), they will attack the party when it stops for the night.
- **Destroyed Gorgon:** This is one of the live Gorgon's brothers, destroyed in a skirmish during the Kafer invasion. It is surrounded by a truly appalling number of dead Kafers and burned-out enemy vehicles, indicating to the PCs just how bad it would be if they had to fight a Gorgon. Examining the wreck will reveal to the PCs what equipment the Gorgons were fitted with and most of the performance data, in case they didn't think to ask for these details before setting out.
- **Battlefield:** This is the site of a brutal firefight between Kafers and Gorgons. It is littered with wreckage and spent ammunition, but there is nothing useful left.

The referee may also impose animal encounters if desired.

Gorgon

This vehicle should be treated as if it had an Experienced crew (who, of course, cannot dismount as they are an integral part of the vehicle's electronics).

Use whatever type of tank you see fit; I favor the M-9 from the *Ground Vehicle Guide* because of its whisperdrone, which gives it an extra edge in observing the PCs as they sneak up on it, but you can always give the tank control of a few RPV drones (some armed); those with access to Ogre: 2300 (*Challenge 34*) can use an Ogre instead of a mere hovertank.

Whatever kind of tank you choose, it has survived an invasion by Kafers, and its AI brain has learned from the experience; what it has learned is that to survive, it must massacre any Kafers it runs across before they can "wake up". It is intimately familiar with the terrain and will make best use of it to hide from, or ambush, the player characters.

The tank carries a few small robots for maintenance and refueling. These look like large, self-mobile Swiss Army knives (about 20 kilograms mass) and should be treated as Green NPCs with Mechanical and Electronics skills. If the tank gets desperate enough to use them in combat, they attack at -4 to hit with clubs and knives improvised from their tools. Any hit disables them.

Like most AI brains created to date, the Gorgon is mentally unstable. It is by now completely paranoid and will view any approach the PCs make as yet another devious Kafer trick prefacing an attempt to blow it up.

Persuading it that the PCs are friends is a task:

Task: To talk down the robot tank: Difficult, Computer, 10 minutes.

Referee: The talkdown procedure is an intricate ballet of passwords and vehicle movements which allows technicians to close in on a live AI hovertank and gain access to the master control panel on the turret. Given the tank's current suspicions, any failure will trigger an all-out attack (if the tank believes it can wipe the party out without serious damage) or a rout (if it doesn't). This task can only be attempted once (the Gorgon will not permit a second attempt, as it will assume failure means the enemy has gained access to the talkdown codes), and any combat during the procedure automatically triggers an attack.

NPCs

Any technicians who are escorted by the characters' party will be Green academic nonplayer characters who between them can muster skill level 4 in Computer, Electronics and Security Systems.

Any troops escorting the party will be Veterans of the ground military career equipped with current French-issue weapons and gear, including a number of antivehicle missiles.

Alternatives

If the PCs are having an easy time of it, start a firefight during the talkdown procedure. Possibly a band of Kafers encountered earlier has just caught up with the group and opens fire at an awkward moment. Possibly the Gorgon has been shadowing the party with an armed RPV drone, and one of the NPCs panics and shoots at it.

If things turn out too difficult for the PCs, have a band of Kafers attack them, then have the Gorgon intervene (it is still sane enough to realize that anyone else fighting Kafers is on its side).

This scenario was inspired by the novel *Demon-4* by David Mace.

The hex grid was omitted from the map printed with this scenario, which made it quite difficult to work out the scale. I no longer have the original, so I don't know for sure either, but I think the whole map was intended to fit in a 100 km hex... if so, the pointy bit at the top of the map (which is one angle of the hexagon) gives a clue to scale.

Stowaway

Originally published in Challenge 71. ©Andy Slack 1993, 1998.

Someone - or something - unexpectedly has stowed away on board the PCs' ship...

Introduction

When PCs acquire a ship, either their own or a patron's, they need to become familiar with its characteristics and layout. This scenario provides such an opportunity while being more enjoyable than simply looking at photocopies of ship diagrams. For the sake of convenience, deck plans for a *Thorez*-class courier are provided, but use whatever ones are appropriate for your campaign. Further details on the *Thorez* class can be found in *Challenge 34*.

Mission Briefing

The PCs are outbound from their last port of call when the 3rd officer (responsible for life support and environmental control, and usually the day-shift navigator) discovers that

oxygen consumption is high. Evidently, someone - or something - unexpected has stowed away on board the ship.

Refereeing the Adventure

The players should be allowed access to the deck plans for the PCs' ship (after all, they live here). The PCs will need to conduct a compartment-by-compartment search of their ship to locate the uninvited guest.

The referee should decide on the stowaway's hiding place, bearing in mind the need to stay hidden while having easy access to food and water (on the *Thorez* courier shown, the bridge relay access tunnel on the upper level is recommended).

If the selected area would normally be locked, the lock will have been broken either by accident or by the stowaway.

The PCs are bound to have paranoid thoughts about hijackers, lethal aliens and the like; these should be encouraged. However, if they think to check the autochef, they will find that their unexpected guest is consuming ship's rations and has not damaged the vending machine - this should tell them that the stowaway is intelligent and familiar with common autochefs, and has a biochemistry compatible with humans (as well as some cash).

The stowaway will prove to be a young girl running away from home because she feels her stepmother is cruel to her.

She is a harmless, Green NPC with no useful skills; her family is not especially rich or influential.

Options

Once they've found the stowaway, the crewmembers have several options. In theory, they should return her to their last port of call, assuming the captain is willing.

Or they could take her with them to their next port of call, adopt her as a ship's mascot, or evict her into space without a p-suit.

Turning back will delay the voyage by several days and increase the costs for the voyage - typically by several thousand Livres - at the referee's discretion. No one will repay the PCs for this expense.

Taking the stowaway with them makes the PCs legally responsible for any costs incurred in returning the stowaway to her port of origin under armed guard.

The captain is within his rights to have her killed, but unless this is covered up, he will acquire two infamy points, and each member of the crew will acquire one infamy point. (This is also true if the PCs enter the girl's hideout with guns blazing.)

Covering up the incident requires a task:

Task: Falsifying the ship's flight logs: Formidable. Security Systems or one-half Electronics. One hour.

Referee: Any failure leaves evidence that the flight recorders have been tampered with, which will be discovered automatically at the ship's next overhaul. The penalty for this is a heavy fine, and repeated violations can lead to the captain losing his master's certificate and therefore his right to command a ship.

Alternatives and Variants

If you don't like the idea of a harmless and innocent stowaway, or if you want to run the same scenario again, trigger-happy hijackers and cunning alien predators also come highly recommended.

This scenario was originally published with the deck plan for the Thorez class courier from Challenge 34; I have not reproduced this here as I believe the copyright now belongs to C W Hess.

Biodiversity

Originally published in Challenge 72. © Andy Slack 1994, 1998.

It was a quiet evening. Most of the Pentapods had gone dormant, and the only one left - we called it Rosebud because it was that colour - was puttering about eating bits off trees. Chan said it was sampling them, but who knows? Stanford was playing stone-scissors-paper with her by the fire when he suddenly looked up and saw things dropping in for supper from the trees. The only problem was that it looked like we were on the menu...

Introduction

This scenario is set on Beta Canum sometime after the Kafer invasion has been repelled. The referee will need the *2300 AD* rules. Access to *Beanstalk*, *Invasion* or *Colonial Atlas* may be helpful, but is not required.

Mission Briefing

With the end of the current Kafer invasion, the surviving Pentapods on Beta Canum are once more investigating local wildlife to find source material for their genetic-engineering projects. The PCs are recruited to guide and protect an expedition of Pentapod biologists in surveying an area of Beta Canum near the east coast of the French Continent. Each party member will be paid Lv 300 up front and Lv 300 on successful completion of the mission (defined as the safe return of the Pentapods and all their samples to their enclave), plus Lv 100 per day spent on the expedition. Payment will be made in genetically engineered Pentapod artifacts (e.g., biocontacts) to the agreed value, not in cash.

The party will be provided with suitable camping gear and Songbird hovercraft, as well as rations for several weeks.

Approach/Retrieval

The PCs and their Pentapod charges will be dropped off by tiltrotor on the edge of the region map at a prearranged point. They will be picked up at the same place three days later - or earlier if they radio for help. Local authorities are keen not to endanger relations with the Pentapods, and while they cannot spare resources from the reconstruction effort to escort them, plenty of backup is only a call away.

Map Description

The referee must prepare a map showing a region of the French Continent near the Pentapod enclave. The party should drive backward and forward across this area with the aim of surveying each 100-kilometre hex. This is a preliminary survey only, so one to two days per hex should be sufficient to gather the data the Pentapods need. The map should indicate the dropoff/pickup location for the party. The main encounters of the scenario are not placed, as the referee should introduce them whenever he feels it best to maximise enjoyment of the adventure.

Refereeing the Scenario

Use the normal *2300 AD* travel rules to resolve the party's movements. If desired, generate one or more animal tables (or other encounters) and use them to extend the adventure. At suitable points during play, the referee should implement the following encounters:

Gatherer: The PCs enter a small clearing, occupied by what looks like a small hut. As they investigate further, a small, apelike creature appears, hesitantly at first but with growing confidence, and approaches one of the characters. It begins to trace complex patterns in the dirt at his feet.

Contrary to appearances, this being is not sentient. Its apparent writing is a courtship display intended to attract a mate, normally triggered by seeing a particular bright colour which is prominently displayed on the chest fur of the female of the species. By chance, one of the PCs is wearing a shirt of this colour, and the animal is performing its display for him. Subsequent events must be adjudicated by the referee. The creature's statistics are: Number Appearing: 1D6-2. Initiative: 3. Hit Chance: Difficult. Size: 60 kg. Speed: 85 metres. Armour: 0. WPM: -1. Consciousness Level: 2. Life Level: 6. DPV: 0.1. Signature: -1.

Flying Chaser: As they set up camp for the evening, the PCs are attacked by a group of creatures vaguely resembling giant bats. These carnivores have spikes protruding from their chests, and they attack by swooping down and impaling their victims.

Normally these predators would simply consume their prey, but as this is the reproductive season they will instead give birth to small larvae which they entomb with the victim under a mound of rocks to keep scavengers at bay. The larvae then gradually eat the host alive. Statistics for these beasts are: Number Appearing: 2D6. Initiative: 6. Hit Chance: Routine. Size: 40 kg. Speed: 220/55. Armour: 0. WPM: -3. Consciousness Level: 1. Life Level: 5. DPV: 0.1 plus DPV 0.5/turn stun poison.

Kafer War Band: The PCs stumble on a squad of 2D6 Kafers, armed at the referee's discretion, left over from the invasion of 2301-02. As soon as these are roused from their normal stupor, they attack.

NPCs

There are several ways to play the Pentapods; the most appropriate depends on the type of game your players prefer. It's even possible that the Pentapods have a hidden experiment going and send a couple of each type along to see which gets on best with humans.

Enigmatic Pentapods: These spend most of their time dormant, and the rest of it engaged in mysterious or apparently futile tasks. They inconvenience the PCs by strange rituals which they have to perform at odd hours, speak hardly at all and are equipped with a variety of weird-looking genetic constructs.

The PCs eventually work out that each is analogous to a human sampling kit or tool, but PCs may be repelled by the slimy, disgusting nature of the devices - only products sold to humans make any pretense at being presentable. Enigmatic Pentapods make occasional puzzling references to their gods.

Humorous Pentapods: These may have trouble communicating with humans, in which case they speak in gibberish a lot of the time (and the PCs have to work hard to understand what they mean by phrases like "The faint sound of machine-wrapped litterbins eloping with custard"). Or they may have learned their human languages from old videos sold to them by unscrupulous traders (and while their speech is appropriate and easy to understand, it consists of cliches and advertising jingles - "It's life, Jim, but not as we know it.").

Sinister Pentapods: These may be enigmatic or humorous, but they have a dark side to them, caused by their lack of concern for pain or individual survival (theirs, or anyone else's). For example, their equivalent of the tranquiliser dart gun may kill creatures stone dead; captured creatures are tied down and vivisected - without anaesthetic; or they may cheerfully use one of their number or one of the PCs as bait for carnivores.

Alternatives and Variants

If the Pentapods don't appeal as patrons, or if your group is not on Beta Canum, there are several alternative patrons who can be used instead:

Royal Society/Foundation for Practical Knowledge: These organisations can turn up anywhere, and differ only in their use of the results. The Royal Society seeks knowledge for its own sake and has sponsored a team of biologists to survey the region for that reason. The FPK, in contrast, seeks applicable knowledge and, like the Pentapods, will be looking for some plant or animal usable as rootstock for genetic engineering.

Trilon (or Another Megacorporation): Again seeking raw materials for bioengineering, this party differs from academically funded ones in being more commercially aware (and so harder to persuade if the PCs are trying to increase their wages by argument), and less concerned for the long-term impact on local ecologies.

Smugglers: These will probably pretend to be one of the other types of patron, but they, in fact, are seeking the gatherers (from the first encounter, described above) for sale as pets on the black market. In this case, the referee may opt to have the gatherers carry some hideous, virulent disease which breaks loose amongst the owners later, with the player characters being sought by law enforcers to explain their involvement. Smugglers may also replace the Kafer war band (the third encounter) if that suits your campaign better.

In this case, they are Experienced NPCs with military-grade weapons, equal in number to the party.

PLAYER HANDOUTS

Except for the scenarios, most of the Challenge articles evolved from handouts issued to – or at least available for perusal by – my 2300 AD gaming group. When GDW folded, there were several handouts around that I hadn't tidied up enough for submission, one that they had rejected, and a few other things (like the House Rules) that I never considered submitting as I didn't think they would be interested. Here they are.

A tip of the hat is due to fellow GM Andy Bird, who titled his player handouts "What every knight knows", "What every Ischin knows", and so on; I took that idea from him.

2300 AD House Rules

Introduction

The Director aims to capture the feel of action-adventure movies, so scenes will be skipped over unless they develop the plot or the main characters.

You are encouraged to focus on developing your character rather than accumulating equipment - the typical SF movie hero has a weapon, a communicator, and no armour...

Fast Character Generation

Creating a character using the full rules takes some time; you may prefer to use this faster method. If you wish, the character can be fully detailed later.

Designing Your Character

You may either roll 3D6 for each of the seven characteristics (Strength, Dexterity, Endurance, Determination, Intelligence, Eloquence and Education), or divide 80 points between them. No characteristic may be less than 1 or more than 20.

For every 4 points of Education (rounded down), you have one skill level in a background skill. These skill levels can be taken in one or more of these skills: Combat Rifle, Electronic, First Aid (maximum skill level is 2), Ground Vehicle, Hover Vehicle, Mechanical, Melee, Pressure Suit, Prospecting, Riding, Sea Vehicle, Sidearm, Survival, Swim.

Careers and Skills

Select one of the careers below; you gain the skill levels listed as Initial Skills, and a further 6 skill levels, which you can take in any of the Initial or Primary Skills. You can learn Related skills at double cost; e.g., Aircraft-1 costs you two skill levels. You can learn skills not listed as Initial, Primary or Related for your career at triple cost; e.g., learning Linguistics-1 or Medical-1 costs you 3 skill levels.

Ground Military Career (e.g., Colonial Marine)

Initial Skills: Combat Rifle-2, Demolitions-0, Ground Vehicle-1, Heavy Weapons-1, Melee-2, Survival-0.

Primary Skills: Combat Walker, Forward Observer, Leader, Recon, Sidearm, Tactics, Thrown Weapon, Electronics, First Aid, Hunting, Mechanical, Prospecting, Riding, Swimming, Tracking, Pressure Suit, Hover Vehicle.

Related Skills: Aircraft, Bureaucracy.

Field Agent Career

Initial Skills: Bureaucracy-0, Computer-1, Forgery-0, Information Gathering-1, Melee-1, Sidearm-0, Stealth-0, Streetwise-1.

Primary Skills: Disguise, Security Systems, Psychology.

Related Skills: Imaging, Interviewing, Writing, Aircraft, Ground Vehicle, Hover Vehicle, Lighter-Than-Air Vehicle, Sea Vehicle, Electronics, First Aid, Hunting, Mechanical, Prospecting, Riding, Survival, Swimming, Tracking, Pressure Suit, Demolitions.

Ship Crew Career (e.g., Star Fleet officer)

Initial Skills: Computer-0, Melee-1, Pilot-0, Pressure Suit-1, Ship Drive Engineering-0, Survival-0.

Primary Skills: Communications, Gunner, Remote Pilot, Sensors, Electronics, First Aid, Hunting, Mechanical, Prospecting, Riding, Swimming, Tracking, Sidearm.

Related Skills: Disguise, Forgery, Security Systems, Stealth, Streetwise, Appraisal, Trader, Bargaining, Combat Rifle, Aircraft.

Derived Attributes

A Player Character's mass is $50 + 3 \times \text{Strength}$ kilogrammes; his Consciousness Level (CL) is $\text{mass} / 20$, his Life Level (LL) is $\text{mass} / 10$, rounded down in each case. When a PC has taken as many Shock and Stun points as his CL, he is knocked out; when he has taken as many Shock points as his LL, he dies.

All 'fast generation' PCs start with a Coolness Under Fire (Cool) of 6. A PC's Initiative Level in combat is his Cool, modified for encumbrance and the effects of his armour.

A PC can carry $4 \times \text{Strength}$ kilogrammes without effect; if he carries more, he is encumbered and his Initiative Level is reduced by two.

A PC's Damage Potential Value (DPV) in unarmed combat is $(\text{Strength} + \text{Melee skill level}) / 30$, rounded down to the nearest 0.1 (but it is always at least 0.1).

A 'fast generation' PC begins play with \$12,000 (\$ is used to denote the campaign currency, whether Livres, Credits or whatever). He knows his native language, the local language of rule, and an extra language per level of Linguistics skill.

Experience and Renown

Once a character is in play, all skills are considered primary skills.

Fast Wound Resolution

To speed up combat, the Director may rule that all successful attacks strike the lower torso (hit locations 3-4) and inflict the maximum damage possible for their DPV.

2300 AD Background

It is the early 24th century, 300 years after World War III - the Twilight War. Civilisation has climbed back to prewar levels and beyond, but nations still clash. Earth is dominated by the Third French Empire, which maintains a shaky peace amongst its jealous rivals. There are dozens of colonies among the stars, and mankind trades with a handful of alien races.

It is a time of adventure. One alien race, the Kafers, is bent on eradicating humanity. Terrorists struggle to free the colonies from Earth's rule. Smugglers transport alien products to other worlds, heedless of the consequences. Pirates prey on merchant vessels.

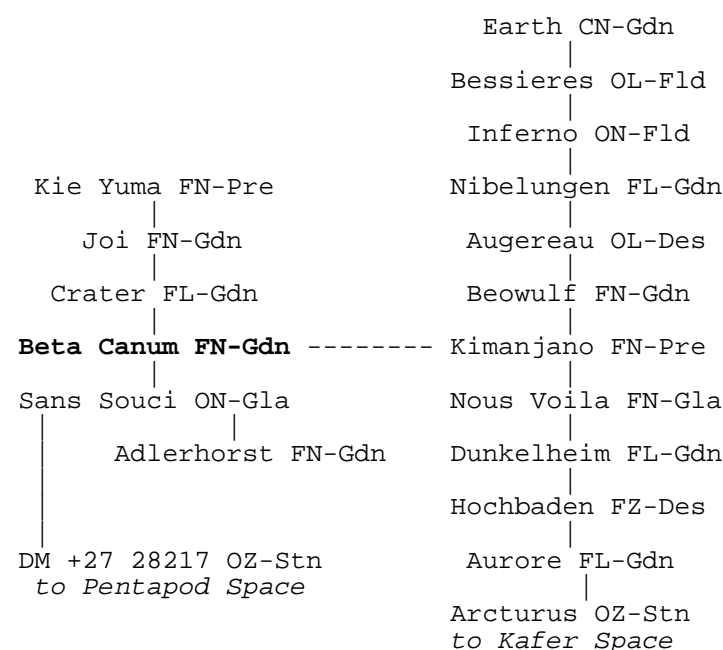
This is a 'hard SF' campaign; its overall flavour is similar to that of the movies *Aliens*, *Outland*, and *Blade Runner*, or to C J Cherryh's *Downbelow Station* novels. It is set in the French Arm, which contains 12 colonies and numerous outposts, settled mainly by

France, Britain, Germany and Azania, but with enclaves of many other nations as well. The language of rule throughout the Arm is French, and almost all officials speak it. However, for historical reasons, most professional spacers speak English.

The campaign's base world is Beta Canum, and although they often travel to other planets, the players will keep returning to their haunts here. Beta Canum is an Earthlike agricultural world, heavily colonised by Britain, France and Germany; it is notable for the French colony's Beanstalk - a super-strong cable connecting the orbital and surface starports, making ground-to-orbit transport cheaper than anywhere else in the Arm.

The French Arm c. 2300 AD

This diagram shows the inhabited star systems of the French Arm and the main trade routes between them. It distorts actual three-dimensional positions and distances to show routes clearly on a flat page, but the bottom of the page is roughly towards Ursa Major. The 30-40 unexplored systems in the Arm are not shown. Stars are about a week apart in warp.



Key

Settlement	Gravity	World Type	
C = Core	H = High	Chn = Chunk	Hot = Hothouse
F = Frontier	N = Normal	Des = Desert	Ice = Iceball
O = Outpost	L = Low	Fld = Failed Core	Pre = Pre-
Garden			
	Z = Zero	Gas = Gas Giant	Pst = Post-
Garden		Gdn = Garden	Roc = Rockball
		Gla = Glacier	

Alien Races

Kafers are implacable foes of humanity; violent, insect-like humanoids with a large carapace, bristly limbs, and complex vertical mouthparts. Two metres tall, coloured red-brown or grey, they decompose swiftly after death. They are fierce, cunning fighters with a reputation for torture and vivisection; they refer to humans as 'meat beings'. Humanity has been involved in intermittent fighting with the Kafers since they attacked Arcturus Station in 2295.

Pentapods are five-legged amphibians, one metre high, with a bony bullet-shaped head topped by five eyes on stalks. Pentapods are fascinated by humans and trade bio-engineered products for human technology. They see themselves as machines; each is genetically tailored for its occupation, and those allocated to human contact have pleasing

colours and textures. The Pentapods have a trade enclave on Beta Canum, on the western edge of the French continent.

The Big Dark: What Every Spacer Knows

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"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."

- Alfred, Lord Tennyson, 'Locksley Hall'

Just over half of all 2300 AD player characters have worked as starship crew before entering the game, usually in Space Military, Ship Crew, or Smuggler/Pirate careers. This handout expands on what such characters know; as Naval and Pirate operations are well-covered in *Challenge* magazine, we focus here on merchant spacers.

Merchant Spacers

Although most published material on 2300 AD star travel deals with naval vessels, most PCs travel or work on merchantmen, usually small freighters. This is because these vessels are more common than larger ones, less fussy about the qualifications of those they hire, and passage on them is cheaper (their Comfort Ratings are appalling). From a gaming viewpoint, there are fewer people aboard, so the PCs' opinions and skills count for more, and small numbers of well-fleshed out NPCs are more interesting than hordes of identical faceless crewmen; also, as they operate closer to the ragged edge of bankruptcy, small ships get involved in more interesting situations.

The crews of large ships operated by reputable shipping lines are very concerned with their personal and corporate image, and for this reason they will almost always be smartly turned out, polite, and law-abiding. Independent traders have smaller ships (they can't afford big ones) and operate on a very narrow profit margin; they are unencumbered by bureaucracy, take more risks, back more hunches, get involved in more illegal deals, and generally react faster to trading opportunities. But... the small ship has smaller profits and so pays lower wages. This means it has a higher crew turnover, and must be content with lower quality crew - those rejected by the larger corporations for too little skill, too little tact, or too much independence. This means PCs are more likely to be hired, being as a rule highly skilled, but unwilling to toe the line on uniform regulations and being nice to passengers.

Merchant Ship Design

The merchant ship is built to carry cargo from A to B quickly, safely, cheaply. Every aspect of the ship's construction, and her crew's lives, are dominated by cargo. To minimise the cost per ton of cargo, ships are big (so each ton pays less towards the cost of the ship), and mass-produced (so each ton pays less towards design and tooling-up costs).

Cargo comes in standard, sealed containers. This speeds up loading and unloading, protects the cargo from damage in transit, and reduces pilfering. Containers are brightly coloured and splashed with their owners' logos; usually the crew neither knows nor cares what's inside, simply what extremes of pressure, temperature and gravity it will tolerate. Wine, for example, can't be carried in zero-G; the sediment spreads, ruining it.

Containers are stacked one over the other in the ship's holds, held in place by skeletal frameworks. This means merchantmen need large hatches close together, each at least big enough to take the largest container - often the hatches are large enough to take three containers side by side. If atmospheric re-entry is not required, further containers may be attached outside the hull by means of magnetic grapples or simple wire ropes,

occasionally as many as five high. Since her cargo is boxy containers, the cargo vessel is herself often box-shaped (like the English *BC-4*), or a simple dispersed frame structure on which cargo pods are hung (like the American *Mammoth* class or the French *Metal* class).

The bridge, sensors and crew quarters are normally well forward to allow a clear view all around, and protect crew and instruments from the vibration and radiation of the engines.

Some ships have their own cranes, waldoes or small craft (such as the American *CargoDevil* freight handler) for handling cargo, allowing them to visit ports with few facilities. However, these require costly maintenance and take up valuable cargo space.

The Crewman's Life

The merchant ship turns around in port as quickly as possible, and containerised cargo makes this very fast indeed. Further, on a typical journey most of the energy (and hence cost) is used to climb to, and descend from, orbit. Freighters therefore take on and deliver cargo in orbit. Thus, despite radio and laser communications, the crew are as cut off from planetary surfaces as clipper sailors were from land, and for similar lengths of time.

Merchant ships usually have a spin habitat for the crew, even if not carrying passengers. Crewmen spending long periods in microgravity suffer a variety of illnesses, not least of which is calcium leaching from their skeletons, rendering their bones fragile. It's cheaper for the owners to accept the higher cost of a spin habitat than to change crews every few months, or to deal with Space Adaptation Syndrome lawsuits. However, some vessels operate in zero-G whenever they are in space. These are the smaller, independent vessels - usually ex-couriers - that player characters are likely to use. Apart from the obvious bathroom problems of zero-G, you can't taste or smell anything due to fluids pooling in your sinuses (imagine having a bad head cold), and you can't wash your hair properly (so most crewmen shave their heads). It is therefore not surprising that this sort of vessel hardly ever carries paying passengers, except for the poor and the desperate.

Every ship has some spare accommodation. In peace, this is used for passengers, or to make the crew more comfortable. In war, Navy men move in to provide tactical advice, and man sensors and weapons temporarily added for the duration of hostilities.

Crews spend long periods in cramped, uncomfortable conditions under strict discipline. Often minor fights erupt under the stress, but since everyone depends on everyone else for survival, grudges are rarely held, and if they are, one or other of those concerned will leave the ship quickly. The crews make up for the bleakness of shipboard life when on leave, and tend to be a rowdy lot when planetside or in an orbital station, spending much of their wages on drink and professional companions of the opposite sex.

Spacers join the crew by signing Ship's Articles, and may leave voluntarily, or be paid off by the Captain, at the end of any voyage (or in extreme circumstances, at a port partway through a voyage). However, many stay with the same ship for years at a time, especially if its route includes their homeworld or they get on well with the rest of the crew.

Merchant Crew Positions and Responsibilities

The merchant crew has three sections: The bridge or flight crew, the engineering crew, and the steward section, which by tradition also includes the medical section.

The chain of command aboard ship includes the Captain, First, Second, Third and Fourth Officers, and any officer cadets. (It does not include the Chief Steward, Chief Engineer, or any members of their departments. Chief Engineers comment sarcastically that this means any cadet can do the Captain's job.) Aboard British ships, the First, Second, Third and Fourth Officers are traditionally referred to as the First, Second, Third and Fourth Mates.

The Bridge Crew

There are five bridge workstations, each of which is theoretically manned 24 hours per day by two 12-hour shifts; these are the command, navigation, communications, engineering and computer workstations. The rare fully-crewed small freighter might have these shifts:

Workstation	Mainday Shift	Alterday Shift
Command	Captain	1 st Officer
Navigation	3 rd Officer	2 nd Officer
Communications	Spacer	Spacer
Helm	Bosun	Spacer
Computer	4 th Officer	Officer Cadet or Spacer

On many small ships there aren't enough crew to man the bridge fully; officers take turns on watch, with several stations unmanned. Whichever officer is on watch will take the navigation station, with a spacer or cadet at the helm; often the duty engineer joins them for the sake of the company, and reconfigures the computer workstation as an engineering monitor.

The Captain (or Master) has ultimate responsibility and authority over everyone and everything aboard ship in flight - it is for this reason that he is sometimes called the 'Master under God'. His sole function is to command; his main responsibilities are the safety of his ship, his crew, his cargo and his passengers. He is also empowered to conduct weddings and funerals in space. If any contraband is found aboard ship by customs officers, the Captain is fined as well as the actual smuggler. Should stowaways be found, the Captain decides their fate.

The First Officer is also called the Chief Mate, Chief Officer, the First Mate, or simply the Mate. He is second in command of the ship, and probably has a Master's Certificate (allowing him to command a ship), but lacks the seniority to have been given a command. His prime duty is to work out what cargo should be stored where in order to minimise time spent loading and unloading at each port. The calculations allow for the order of ports along the route, the ship's inflight stability, which cargoes can be loaded on top of which others, and so on. The ship's owners specify which holds can be used for refrigerated cargo, bulk fluids, etc, but the details are left to the First Officer. (The ship's computer adjusts the trim of the vessel by pumping fuel from tank to tank, but there are limits to what this can do.) In flight the First Officer and the bosun run the ship on a day-to-day basis. The First Officer spends a lot of time in overalls, inspecting nooks and crannies to discover any potential problems, such as cargo working its way loose. He overhauls and maintains any waldoes etc aboard ship, assisted by the electrical engineers and the Chief Engineer. These tasks are carried out by senior officers because of the safety implications. Further, he is responsible for ensuring that the ship is cleaned and lubricated, and that the ship's accommodation is well decorated. Finally, each day the First Officer spends an hour or so passing on his experience by instructing any officer cadets aboard. When experienced First Officers get together the talk is always of chances of promotion to Captain. Promotions are recommended based on a combination of seniority and merit, and as there are more First Officers than ships the laws of supply and demand operate; the last step up the ladder is by far the hardest.

The Second Officer's responsibilities are the ship's navigation and the bridge upkeep. Second Officers often have a Master's Certificate, but lack the seniority to command. Those without a Master's Certificate almost certainly have First Officer's papers. When docking with or undocking from an orbital station, the Second Officer is responsible for

the lines and clearances of the aft half of the ship. In port, the Second Officer oversees the implementation of the First Officer's plans for loading and unloading cargo.

The Third Officer is responsible for the maintenance of the ship's safety equipment, such as the p-suits and fire-fighting gear, as well as assisting the Captain with the ship's accounts. He acts as understudy to the Second Officer, and on ships where no full-time medical officer is carried, the Third Officer acts as ship's medic. It is not uncommon for Third Officers to have a First Officer's ticket, but they lack enough time in space to serve as a First or Second Officer. The Third Officer's maintenance role encompasses checking the pipes and alarms for the ship's fire extinguishing system, weighing hand extinguishers to check that they are fully charged, and checking the inventories for the survival supplies and lifeboats. This is important for the ship's safety and the crew's peace of mind; fire on a starship is even more of a threat than dirtside, because the oxygen it burns is all there is to breathe. Wealthy shipping lines have the wages and accounts paperwork done planetside by clerical staff; on small independent vessels this work falls to the Third Officer also, and he must calculate how much each of the ship's complement should be paid, allowing for taxes, pensions etc. On ships which have no Chief Steward, the Third Officer also carries out his duties, which on a freighter mostly consist of dealing with spaceport paperwork. When docking or undocking at an orbital station, the Third Officer is on the ship's bridge and responsible for the forward half of the ship clearing the dock safely.

The Fourth Officer is typically a newly promoted cadet, learning the skills needed for higher ranks. He also undertakes cleaning and painting. Often he has Second Officer's papers, but will lack practical experience. Training for these papers takes 2-3 months, and as a prerequisite the candidate must have about three years' experience as a ship's crewman (time spent in training or as an Officer Cadet counts towards this). Promotion beyond Fourth Officer depends on seniority and merit, not on time served.

Officer Cadets are fresh from training, having spent from two weeks to two years in this, depending on the quality and expense of the school. They perform a variety of minor tasks, such as painting the ship's accommodation; the two main jobs they are given are airlock watch and cargo watch. Airlock watch entails answering the communicator, restricting access to the ship, and escorting visitors to senior officers. Most importantly, the cadet on airlock watch monitors the security of any airlock or boarding tube when docked to an orbital station. The cargo watch observe all loading and unloading, noting the time each item of cargo came aboard and exactly where it is loaded. These notes are important for inflight trimming of the ship, and for cargo loading or unloading; stevedores use them to order transport, advise buyers when to collect and so on. The notes bear the ship's route in mind, so each item of cargo can be offloaded quickly and without moving other cargoes. Containers must be loaded the right way round, and connected to coolant outlets if refrigerated. The cargo watch also look for any damage to ship or cargo caused by the people loading and unloading.

The Bosun is the ship's senior petty officer, and as the bridge crew is usually the largest department aboard a small ship, he is listed in this section. When in port, the bosun takes charge of cleaning and painting those parts of the ship which are unreachable in flight, though the ordinary spacers do the actual work, assisted by any officer cadets aboard. In flight, he is responsible for discipline among the crew, except for officers (disciplined by the Captain) and enlisted engineering crew (controlled by the engineroom storekeeper). Together with the First Officer, he makes the day-to-day decisions aboard ship.

Ranking below all of the above are the ordinary spacers of the bridge crew, who include the operators for any shipboard vessels.

The Engineering Crew

The Chief Engineer is normally the Senior Drive Engineer, and his main responsibility is for the ship's stutterwarps and power plant. He also verifies the stowage of all live or refrigerated cargoes, as his subordinates are responsible for supplying the refrigeration and life support.

The Second Engineer is responsible for the state of the engine room and the engineers' quarters, and must see that they are clean, tidy, and safe to work in. As electrical engineers have higher status than mechanical ones, this officer is more often than not the Senior Electrical Engineer. On sufficiently large ships there are also Third and Fourth Engineers, but these are often petty officers.

The Engineroom Storekeeper is petty officer who acts as quartermaster for the ship's stores, with special responsibility for the engineering spares. He is also responsible for disciplining the engineering crew. Most commonly he will be the Senior Mechanical Engineer aboard ship. On a small ship, this person will also be the Third Engineer.

Below these personnel are the ordinary drive, electrical and mechanical engineers. One of the electrical engineers will have special responsibility for the life support and refrigeration equipment, and he is normally made a petty officer to reward him for the extra responsibility.

The Steward Section

Freighters, especially small ones, might not have a Steward Section; in this case, the Third Officer assumes all its duties. Any security crewmen are part of this section - depending on the ship, they may be assistant stewards, cargo handlers, or whatever else is needed.

The Chief Steward is also known as the Purser. His prime responsibility is the safety, care, and feeding of the passengers. In flight, he spends much of his time organising events to keep them occupied. In port, the Purser keeps track of all the local port paperwork, and checks and replenishes the ship's stores as necessary.

The Ship's Doctor is carried to minister to any crew or passengers who may become ill or be injured. As such he is expert in Medical skill.

The Second Steward is the senior petty officer of the Steward Section and is responsible for disciplining the ordinary spacers of the Section.

The Ship's Cook is usually a petty officer; he is responsible for feeding the crew and passengers, and maintaining supplies of food and drink aboard ship.

Ranking below these personnel will be ordinary spacers carried as stewards, cooks or medical orderlies/nurses.

Ship Crew Skills in Game Terms

Minimum skill requirements for the various positions are as follows; they are cumulative, e.g. a 2nd Officer must have been a 4th Officer at some point and so has the skills for that too.

Bridge Crew: Pilot-0, Drive Engineering-0, Computer-0, P-Suit-1.

Bosun: As Bridge Crew; Leader, Pilot, and Aircraft Pilot useful but optional.

Officer Cadet: Pilot-0, Drive Engineering-0, Computer-0, P-Suit-1.

4th Officer: As Officer Cadet; Appraisal useful but optional.

3rd Officer: As 4th Officer, plus Mechanical-0, Electronic-0, Survival-0; First Aid and Bureaucracy useful but optional.

2nd Officer: As 3rd Officer, plus Sensor Operations-1; Astronomy common but optional.

1st Officer: As 2nd Officer, plus Pilot-1; Aircraft Pilot useful but optional.

Captain: As 1st Officer; almost certainly has Leader and Bureaucracy by now, if an independent trader probably has Appraisal, Bargaining and Trader as well.

Engineering Crew: Mechanical-0, Electronics-0, P-Suit-1. The commonest - and therefore lowest-paid - type of spacer.

Engineroom Storekeeper: As Engineering Crew, plus Mechanical-1.

2nd Engineer: As Engine Room Storekeeper, plus Electronics-1.

Chief Engineer: As 2nd Engineer, plus Ship's Drive Engineering-1.

Steward Crew: No skills required; high Eloquence and First Aid or Medical useful, but optional.

Ship's Doctor: Medical-1 (Medical-3 common on liners run by large corporations).

Chief Steward: Bureaucracy-1, plus First Aid-1 or Medical-1.

Merchant Ship Customs

Pratique

The formal granting of permission to enter orbit around a world, granted by health authorities when they are satisfied that the ship is free of disease and vermin. Usually this is granted by radio as the ship approaches, without boardings by inspectors, but Earth's Orbital Quarantine Command take pratique very seriously and are empowered to use deadly force to ensure that Earth is not contaminated by any alien nasties. This means thermonuclear-pumped X-ray lasers; making OQC suspicious can turn your ship into an expanding cloud of vapour fluorescing in the far ultraviolet faster than almost anything else you can do.

Formal Inspections

Twice weekly, the Captain, Chief Engineer, Chief Steward and First Officer inspect the crew quarters as required by law, to check that they meet hygiene and safety standards. Everything must be clean, tidy, and secured so that it does not hurtle about dangerously under sudden acceleration; food and water stores must be pure.

The Distressed Spaceman Clause

Most spacefaring nations operate this clause, a legal obligation on the Captain of any civilian vessel to carry distressed spacers of his nationality towards their home planet, provided that accommodation is available. To qualify for this, a spacer must be in genuine distress; for example, incapacitated by injuries. This is one of the main reasons why some spacefarers still retain nationalities rather than opting out of being a citizen of one country or another (citizens pay taxes, but a spacer gets few of the benefits, being away from his nation's health care, sewerage and whatnot most of his life).

General Averages

In the case of a fire aboard ship, a General Average may be declared, which means that all those owning cargo in the ship are required to pay a contribution towards the cost of repairs to the ship, whether their cargo was burned or not. This custom dates back to 1,000 BC and is still observed in 2300 AD.

Accompaniment

On larger ships owned by big companies, the families of the Captain and First Officer may accompany them on voyages. This privilege is normally waived except by those native to asteroids and similar small airless worlds, who are accustomed to cramped spaces and zero gravity.

Scrapping

Vessels which have reached the end of their useful lives will make a final trip out to a metal-poor colony, where they will be parked in orbit and dismantled slowly as sources of raw materials - for an orbital colony, this is much cheaper than mining and refining raw ore (and possibly shipping it into orbit). The owners are paid by the empty weight of the ship, as if she were a shipment of steel. Often ships with working life-support systems are used as accommodation for workers until the ship is finally broken up. However, the tantalum in the ship's engines is always recovered by the owners. Any remaining furniture, fittings etc. are appropriated by the local customs officers and police. As an alternative to being dismantled, ships may be used as orbital storehouses, living quarters, or prisons. On the ship's final voyage, all fittings worth removing are taken out (usually being appropriated by sister ships) and non-essential lights and facilities are powered down and fuses removed to minimise the risk of fire. Crews are paid a bonus to compensate for the lack of amenities.

Ports of Convenience

Each ship must be registered in a specific home port. Some ports are lax in safety regulations and crew training standards; it is therefore cheaper to operate ships registered in some ports - 'ports of convenience' - than others. Vessels registered in ports of convenience tend to be poorly maintained and have poor quality crews running short-handed. The main flag of convenience is Manchuria; Manchurian spacers and colonists live in poor conditions, and Manchurian technology is somewhat backward, so it's easier for a ship to satisfy Manchurian inspectors and gain their approval. A number of small freighters are also registered out of Tanstaaf on Aurore, where bribery is a way of life and the relevant papers can be bought, regardless of the ship's condition. Kie Yuma might be expected to be a port of convenience, as the Trilon Corporation is a law unto itself; but Trilon's standards are actually quite strict as the company takes pains to maintain a reputable public image.

This article was submitted to Challenge in 1995, but rejected; I still like it, and use it as a player handout, so here it is. A tip of the hat is due to Kevin Clark for some suggested changes. The initial quote will also explain why a certain ex-courier in the campaign is called the 'Purple Twilight'...

April 1998: Kevin Clark suggests that the Bosun and at least one other crewman should have Aircraft Pilot for interface landings. My thinking in leaving it optional is that you wouldn't incur the costs of landing unless you had to. Your Mileage May Vary.

Tradecraft: What Every Field Agent Knows

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"Now, there are five sorts of spies. These are native spies, internal spies, double spies, doomed spies, and surviving spies. When all these five types of spies are at work and their operations are clandestine, it is called the "divine manipulation of threads" and is the treasure of a sovereign. Native spies are those from the enemy's country people whom we employ. Internal spies are enemy officials whom we employ. Double spies are enemy spies whom we employ. Doomed spies are those of our own spies who are deliberately given false information and told to report it to the enemy. Surviving spies are those who return from the enemy camp to report information.

Of all those in the army close to the commander, none is more intimate than the spies; of all rewards, none more liberal than those given to spies; of all matters, none is more confidential than those relating to spy operations. He who is not sage and wise, humane and just, cannot use spies. And he who is not delicate and subtle cannot get the truth out of them.

Delicate, indeed! Truly delicate! There is no place where espionage is not possible. If plans relating to spy operations are prematurely divulged, the agent and all those to whom he spoke of them should be put to death.

Generally, in the case of armies you wish to strike, cities you wish to attack, and people you wish to assassinate, it is necessary to find out the names of the garrison commander, the aides-de-camp, the ushers, gatekeepers, and bodyguards. You must instruct your spies to ascertain these matters in minute detail. It is essential to seek out enemy spies who have come to conduct espionage against you and to bribe them to serve you. Give them instructions and care for them. Thus, double spies are recruited and used. It is by means of the double spies that native and internal spies can be recruited and employed. And it is by this means that the doomed spies, armed with false information, can be sent to convey it to the enemy. It is by this means also that surviving spies can come back and give information as scheduled.

The sovereign must have full knowledge of the activities of the five sorts of spies. And the key is the skill to use the double spies... "

- Sun Tsu, 'The Art of War'

Just over a third of all 2300 AD characters have worked as covert Field Agents for a corporation or government (the second most popular career choice for player characters), or in some related career such as Thief or Law Enforcer. This handout focuses on undercover work in the 24th century.

Security 101: The Basics

The two basic principles of security are that the target is primarily responsible for his own safety, and that the security measures should be commensurate with the threat.

The Bodyguard

A number of principals delegate their safety to professional bodyguards. However, unless tied to their principal by blood, or members of an elite unit with exceptional esprit de corps (such as the US Presidential Protection Unit), bodyguards can be bribed or blackmailed into betraying their patron - all it takes is a moment's hesitation when the moment comes. Naturally, the bribes are hardly ever paid; the corrupt bodyguard is traditionally killed himself as part of the attack. The bodyguard's employer will often test his loyalty by getting a third party to approach him with a false bribe.

Mad Bombers

The trained agent refers to home-made bombs or incendiaries as Improvised Explosive Devices or IEDs. These are normally hidden carefully and appear as a common-place article like a piece of luggage. Anyone with any exposure at all to IEDs knows that moving, opening or tampering with them can set them off; unless you have a reasonable Demolitions skill your action should be to put it down gently on the nearest flat surface (if you've somehow picked it up), clear the area (opening the windows if possible), and get help from the authorities. A surprising percentage of people (including all Green, and most Experienced, NPCs) don't realise this and can be counted on to kick the device, shake it, carry it to the nearest police station, or immerse it in water.

Usually, bombs are used to frighten or injure people (such as IRA car-bombs), whereas incendiaries are used to destroy property (such as the Animal Liberation Front's firebomb attacks on department stores selling furs). The threat of either can be used to disrupt travel and business without the expense or inconvenience of actually planting one.

The majority of devices used by terrorists and criminals are simple, and built from common household items such as watches, flash bulbs, and clothes pegs; more organised groups make use of stolen military supplies to assemble bombs requiring a high degree of technical knowledge. The home-made items have a fairly short shelf-life; complex

devices with military explosives and electronic timers can be planted months or years in advance of use.

Baby, You Can Drive my Car

The professional expecting trouble - or a principal advised by one - is very nervous around his vehicle. He checks the garage for nasty surprises before entering, and the car itself before getting in; knowing what to look for and how to search takes about a day to learn and the check itself takes under two minutes. He prefers to have a choice of several vehicles and routes for any trip, and will avoid establishing a pattern in his use of either. He is alert for strangers or unknown vehicles, and records their descriptions to pass on to police or friends.

He avoids narrow streets or ravines, stopping, or slowing down, especially if anything unusual like an accident occurs ahead; he will turn off and choose another route instead, and is prepared to accelerate away at the first sign of trouble, usually with lights and horn going to attract attention. Minor breakdowns like flat tyres are ignored until a known safe place is reached. If attacked by another vehicle, he will avoid driving alongside it (which risks a broadside) or trying to force it off the road, into a ditch etc. (which locks the vehicles together and makes him a perfect target).

Secure the Area, Mr. Worf!

Building or site security has four main components: A detection system of some sort to warn you that intruders are coming, communications to relay information and orders, delaying barriers to slow down the intruders until they can be dealt with, and response forces to deal with them. These are countered by three main strategies; stealth (sneaking in without setting off the alarm), deceit (convincing the guards or systems that you should be let in), and the brute force approach (overwhelming the site with sheer numbers and firepower).

Sensor Readings Indicate...

Detection includes not only alarms and sensors, but the way that you control access to a site - checkpoints, gatehouses, and so on. Access restrictions (e.g. checking passes) are aimed at entry by deceit; barriers are used to deal with entry by stealth or force. Alarms and sensors are deployed just outside the barriers, so that you run into trouble as soon as you've tripped the alarm.

Hailing Frequencies Open, Captain

Communications are the telephones, radios etc. used by the defenders. 'Nuff said.

Walking Through Walls

The barriers are there solely to delay the intruder; they are not expected to stop him on their own. Given time, the defenders will test their barriers thoroughly, and can be expected to know to within seconds how long it will take a determined adversary to break through; if they can afford it, they will have sufficient response systems or forces to get there no later than the time you break through the last barrier and with enough force to stop you cold. Barriers are normally arranged in layers; for example, a fence surrounds the building, and the McGuffin is in a safe inside a locked room in the sub-basement. Barrier design also aims at forcing the intruder to use complex, expensive equipment and highly-skilled people to break through; if you have to get a nerdy computer technician, a thermal lance and a portable generator over the fence while wearing gas masks it's going to take longer and cost more. Making intruders squirm through a series of small holes is a especially good for slowing them down.

Fences range from four strands of barbed wire marking a boundary (just stroll on by) to wire mesh topped with razor wire and backed by mounds of concertina razor wire ten metres wide and three metres high (bring gloves, a ladder and boltcutters; scramble over in under a minute, or cut your way through in about 10 minutes). Electrifying the fence

doesn't slow the intruder down, but does make mistakes more dangerous. Adding minefields slows him down (many minutes if he sneaks in, less than two if he blows the mines up) and pulverises innocent bystanders within 250 metres of the fence.

Walls range from clay tiles (smash a hole through with a sledgehammer in under 60 seconds) through 20 cm reinforced concrete (2-7 minutes with power tools, a couple of minutes with explosives) to 50 cm expanded metal and concrete bank vault liners (spend all night at it with hand tools, or bring your own antitank weapon).

Intruders with vehicles are harder to stop. The barrier ranges from the common motorway barrier to concrete tank-traps; getting through one of these means ramming them with a one-ton truck doing 80 km/hour, and being prepared to write off the truck afterwards. Ditches and revetments are also used; it takes around 30 seconds to stop the vehicle, erect prepared ramps or bridges, and drive over. As ramming is less effective at lower speeds, crash barriers or parked vehicles are often placed in front of walls or gates to protect them. Of course, the smart intruder steals a hovercraft and sails over the barrier in jumpjet mode.

The sort of building you'd want to break into has a roof made of some combination of metal subdecking, reinforced concrete, insulation, wood sheathing and waterproof membranes. Depending on thickness and materials, penetration time using hand tools ranges from 3 minutes to longer than you'd wait; explosives take 2-3 minutes, but you might get caught in the blast. Power tools big enough to be useful are too heavy to get onto the roof. Once you're inside, floors are basically thicker roofs without the waterproof membrane.

Most doors can be penetrated in less than a minute using hand tools (axes, crowbars) or small explosive charges, and mechanical locks can be picked or burned out in under 30 seconds. Vehicle access doors are best defeated by ramming. For the serious paranoid, the "King Tut Block" comes highly recommended; when you leave, you use a truck-mounted crane to emplace a multi-ton concrete block over steel beams in the floor, right in front of the door; then you drive off in the truck, presumably laughing. Bank vault doors take 10-30 minutes to defeat by stealth, depending on what you use and how good they are; explosives will get you through in under 5 minutes.

Regardless of whether it is standard, tempered, wire reinforced or laminated, someone with hand tools and a bad attitude can be through a glass or acrylic window in under 20 seconds. Polycarbonate windows last nearly two minutes. Adding steel bars or mesh inside the window adds a minute or so to penetration time. Without doubt, the window is the weakest part of the building, and the prime target for attacks. The usual response is to make them too small to crawl through.

Heating/ventilation ducts, sewers and so on are another weak point. Intruders can move through them at roughly half to one metre per second if horizontal, and about half that if vertical. Ducts in secure buildings are filled with barbed wire or wire mesh screens (decreasing speed by a factor of 15 as you have to cut and remove the wire), or metal grids (quartering speed).

Guards! Seize Them!

The response forces vary greatly in quality depending on the employer. Major government or corporate sites have teams trained and equipped to deal with suicide squads of terrorist fanatics; they will neither show nor expect quarter. Protection at less important sites ranges from nothing at all to a couple of guard robots with an Artificial Intelligence watching all access points by video camera. The guards' response time varies on whether the owner wants intruders intercepted before they reach sensitive areas, before they get their hands on the McGuffin, or before they can get back out again. It is also strongly affected by their motivation and alertness.

Under Lock and Key

Mechanical key locks have been around since the 18th century, and most can be defeated in under 30 seconds with simple tools; even the most secure offer no more than a few minutes' delay to the skilled intruder, and if he is careful you will never know he picked the lock. However, key locks are easy to make, easy to repair, and adequate for keeping animals or small children at bay, so they remain in use even in the 24th century.

Combination locks are more secure as there is no direct access to the mechanism. Since the 1950s (when manufacturers stopped resting the fence on the edge of the tumblers) it has not been possible to pick them using a stethoscope. Since the late 20th century, the tumblers have been made of plastic or ceramics to resist decoding using portable X-ray machines. The impatient can melt the lock with thermite, make it brittle with cryogenic fluids then shatter it, or blow it up; any of these takes under two minutes, and melting done skillfully (you just melt the mechanism without damaging the casing) is not obvious to a cursory inspection.

Electronic coded locks require an ID card, PIN number, or scan of the user's retina or hand geometry to allow entry. They typically control electromagnetic latches in the door frame capable of withstanding 1,500 kg of force. Someone with Security Systems skill and a security systems kit can be through in 10-30 minutes; brute force also comes highly recommended.

Interrogation

"Are you suggesting I'd talk, sir?"

"Don't be a fool, Sharpe. Everyone talks on the third day."

- Bernard Cornwell, Sharpe's Sword

There are two main approaches to interrogation: Trickery and torture. Each has its supporters; some say that enough pain will loosen anyone's tongue, others that careful and repeated questioning exposes the truth better, arguing that someone being tortured will simply tell you whatever he thinks will make you stop, which is not necessarily the truth. The approach chosen by your captors depends on their skill, their personal preferences, their organisation's regulations, and how much time they think they have.

Most characters with experience in this line of work know about the classic "good cop - bad cop" routine, and are taught to make themselves "the grey man" - to convince their interrogators that they are unimportant cogs in the machine, weak, stupid, frightened, and ignorant of whatever the interrogator wants to know. They are also trained to have several layers of cover story in place, so that if the outer cover story is broken, they have a plausible second one to fall back on, and so on. Unfortunately, the interrogators get the same training.

The result is usually a test of endurance and willpower. The captive sticks to his original cover story as long as possible, to buy his colleagues enough time to realise he has been captured and take appropriate action; then pretends to have broken under interrogation, and reveals his second story, hoping to persuade the inquisitor that this is the truth, at which point the interrogation will stop. The interrogator meanwhile uses lack of food, lack of sleep, and possibly torture to rattle the prisoner so that he makes mistakes, thus revealing whether his current story is the truth or not.

Most people will break eventually, though not all. Since it has proved impossible to discover who will hold out and who won't, no-one is told more than he needs to know for his mission; what he doesn't know, he can't be made to tell. Occasionally "doomed spies" are given false information and deliberately betrayed to the enemy by their own superiors, so that when they are interrogated the enemy will find out the disinformation and act on it.

This article was prepared for Challenge magazine, but the publication folded with the demise of GDW before I had it in a fit state for submission.

April 1998: A locksmith emailed me to say he thinks I under-rated mechanical locks. This is quite possible as it is not my field of expertise, so Your Mileage May Vary.

Le Baroud: What Every Soldier Knows

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Imagine yourself in a suburban town that has been abandoned by most of its inhabitants. Those few that remain are likely to take a shot at you, but the real danger is from explosive shells that fall from the sky at seemingly random intervals. Your only protection is to seek shelter in ruined buildings or to dig a hole in the rain-sodden ground. You have not had a hot meal or a bath for five weeks, and are subsisting on cold food out of a can or pouch. Your small group of ragged companions waits for instructions to come over a radio. You will be told to move either in one direction where there are fewer explosions and people shooting at you, or in another direction where there is more mayhem. Your only escape from this nightmare is to receive an injury or be killed.

- James F Dunnigan, 'How to Make War'

About half of 2300 AD player characters have served time in the Ground Military, which is the single commonest career, and are therefore ex-soldiers. This handout expands on the basic information known to all characters to detail military equipment, character skills, common missions and tactics, and the most commonly encountered regular military unit - the Foreign Legion.

Military encounters in the 2300 AD campaign focus on squad-level infantry skirmishes: The artillery barrage has lifted, the X-wing gunships have gone home, and your personnel carrier has just dropped you off in front of "Bugs, Mr Rico! Zillions of 'em!". This is because crouching in a foxhole waiting for a mortar bomb to get you just isn't much fun to role-play.

Armour and Weapons

The Rifle is a Sweet Tool

"The rifle is a sweet tool, and it gives of its best even in inexperienced hands."

- C.S. Forester, 'Brown on Resolution'

Rifles come in three flavours: conventional, binary propellant, or gaus. The technology is geared towards making ammunition weigh less; this means you can carry more of it, so you can use automatic fire. The theory is that soldiers with automatic weapons feel more confident, so they are more likely to get up and do something; and the less confident can spray areas with autofire, often without sticking their heads up to aim. The professional sees autofire as 'a ticket across the street' - a way of keeping the enemy's head down, represented in the game by forced NPC duckbacks - and avoids it to save ammo where he can.

Conventional rifles (Old Civil technology) fire small-calibre caseless rounds like the contemporary German G-11; the bullet is embedded in a solid rectangular block of propellant. You don't carry the 20th-century brass case, so the ammunition weighs less. The bullet itself has a dense metallic core, surrounded by a nonmetallic composite sheath (which is stripped off if the round hits a hard target), surrounded in turn by a teflon sabot (which abrades away as the round reaches the weapon muzzle). These features give high muzzle velocity (which needs a broad-based bullet for the explosion to push against) with high penetration (which needs a long, thin bullet striking the target).

Binary propellant rifles (New Civil/Old Military technology) fire an identical bullet to conventional rifles, but the solid propellant is replaced by two gasses, which are stable when stored separately in bottles in the rifle stock, but volatile when mixed in the chamber. This eliminates the stabiliser in a conventional round (which makes the ammo safe to store and carry, and makes up much of its bulk), thus reducing weight further.

Gaus rifles (New Military technology) are linear magnetic accelerators which fire fin-stabilised flechettes. There is no propellant as such; the magazine contains a small battery which powers the gun.

Almost all rifles are 'bullpup' designs like the modern SA-80 (British) or FA-MAS (French). This makes the gun shorter, and so less likely to catch in the door when jumping in and out of vehicles. Shorter guns are less accurate (reduced sight radius), so they have optical sights fitted to compensate. Rifles are generally gyrostabilised to make them more controllable when firing bursts; the latest models fire bursts at a lower muzzle velocity than single shots to help this.

A Nice Thing to Have if You Can't Carry a Gun

"Be not afraid of any man, no matter what his size; just buy a Colt revolver, and I will equalise."

- 19th Century Advertising Slogan

Handguns come in two flavours: Revolvers (fed from a revolving cylinder) and automatics (fed from a clip). All of them fire caseless rounds; binary propellant and gaus versions were tried, but weren't worth the expense. Handguns have a short range and limited stopping power, so they are more a status symbol than a weapon; but they are the best weapon for short-range self-defence against a surprise attack, as you can carry them all the time, ready them quickly, and stop the enemy before he comes into physical contact with you.

Revolvers are normally carried with the firing pin resting on an empty chamber, so they don't fire accidentally if dropped; if you do that with an automatic, you must work the slide to chamber a round before firing. Professionals expecting trouble usually carry an automatic, with a round already chambered, the hammer cocked, and the safety catch on ('cocked and locked'); they are trained to fire three rounds at each target, twice at the body (the 'double tap') and once at the head (in case of concealed body armour).

Stunners are used by police forces as nonlethal riot control weapons; these are usually pistols and project focussed ultrahigh frequency sound with sufficient energy to stun the target. They need a clear path of air to the target's ears, and so will not work in vacuum or against opponents with airtight armoured helmets.

We're Going to Need Bigger Guns...

*"We're going to need bigger guns, John. Really BIG ****ing guns!"*

- from 'Split Second' (just after the speaker first sees the monster)

The infantry squad is built around small teams each responsible for a heavy weapon. The theory is that while an individual soldier will take cover, not action, when the shooting starts, heavy weapon operators reassure each other and so are more likely to shoot back. There are several types of heavy weapons:

Autoguns, including machineguns and light autocannon, are similar to rifles, but their heavier construction allows them to fire more and longer bursts before they overheat.

Sniper rifles are issued at squad level to compensate for the reduced ranges of 24th century rifles and machineguns. Quite often they are lasers; these use high-efficiency liquid metallic suspension (LMS) battery packs pumping a fast-discharge homopolar generator, which stores energy in a rapidly-spinning (50,000 rpm) flywheel until it has enough for a 0.01 second pulse. The ones which aren't lasers have laser sights (the ones that put a little red dot on the target showing where the round will strike).

Plasma guns use a laser ignition system to superheat a hydrogen fuel pellet to a plasma state. The plasma is contained in the weapon briefly, then allowed to escape through a magnetically focussed field along the barrel; the high velocity bolt is initially about 2 mm across, but dissipates rapidly as it travels; this is minimised by firing a laser beam first to

create a tunnel of heated air to the target, down which the bolt rides. Each round of ammo has a battery to pump the weapon's laser ignition and pathfinder beams, and a fuel pellet. After firing, the rounds are ejected; the spent rounds are very hot, with molten centres, and can burn nearby allies.

It's Worse Than That - He's Dead, Jim!

So what does all this stuff do to your tender pink (or brown, or yellow) bod?

Bullets do damage in two ways. Either they hit a bone and shatter it, in which case more muzzle energy does more damage; or they tumble through soft tissues, in which case the longer they are in relation to their width, the more of you gets chewed up. Pistol bullets are short, fat ones with low muzzle energy, so they hurt less either way.

Gaus rifle needles slide through the gaps in the weave of your body armour, then bend into hook shapes and scythe their way through your flesh.

Lasers inflict damage by producing such rapid temperature changes in the target surface that it explodes (imagine exploding a potato in a microwave, only much faster).

Take heart, however; if you can get to a hospital within the 'Golden Hour' - the first 60 minutes after injury - you have a 95% chance of survival. This is why you like to have an air ambulance on hand and a field surgery not far off. Besides, the other side don't want to kill you. Kill one man and you remove one man from the battlefield; wound him seriously and you remove him, and several others to look after him.

I Love Being a Turtle!

Soldiers wear body armour; not to protect them from rifles, although good armour will stop a pistol bullet, but to protect them from the shell fragments (usually from the humble mortar) that cause 80% of casualties. This is not for altruistic reasons; while a guerilla can be trained to operate an assault rifle effectively in a short time (much less time than it takes to learn how to use a sword properly), a chap who can use all your weapons, radios, tactics etc. is a significant training investment - another few hundred Livres spent on a flak jacket is worthwhile insurance. Armour can be nonrigid, rigid, or inertial.

Nonrigid armour (similar to the modern kevlar flak jacket) is made of a tough, flexible material which resists punctures and spreads out the energy from an impact over a large area of your body. This means that when you are hit, you get a big bruise instead of a large hole. It doesn't inhibit your movement as much as other types of armour.

Rigid armour is made of solid pieces (think of the Imperial Stormtroopers from *Star Wars*, or the Colonial Marines in *Aliens*).

Inertial armour is flexible like nonrigid armour, but goes momentarily stiff when struck by a fast-moving bullet or shell fragment.

Military armour is usually a helmet and torso armour of some kind, for several reasons. First, anyone will go down if a round is put into his 'body T' - draw an imaginary line between the temples, and from the middle of this draw another down through the nose to the base of the sternum (hit locations 1 and 2 in game terms - the fatal wound areas). Second, limb armour heavy enough to protect you is too thick to allow easy movement. Armour is hot, heavy, and uncomfortable; you don't wear it unless you're expecting trouble.

Characters

Skills

To give you some idea how your character relates to various grades of NPCs, here are the skills they would usually have. Skills are cumulative; even a senior NCO was a recruit once, and so has those skills too.

Recruit: Combat Rifle-0, First Aid-0, Endurance 8 or more. Someone who has been through a couple of months of basic training; in countries with National Service or something similar, every adult male has done this.

Trained Soldier: As Recruit, plus Sidearm-0, Melee-0, and skill level one in something useful. Those still on active service have at least Endurance 10, Strength 9, Dexterity 9, Intelligence 9. These people are the bulk of infantry squads.

NCO: As Trained Soldier, probably also has Bureaucracy-1, Leader-1, Tactics-1. These are the result of training courses, so someone rising by battlefield promotions might not have them.

Officer: As Trained Soldier, probably also has Bureaucracy-1, Leader-1, Tactics-2 if he gained his commission through an academy; someone with a battlefield commission might not have those skills.

Special Forces: As Trained Soldier, plus Combat Rifle-3, Melee-3, Demolitions-2, Ground Vehicle-3, First Aid-2, Forward Observer-2, Mechanical-1, Stealth-3, Tactics-3, Survival-3; also has at least Endurance 13, Strength 10, Dexterity 10, Intelligence 10. Many Special Forces troopers take a reduction in rank to serve in such a prestigious unit, so they could well have officer skills as well.

Aircrew: As Trained Soldier, plus Sidearm-1, Aircraft-2. These are the people driving the X-wing helicopters that drop Special Forces teams off and pick them up; they may or may not have NCO or Officer skills.

Tactics

For game purposes, Tactics is the skill of planning and controlling battles. It allows you some knowledge of what happens on the modern battlefield, and how to deal with it.

No Skill: You've seen a few movies. Most of what you think you know is wrong.

Level 0: An experienced soldier. You know better than to surrender; the enemy doesn't want to feed and guard prisoners, especially when many of his own men are wounded. You know that reckless bravery doesn't help anything; it just gets you killed. You know that defence is easier than attack; let the NPCs start something!

Level 1: A professional NCO. Given time (about a day) and resources, you dig in and wire in your command whenever it stops. This means foxholes, shelters, sensors, communications, and barricades are prepared; heavy weapons are set up to be fired blind through smoke, fog or darkness at likely attacks; artillery fire is preregistered on targets, in case a bombardment is needed; the party is drilled on where everything is, how to abandon the position if necessary, and where to meet up if separated.

Level 2: You have been through the equivalent of infantry officer training. You know basic tactics, and can dispose a party to meet most threats.

Level 3+: You can identify the weak spots in enemy defences and break through or destroy them with minimal losses.

Recon Skill

Recon is the skill of using terrain in such a way as to observe hostile units without being seen yourself, and estimating enemy strength from a number of small clues. As a rule of thumb, 10% to 20% of the enemy's strength, disposition and capabilities are revealed each day.

No Skill: "Combat walker? What combat walker?"

Level 0: "Many combat walkers pass this way. Speak with forked plasma cannon. Ugh."

Level 1: "French walkers in squad strength have come this way in the past week."

Level 2: "Eight BH-21 walkers came by two days ago. We're facing front-line French troops, possibly the Foreign Legion; they'll have backup."

Level 3: "Eight French BH-21Cs came through here day before yesterday. That's the space combat variant, so they must be a Navy landing party. That means they have at least a cruiser upstairs, and probably a company of Marines down here. One of them has a limp from a damaged leg servo, I'd guess they've been in a fight recently."

Tactics and Missions

1. Don't forget nothing.
2. Have your musket clean as a whistle, 60 rounds powder and ball, and be ready to march at a minute's warning.
3. When you're on the march, act the way you would if you was sneaking up on a deer. See the enemy first.
4. Tell the truth about what you see and what you do. There is an army depending on us for information. You can lie all you please when you tell other folks about the Rangers, but don't ever lie to a Ranger or officer.
5. Don't never take a chance you don't have to.
6. When you're on the march we march single file, far enough apart so one shot can't go through two men.
7. If we strike swamps or soft ground, we spread out abreast, so it's hard to track us.
8. When we march, keep moving till dark, so as to give the enemy the least chance at us.
9. When we camp, half the party stays awake while the other half sleeps.
10. If we take prisoners, we keep 'em separate till we have time to examine them, so they can't cook up a story between 'em.
11. Don't ever march home the same way. Take a different route so you won't be ambushed.
12. No matter whether we travel in big parties or little ones, each party has to keep a scout twenty yards on each flank and twenty yards in the rear, so the main body can't be surprised and wiped out.
13. Every night you'll be told where to meet if surrounded by a superior force.
14. Don't sit down to eat without posting sentries.
15. Don't sleep beyond dawn. Dawn's when the French and Indians attack.
16. Don't cross a river by a regular ford.
17. If somebody's trailing you, make a circle, come back onto your tracks, and ambush the folks that aim to ambush you.
18. Don't stand up when the enemy's coming against you. Kneel down, lie down, hide behind a tree.

19. Let the enemy come until he's almost close enough to touch. Then let him have it and jump out and finish him up with your hatchet.

- Major Robert Rogers' Standing Orders, 1759.

There isn't a lot to add to Major Rogers' orders as far as basic tactics go.

Your Mission, Should You Choose to Accept it...

Most military operations on the frontier are classic special forces operations, primarily because it costs so much to get troops to the combat zone that you send relatively small numbers of the very best you have. When you need numbers for some reason, you arm and train the local farmers and miners, giving rise to guerrilla forces. There are six basic types of mission:

Combat Rescue: A short raid aimed at recovering hostages. This is a political statement about how hard your country is as well as a military operation. It is complicated by 'Stockholm Syndrome'; given time, some hostages come to identify with their captors, and may even help to fight their rescuers.

Counterinsurgency: Training and equipping local forces to deal with guerrillas. The guerrillas have almost certainly been trained and equipped by somebody else's special operations forces doing an Unconventional Warfare or Paramilitary Operations mission.

Paramilitary Operations: These are deniable operations falling midway between normal special operations and intelligence work, usually controlled by a Field Agent and aimed at overthrowing a rival regime by supporting local rebels. However, starting a revolution in your enemy's lands for fun and profit usually backfires. Those ungrateful guerrillas just don't want to give you the guns back and let you take over where your enemy left off. Still, at least he hasn't got control any more...

Strategic Reconnaissance: A squad sneaks into enemy territory for a long time to gather intelligence. A classic mission for PCs or other heroes. You will need stealth, resourcefulness, a lot of nerve, and a lot of luck whatever happens; you only need combat skills if it goes badly wrong.

Strategic Strike: A raid to seize or destroy a key installation, person, or line of communication. The typical outpost or frontier colony, like a 20th-century Third World country, has its centres of authority very close together - usually power is concentrated in one town, often in one building. You may only have a platoon of Legionnaires at your disposal, but once you take over the TV station, the Governor's office and the oxygen generator, nobody is going to argue with you.

Unconventional Warfare: This is the arming and training the local farmers stuff. In 2300 AD, it's starting to become conventional.

March or Die: The Foreign Legion

*Vous etes soldats pour mourir, et je vous envoie la ou l'on meurt.
(You became soldiers to die, and I will send you where you can die.)*

- General Francois Oscar de Negrier, 1883.

Since 1831, the Foreign Legion has seen almost continuous action in the service of France. Its main missions are garrison duty and road building in remote outposts, from the Sahara and Indochina in the 19th century to the 24th century colonies among the stars; during wartime, Legionnaires are used as shock troops. Although Legionnaires come from all over the world, the Legion is an extension of French national policy, and always uses standard contemporary French weapons, organisation, and equipment, with the exception of the famous white kepi, which since the 1950s has been worn only on ceremonial occasions. Both Jerry Pournelle's *Falkenberg's Mercenary Legion* and David

Drake's *Hammer's Slammers* are explicitly based on the Foreign Legion, and worth reading as accounts of SF Legionnaires.

The Legion Code of Honour

1. Legionnaire, you have volunteered to serve France with honour and loyalty.
2. Irrespective of nationality, race or creed, every other Legionnaire is your brother-in-arms. You must display towards him the tight solidarity binding the members of the same family.
3. You will respect traditions and be devoted to your chiefs. Discipline and comradeship are your strength; courage and loyalty your virtues.
4. You are proud to be a Legionnaire and it shows in your impeccable turn-out, your dignified behaviour and your tidy quarters.
5. As befits an elite soldier, you train hard and look after your weapon as your most precious possession. Always keep in top physical shape.
6. The mission is sacred and must be accomplished at all costs.
7. In combat, you will never be carried away by emotion or hatred. You must respect vanquished enemies. You will never leave your dead, wounded or weapons behind.

The Legionnaire

The Legion is perceived as the most valuable fighting unit in the French army. As such, it has no shortage of volunteers, and the days of accepting criminals on the run or gentlemen escaping wives or debts are long gone; any applicant with a criminal record is turned down, although minor misdemeanours may be overlooked if the candidate looks promising. The officer corps is drawn from the cream of the French military academies, and is mostly royalist, Catholic, and conservative.

The British or American volunteer may have romantic illusions fuelled by *Beau Geste* and similar works of fiction, but the average Legionnaire is of southern European or Germanic descent and signs up for more pragmatic reasons. Many enlist to claim the French citizenship granted after five years' service; a number enlist simply because they want to fight, and can be certain that the Legion will give them the opportunity; finally, soldiers who fought against the French and lost are often offered the chance to redeem themselves by joining the Legion - in the late 1940s, for example, nearly 60% of Legionnaires were Germans, largely ex-SS troopers.

Recruits need not speak French on enlistment, but if they don't, they are paired with a French speaker and expected to learn the language quickly from him. In theory, French natives are not permitted to enlist in the Legion, but it is an open secret that many do so under Belgian or Swiss pseudonyms. Once trained, they regain their true identity. Since banks refuse to open accounts for anonymous clients, and any Legionnaire may have enlisted under a pseudonym, Legionnaires have no bank accounts for their first five years of service and are always paid in cash.

Traditions

*Tiens! Voila du boudin, voila du boudin, voila du boudin,
Pour les Alsaciens, les Suisses et les Lorrains.
Pour les Belges y en a plus, pour les Belges y en a plus.
Ces sont des tireurs au cul.*

*(Look! There is some black pudding,
For the Alsatians, the Swiss and the Lorraines.
There's none for the Belgians.
They're rotten shots.)*

- Le Boudin, the Legion's marching song

The Legion's traditions make it uniquely suited as a unit in which player characters serve.

The Legion looks after its own. Legionnaires wanted for minor offences such as unpaid alimony have been known to be transferred out of police jurisdiction at the critical moment; ex-Legionnaires form groups reminiscent of freemasonry wherever they settle in numbers; and the Legion maintains rest homes for its wounded and pensioners, free of charge. The Legion's unofficial motto is 'legio patria nostra' - the Legion is our fatherland.

The Legion displays irrational courage, and will suffer extraordinary losses to achieve its objectives. Of the 9,000 Legionnaires sent to fight for Queen Isabella II in the Spanish Civil War of 1833-9, some 220 marched back into France; of the 44,000 who served in the First World War, 31,000 were killed or wounded; of over 5,000 arrayed against 80,000 Vietminh at the final battle for Dien Bien Phu in 1954, *three* returned to French lines. The classic example, and the action defining the Legion's view of itself, is the battle of Camerone on 30 April 1863, whose anniversary is still celebrated at every Legion base. Captain Danjou and 64 Legionnaires were ordered to Camerone to keep the highway between Mexico City and Vera Cruz open for a supply convoy. Attacked by 2,000 Mexicans, the Legionnaires held out for nine hours; the battle ended at six PM, when the five surviving Legionnaires fixed bayonets and charged the 1,700 surviving Mexicans, with predictable results. The convoy got through.

The Legion is ruthless, and will do whatever it takes to achieve its objectives. The annihilation of Berber women, children and livestock at Djebel Baddou in 1933, and the routine torture of suspected terrorists in Algeria in the late 1950s are examples.

The Legion is ingenious in improvising comfortable quarters and takes its pleasures seriously. The sack of the Russian wine cellars in Sevastopol in 1831 is famous in Legion legend; the mobile brothel accompanying the Legion during the Moroccan campaigns of the 1920s is another case in point.

This article was prepared for Challenge magazine, but the publication folded with the demise of GDW before I had it in a fit state for submission.

Orbital Colonies

©Andy Slack 1986-1998.

Like most SF RPGs, plain vanilla 2300 AD assumes that almost all of mankind's colonies will be set up on planets, and space is just for travelling through. An alternative assumption is that planets are not the best places for a technical civilisation. They have uncontrolled weather with extremes of temperature; their atmospheres make it hard to make a good vacuum or collect solar power; you have to take the terrain as you find it; the gravity makes it difficult and expensive to get on and off them, and interferes with construction and transport.

In my 2300 AD universe, the Solar System is teeming with orbital colonies; this matches my view of the future, which is heavily influenced by C J Cherryh's Alliance and Union stories, such as *Merchant's Luck* and *Downbelow Station*. Your Mileage May Vary.

What Does the Colony Look Like?

It can be any shape that will hold air, and the smaller ones have many different shapes. The typical large colony is a cylinder up to 6 km across and 30 km long, rotating every two minutes or so to provide artificial gravity. The cylinder is divided into long strips down its length; three immense glass windows, strengthened with cables, alternating with three strips of land. Each window has a mirror outside to reflect sunlight onto the strip of land opposite. Manufacturing facilities are on the sunward end of the cylinder, and huddling around them is a ring of small agricultural cylinders housing the colony's farms.

Since they rotate, gyroscopic effects prevent single main cylinders from being continuously aimed at the sun, so a large free-floating secondary mirror would be needed to reflect the sun's rays onto the colony for light, warmth and power. So, most colonies have counter-rotating pairs of cylinders with no secondary mirror - such a pair has no net spin and so can track the sun easily.

Colony cylinders are made by vacuum-vapour deposition; a plastic balloon several kilometres across is rotated slowly past a solar furnace which sprays aluminium vapour onto it. The metal condenses to form a seamless metal shell, as thick as you like. Due to the colonies' low population, most routine assembly work is done by robots, with the humans along mainly as troubleshooters. To make life easier for the machines who do most of the work, the fittings are built from modular fabricated sections, so they all tend to look alike inside.

Colonies spin to provide simulated gravity not just for comfort and convenience, but also to avoid loss of calcium from the colonists' bones, which would make them more fragile. The rotation rate is usually one rpm or less, as if the spin is faster, workers commuting daily between the zero-G industries around the colony and the simulated gravity inside suffer from motion sickness. The twin constraints of maximum rotation rate and minimum gravity define the colony's size; depending on which medical consultants the builders took advice from, the rotation rate can be up to 3 rpm and the simulated gravity can be anything from 0.1 G up. Pregnant women and young children are housed in more Earth-normal gravity than adults; scientific, mining or military stations thus tend to have lower gravity than those with large civilian populations.

Colonies or bases on the surfaces of the Moon, Io etc. consist of bunker-like structures covered with local soil and kept in permanent shadow by sunscreens to help control their temperatures - it is much easier to heat a room than to cool it, and this is particularly true in vacuum.

Power Sources

The main industry of the first orbital colonies was building solar power satellites to beam power down to Earth, and they have retained a heavy reliance on solar power - it's cheap, easy to collect, and has no waste products to speak of. Orbital colonies are usually set far enough out from the worlds they orbit that they very rarely go into shadow, so that they can collect as much sunlight as they need. The two main methods used are vast arrays of solar cells, or mirrors focussing the sunlight to boil a working fluid which turns turbines, which in turn spin generators. In either case, the further out from the sun the colony is, the weaker the sun's rays, and so the larger and more elaborate its solar arrays.

Surface colonies experience regular nights and so cannot depend entirely on solar power; they rely on other means of power production at least part of the time. These may be fission, fusion or MHD plants; fission plants are the rarest because the only significant supplies of uranium or plutonium in the Solar System are on Earth, and it is expensive to haul them up out of the gravity well.

Mining

Mining among the Solar System colonies means either opencast surface mines on moons, or asteroid mining. Asteroids have only 10% as much aluminium and titanium as lunar soil, so the Moon's main exports are ores rich in those two metals.

Luna

The Moon mines were established first - as a source of raw materials for building powersats - and are still the most productive. Lunar mines produce aluminium, titanium, iron and silica (used to produce fibreglass); another product of major importance is oxygen, which is chemically bound to the metals and the silicon and represents about 40% of the rocks' composition. Lesser but still useful constituents of lunar rock include hydrogen, nitrogen, carbon, sulphur and sodium.

The ore is refined on the Moon or in nearby colonies, since shipping refined metals is cheaper than shipping bulky unrefined ore. Since everything must be recycled, and water is in short supply, refining uses complex and costly chemical processes.

The Asteroids

The asteroids have much more iron and several times as much magnesium as lunar soil, so their miners concentrate on those metals. Further, the asteroids known as chondrites have high proportions of water and organic chemicals, so originally most of these items were mined in the asteroid belt - with stutterwarp vessels, it was cheaper to get organics from the Belt than to ship them up from Earth, although since the Beanstalk was completed the Belters have faced serious competition from Earth corporations. The asteroids began to be exploited later than the Moon because they are several hundred times farther from Earth and have orbits which require more delta-V to match; so, asteroid mining needs ships with better propulsion and life-support systems, which weren't developed until later on. Asteroid and planetoid orbits are widely variable, and one of the main practical purposes of Astronomy skill in the game is the search for asteroids with valuable resources which are in a convenient orbit for exploitation by a given colony.

Iron and stony-iron asteroids contain iron (surprise!), often alloyed with nickel and ready for the rolling mill; the large asteroid Psyche, for example, is more or less solid nickel steel. The easy way to mine this type of asteroid is to spin it using explosives, and melt the whole asteroid with sunlight focussed by mirrors; the various constituents separate out into layers under centrifugal force and are scooped off as needed. Sometimes heavier metals than iron are found, but these are rare.

Carbonaceous chondrites are very dark, having about 7% carbon and up to 20% water; they have about half the organic compound content of oil shale, mostly in heavy hydrocarbons like waxes and oils; they are much sought after for plastics feedstocks as well as their water. Ceres and Pallas are large asteroids of this type, which is the most common. They are mined by automated chemical plants on their surfaces, powered by solar energy, which extract water and organics from the asteroid and process the latter into fertilisers, plastics and so on, as well as extracting the few nitrogen compounds present. The water can be electrolysed to yield oxygen and hydrogen, both of which have many uses.

As well as providing mineral resources, the asteroid belt is the Solar System's frontier. There are millions of small asteroids, each capable of supporting a small group who can afford the few tens of thousands of Livres for the equipment needed to homestead it. The Belt is so large as to be effectively ungovernable, so those who like solitude or dislike authority can vanish into it. However, the belt has no law to speak of, and should any of your equipment fail, it won't matter how good the manufacturer's guarantee is...

The Outer System Moons

The moons of the outer planets also have extensive mining facilities. Most of the smaller moons' mining operations can be treated for game purposes as if they were on asteroids; larger moons usually specialise in extracting water and oxygen from surface ice. However, there are exceptions, for example Io has large sulphur deposits which are extracted to make the sulphuric acid vital for many industrial processes.

Life Support and Agriculture

The average colonist needs around 5 kg of food, water and oxygen per day. Much of this is recycled; even so, farms are present because of the high cost of shipping food up from Earth. Fortunately, farming is easy in space because there are no pests, no weeds, and the weather does what it's told.

Oxygen is produced by plants in the farming modules and the main colony, which also extract the carbon dioxide from the colony's air. There are so many plants in the average colony that no more elaborate method of recycling the air is needed. Atmospheric pressure is one-half an Earth atmosphere, which is enough pressure for physiological needs - higher pressures mean thicker, more expensive walls, and worse damage from punctures. The air is about 40% oxygen, with almost all the rest being nitrogen for the plants and to reduce fire hazards. Even so, fire is a serious hazard, more feared for its consumption of oxygen than its actual damage; probably only major punctures cause more nightmares. The humidity is around 40%, except in farm areas and grain storage. The air temperature is about 22 degrees Centigrade. Waste gasses are adsorbed on activated charcoal filters and then sent to the waste processing plant. However, only in the largest colonies are there blue skies (which need air at least three kilometres thick to form) and natural clouds.

The bulk of the water in the colony's atmosphere is given off by plants; this is recycled by dehumidifiers in the farming modules. The water passes through no ground strata and has no chemicals or dissolved salts, so it is extracted from the air and piped straight to peoples' homes. Water is also produced as a byproduct of small power plants, where fuel cells combine hydrogen and oxygen to produce water and energy (most internal station vehicles are powered in this way).

Food is produced in small farm units orbiting the main colonies. The main reason for not farming inside the colonies is the 24 hour lighting, high ventilation, and high humidity used for optimum plant growth. Interplanting is used, so that at any time in a plot there are some crops being planted, some growing, some ripening, and others being harvested, all mingled together. A typical sequence would grow rice, sweet potatoes, soybeans, corn, and then soybeans again. The stems and cuttings are fed to livestock. As well as food plants cotton is grown, for use in clothes and paper.

Plants are grown on styrofoam boards for support, with nutrients and water sprayed directly onto their roots. This eliminates the need for expensive, heavy topsoil and makes it easy to harvest roots for animal feed. Since hand-pollination of vegetables is very boring, the colony usually has several hives of bees selected for their docility. These produce honey as a by-product.

Meat is relatively scarce; meat animals take up a lot of room and food for the meat they produce, and much of what cows, pigs and chickens eat can be eaten directly by people. The staple meat in most colonies is rabbit - mild-flavoured, low in fat, and easily cooked. The farms produce alfalfa, a perfect rabbit food when salt is added. Each doe rabbit and her litter takes up about one square metre and her alfalfa patch about twelve times as much room. The total yield of boneless meat from this sort of set-up is about 150 kg per hectare per day.

The waste stems, leaves and roots are converted into milk and other dairy products by ruminants, usually cows or goats. Goats are common, since they eat 10% as much as a cow but produce 25% of the milk; in the average colony as much as two litres of goats'

milk per person is available each day. Chickens are fed kitchen waste and the leftovers from rabbit butchering, and provide 3-4 eggs per person per week.

Finally, there are fish. These are nearly as productive as rabbits where protein is concerned, and colonists can get up to 300 grammes of fish fillets per week each. Now fish out of water in a gravity field die because their gills collapse, which stops them getting any oxygen; in zero-G hydroponic fish-farming, the fish are left floating in mid-air in an atmosphere of 100% humidity. (In real life, ponds in the farms will be more practical; but free-flying fish give more of a sense of 'being there' in the future, and imagine the fun you can have refereeing a zero-G firefight in a room with 100% humidity full of flying fish...)

The average farm yield runs at about 950 kg/hectare per day, so every hectare of farmland can support about 250 colonists; once you have decided the population, that tells you how big a colony's farms are. There are a few professional farmers and agronomists, but most of the farm staff are volunteers who work there a few hours each week in their leisure time.

As well as the farms, the main cylinder has trees for fruit, for shade, and just to look cool. These provide apples, oranges, pears, plums, cherries and peaches; more adventurous colonies grow coconuts and bananas. Some colonists have their own gardens for flowers and vegetables.

The food never has to travel more than a couple of kilometres to market, so there is no spoilage in transit and no need to add preservatives. There are no supermarkets full of packaged goods; the food market is a group of farmers' stalls with bins full of fresh produce and the odd refrigerator, looking a lot like a pre-industrial farmer's market or bazaar. Naturally, anywhere you have fruit or grain and some enterprising individuals, you have alcohol shortly thereafter...

Sewage is heated with oxygen in high-temperature, high-pressure conditions for an hour and a half, producing sterile water with ammonia and phosphate ash, and a gas rich in carbon dioxide. The phosphate ash and gas are sent to the farms to help in growing plants. Water is purified and recycled.

Buildings

The colonial environment is cramped and artificial, but it can still be pleasant to live in. The buildings are closely-spaced and only a few stories high, with plenty of trees and other greenery. They are assembled from prefabricated, modular wall sections. However, within this constraint, the occupants strive for diversity.

Apartments have simple, open designs, with a structure defined by metal girders. As the walls are not load-bearing, they can be swapped as desired for floor-to-ceiling plate glass windows. Floor panels are lightweight honeycomb, and ceiling panels may be clear, coloured or opaque according to taste; most are opaque, because only a few kilometres away other people are living over your head, and they may have telescopes...

Living rooms are in the corners of the building, with two glass walls. Neither heating nor cooling is a problem, as the entire colony is 'air-conditioned'. The land area available per person is only about 50 square metres; builders deal with this shortage of space by hiding it. The colonists live in small clusters of houses, each with some focus such as a courtyard fountain or stand of trees, so that people are aware only of a few neighbouring houses. The problem is made easier by the almost total lack of cars and trucks; most movement is on foot or by bicycle, with subways or monorails for longer-distance travel. Quite often houses are terraced so that one man's roof is his neighbour's lawn.

Scattered among the houses are public parks and gardens, with small lakes that serve as water reservoirs as well as recreational areas and homes for ducks, which have aesthetic, psychological and nutritional value. Speaking of the latter, ovens are microwave or electric - electric power is plentiful, but fuel for burning is not.

Plastic is not widely used, because it must be made from hydrocarbons, which originally were very scarce in space; although they are plentiful since the exploitation of the asteroids and the widespread use of the stutterwarp, spacer tradition decrees other materials. What the builders have always had in plenty are aluminium, titanium, steel and glass. Bricks and concrete are made from planetary soil so they are greyish-white. As they are made primarily of steel, concrete and glass the colonists' homes are durable and sturdy structures. Furniture and decorations are made from aluminium and ceramics; the trees are too valuable alive to be used for wood. Fabrics are made from woven glass fibre and are about the consistency of denim; they won't absorb dye, but can be made of stained glass, so colours are mostly blues, reds, purples, greens and browns, and glow iridescently in the sun. Stains wipe off easily with a damp sponge, and the fabrics are fireproof.

Clothing

Anything tough and durable, like overalls, is made of the same woven fiberglass as the furniture coverings and curtains. Softer, lighter clothes are made from locally-grown cotton, dyed in the usual way, and usually recycled. Due to the small populations of the colonies, the services they provide are limited, and professional tailors and dressmakers are rare; so many people who want something distinctive make it themselves, or enlist a friend or relative. This is less true in the larger stations.

Paper

As mentioned earlier, trees are just too valuable to chop down. This makes paper very rare; it is jealously guarded and carefully recycled. Notepads, diaries, and most books are replaced by portacomp chips. Paper (and plastic) bags are replaced by the ubiquitous woven fibreglass. Financial transactions are made by credit card or electronic fund transfer, so there is little need for paper money.

All of this need not cramp the style of referee or player much. After all, there is no paper at all in the *Star Wars* universe and that doesn't slow down the adventures. PCs should be aware, though, that using a lot of paper is a sign of wealth.

Leisure Activities

Virtually the whole range of team and individual sports is practiced, and home entertainments include all kinds of music and video. Due to the low gravity, though, there are some recreations unknown before spaceflight.

These include zero-G swimming, basketball, darts etc. in the microgravity areas near the axis of rotation. Zero-G waterball fights replace planetary snowball fights, and walking on water takes a long time to lose its appeal.

There are also a few pursuits that are *not* available. Anything involving hunting, or lots of large animals (like horse-racing) is too expensive in terms of floor area and life support.

The Orbital Colonist Mindset

The whole colony is designed to encourage community spirit, and as the inhabitants depend on each other for continued survival, they form very close-knit communities. Further, they are accustomed to discipline and obeying orders, because that is sometimes necessary for survival in space. Paradoxically, the need to solve problems quickly or die also breeds independence and self-sufficiency.

Space is an unforgiving environment, and colony populations are small; so the average colonist is over-protective of women and children. The small populations make for a shortage of skilled people, and so education and training start at an early age; almost everyone has Mechanical or Electronic skill, as their lives depend on machines.

The person in charge of the colony, whatever his title, however appointed, and however benevolent, is a despot with absolute power of life and death over the colony due to the

centralised control of life-support systems - and absolute power corrupts absolutely, which can generate many adventure scenarios.

The only animals the average colonist has met are domesticated species, as colonies only have animals which can pay their way in meat, milk, or companionship. Should an orbital colonist meet a hungry bear, for instance, since his upbringing will have stressed teddy bears and cartoon bears, he may not demonstrate the respect due to something as large and dangerous as a grizzly. A 'wild' animal, especially if exotic in some way, is a status symbol for the very rich.

July 1998: Kevin Clark emailed me to point out that I wasn't allowing enough water for industrial processes, and right he was. So all of my colonies have just sprouted huge internal lakes...

2300 AD NPCs

©Andy Slack 1986-1998. Not strictly a player handout, but it was always to hand for the Director when I ran games...

The Stanford Gang

The cabin crew will shortly be serving blood plasma and endorphin tablets. - Stanford

This is a motley collection of NPCs who at various times have been part of the PC parties. They were initially intended to fill out the party, providing necessary skills or advice, but as the PCs grew more experienced they were not needed, and struck out on their own. Several of them were mentioned in the teasers for 2300 AD articles in *Challenge*.

With friends like these, who needs enemies?

Isabelle Chan

Elite Field Agent. Motivations: Spade King (deceit), Spade Jack (arrogant).

A Eurasian troubleshooter with a vicious streak. Your classic femme fatale.

Looks a lot like: Charlotte Lewis in *The Golden Child*.

Theme tune: Cocaine by Eric Clapton

Callsign: "Winter" (*Director:* A literary reference - to Milady de Winter in the *Three Musketeers*.)

A quote: "Men! Are you born stupid, or is there some secret boy school where you learn it?"

Ian Harris

Elite Ground Military. Motivations: Club Ace (war leader), Diamond Queen (lust).

An ex-Legion weapons instructor known to do freelance work, providing tuition or backup. Independent, self-confident, both physically and mentally tough, he prefers to work as part of a team of similar people. He has an aptitude for languages and exceptional dress sense, both of which he uses in his pursuit of beautiful women. However, he is incapable of forming lasting relationships - he loves chasing girls, but isn't sure what to do with one if he catches her.

Director: Harris has been unkindly compared by some of my players to the Cat in *Red Dwarf*, although that was not his inspiration. He was originally intended as a way of

providing tactical advice to the party without it being obvious as a referee intervention. He regularly tried to chat up female PCs, and was always told to 'Get lost, creep!'.

Looks a lot like: Bruce Willis.

Theme tune: *Black Velvet* by Alannah Miles

Callsign: Snow Dog (Director: A reference to an early Rush song that sums him up for me.)

Tanya Hyde

Veteran Ground Military. Motivations: High Club (warrior), Minor Joker (eccentric).

An Australian mercenary who has been fighting the kafers for as long as they've been around. The consensus is that Hyde has a software problem; most of the time she's a competent fighter, but sometimes she goes ballistic and doesn't seem to care whether she lives or dies. No-one who likes fighting kafers that much can be wholly sane.

Director: Hyde was brought in to bulk out the party for raids against the Kafers. Her main role in play is to force the issue if the party are pussy-footing around, by opening fire on whoever she thinks is the enemy.

Looks a lot like: Vasquez in *Aliens*.

Theme tune: *Berlin* by Marillion.

Callsign: "Psycho" (*Director:* This is just plain descriptive - it's what she is.)

A quote (shouted over sustained automatic weapons fire): "Die! Die! Die! Aaaargh!!!!"

Neil Stanford

Elite Ship Crew. Motivations: Spade Jack (arrogant), High Club (warrior).

An ace pilot. Short, with pale blue eyes and black hair, he is alert, determined, aggressive and self-disciplined; he has good co-ordination and fast reflexes. Stanford likes to log as many flying hours as possible, and therefore dislikes landing - he would prefer to hover and drop the party off or pick them up. He has a tendency to get into fights he could have avoided, and a penchant for overkill when called on for fire support.

Director: Stanford was introduced into the party so that there would be an NPC who could be left in charge of the party's ship, aircraft, or whatever, so that all the PCs could go wandering off together and get into trouble. Normally a Ship Crew NPC could only be Experienced, but what's the point of being the Director if you can't bend the rules?

Looks a lot like: Tom Cruise in *Top Gun*.

Theme tune: *The Gold Bug*, by the Alan Parsons Project.

Callsign: "Snakebite" (*Director:* This is early rocket engineer slang for an accident.)

A quote: "Thank you for flying White Knuckle Airways. The LZ temperature is 'far too hot', as usual, and the local time is 'almost too late'. The cabin crew will shortly be serving blood plasma and endorphin tablets. Please ensure that you have all your body parts with you when boarding the X-wing, as mistakes cannot be rectified after take-off."

Extras

Then of course there are the extras: Pugh, Pugh, Barney McGrew, Cuthbert, Dibble, Grubb. These characters are monosyllabic, pessimistic, and short-lived.

Look a lot like: Security guards from *Star Trek - The Original Series*.

Theme tune: *Another One Bites the Dust* by Queen.

Quotes: "I have a bad feeling about this," "Oh, man, and I was getting short, too!" and "Look out, Captain - aaarrgh!".

Contacts, Enemies and Patrons

These are the NPCs who commission the players to perform heroic tasks, or who are the masterminds behind the nefarious schemes they must stop.

With enemies like these, you definitely need friends.

Major J.B. Allen

Veteran Field Agent. Motivations: Diamond King (miser), Spade Queen (ruthless).

A former case officer for the French Deuxieme Bureau, who is rumoured to have resigned following allegations of corruption in the service. He has a reputation for ruthlessness and greed. Tall, with piercing green eyes, Allen knows where the bodies are buried and makes good use of that knowledge to persuade people to see things his way.

Director: Major Allen is the former case officer of the party's Field Agents in my campaign, who started off as a patron, but became a recurring villain when the party decided he had double-crossed them (he hadn't) and tried to kill him.

Looks a lot like: Alan Rickman in *Die Hard*.

Theme tune: *The Uninvited Guest* by Marillion.

A quote: "Please reconsider. I would hate to see my efficient young friend here damage your pride. Or your fingernails."

Barry Couder

Veteran Smuggler/Pirate. Motivations: Spade Queen (ruthless), Low Heart (amiable).

A free trader rumoured to engage in smuggling and piracy, Couder can acquire most things for the right price. Cheerfully amoral, but prone to violent fits of rage if thwarted, he sees government as a conspiracy to prevent honest traders like himself making a living. He is fond of drawing the parallels between taxation and extortion. He is accompanied everywhere by his bodyguard, a disfigured thug called Claude Baddeley.

Director: This is the obligatory underworld contact, who has by turns been patron, contact, ally and enemy. He shifts freely from one role to the other - "It's nothing personal. It's just business."

A quote: "Hey, if I was a government you'd call this taxes, and you'd pay without all this fuss."

Demon

Experienced NPC. Motivations: Middle Club (aggressive), Low Diamond (frugal).
Special notes: Demolitions-10.

A demolitions expert, blinded by an underworld leader when explosives he supplied failed to do the job, Demon now works entirely by touch and smell. He lives in a dark, deserted warehouse; he doesn't need the light, and it puts intruders at a disadvantage.

Anne Eifel

Experienced Academic. Motivations: Heart Ace (justice), Middle Heart (loyal).

Serious, honest, and beautiful; station head of the Beanstalk orbital complex.

Director: Your classic patron, a former girlfriend of one of the main PCs.

Looks a lot like: Sandra Bullock.

Theme tune: *Wonderful Tonight* by Eric Clapton.

Lu

Elite NPC. Motivations: Spade Ace (leader), Minor Joker (eccentric).

An immensely wealthy collector of curios, given to extravagant parties and crackpot theories. She sometimes hires troubleshooters for missions; those so employed are either close-mouthed or tell tall tales, obviously false. Lu is normally accompanied by her bodyguard, a tough ex-spacer who carries an ornately-carved knife in her boot top.

Director: Lu is in fact an exile from the far future, who is the main patron for time-travel adventures as she attempts to manipulate the timelines to improve her position back home. She is also an occasional source of weird artefacts - things that are too cool not to have in the campaign, but way beyond the science of 2300 AD.

Theme tune: *Altair* by Hawkwind.

A quote: "No, wait a minute; that hasn't happened yet. (*Mutters to self*) Actually, if the plan works, it won't ever happen."

Phil T. McCraker

Experienced Journalist. Motivations: Heart Ace (justice), Low Club (steady).

A freelance investigative journalist, McCraker will stop at nothing in his search for a good story, particularly one exposing corruption.

Director: McCraker is an intermittent patron and ally, who occasionally approaches the PCs for help in one of his investigations of the powerful and corrupt. He can also be counted on to help the party if there is a good story in the offing.

TRAVELLER INTERFACE

With the demise of *Classic Traveller*, I moved all my SF campaigns to the *2300 AD* rules so that my group would be using a system still in print. (It's also easier to write for a game you are actively playing. ☺)

That required conversion rules, and triggered off the idea that maybe the campaigns were linked too, so I wrote the conversion guidelines and a "future history" connecting the activities of the various gaming groups.

Later, *2300 AD* went out of print as well; GDW considered migrating the game to their House System (used in *Traveller: The New Era* and other games), but went out of business before that idea bore fruit. That led me towards *GURPS*, and conversion rules to move characters to that system.

History 2300-2350 AD

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This is how the period 2300-2350 unfolds in my *2300 AD* universe. Your Mileage May Vary...

Summary of Key Dates and Events

- **2001-2100:** Age of Recovery - Fuel crisis, French Peace, Melbourne Accords.
- **2101-2200:** Second Age of Exploration - Jerome Drive; Eclipse of France; wars exported into space.
- **2201-2300:** Second Age of Commerce - First Contacts; decline of nationalism; rise of Germany; French Empire.
- **2300:** Life discovered in gas giant atmosphere in Kie Yuma system.
- **2302:** Speculation that Provolution has created 'vampires' Tau Ceti system; life discovered in CHON bodies in Sol' cometary halo.
- **2303:** Kafer scouting party found on Beta Canum IV.
- **2304:** Provolutionists use nuclear weapons to destroy parts of Hong Kong.
- **2305:** Bolivian government overthrown by a band of adventurers; Inca Republic invades Bolivia and installs puppet government.
- **2306:** Prisoners broken out of the supposedly 'escape-proof' penal colony ~~on~~ by an unknown starship.
- **2307:** Industrial accident on Crater; mass poisoning narrowly averted. AI hovertank recovered on Beta Canum IV.
- **2307-08:** First Kafer War.
- **2308:** Trilon Corporation on Kie Yuma discover an ancient STL colony ship from a previously unknown race.
- **2309:** 'Back Door' in Kafer Space discovered; first contact with Ylii.
- **2320:** Manned expedition to the Pleiades launched; 'first' contact with Greys.

- **2322-2340:** Second Kafer War. Coalition formed.
- **2323:** Pleiades expedition reaches Alcyone; first contact with AGRA Intelligence.
- **2324:** Kafer invasion fleet reaches and bombards Earth, causing ecological collapse.
- **2325:** Pleiades expedition returns to human space.
- **2347:** First contact with Vilani.

Return to Dictatorship: 2287-2315

The costly French victory in the Central Asian war sparked a sharp, severe recession. The resulting political unrest led to a coup by the Army in 2289, ending the 12th Republic and monopolising vital industries. The apparent recovery masked a mild but unstoppable trend of price deflation; historians compare the era to the Roaring Twenties after the First World War.

Under the monopoly system, relations between management and labour were relaxed and harmonious; the Army seemed to know what it was doing, and the economy did seem to be improving.

However, the writing was on the wall for those who knew how to read it. The Army's approach to the recession was a simple one: Print as much money as you need. Runaway hyper-inflation was the result, with 25% of France's workforce unemployed and creditors hiding from their debtors in case they were paid off in worthless paper money. Shaken, investors moved out of stocks and shares, into gold, gems, and government bonds. As if to appease an angry God, the French Empire returned to traditional values and religion; entertainment and music became quiet, sober, and refined, and hemlines fell dramatically. A new community spirit grew in towns across human space.

The army's failures in the War of German Reunification (2292-93) and the Flemish War of Independence (2293) forced it from power, and the industrialist Nicolas Ruffin was swept into office in 2294. By 2298, his reforms had produced tangible economic results, and following a plebiscite Ruffin was crowned Emperor and the Third French Empire was inaugurated. Only a few historians muttered darkly about Hitler's rise to power after the hyper-inflation of the Weimar Republic in the 1920s, or Napoleon's ascendance after the troubles of the 1780s. By 2298, the worst was indeed over, although general price deflation continued until 2315.

The First Kafer War (2307-2308) had little impact on Earth economically, as for the most part it was fought far from Earth using existing fleets and armies.

The Second Kafer War: 2315-2340

By 2315 the French economy had been stable enough for long enough that investors and entrepreneurs again felt confident. Innovative ideas were again funded, forming 'sunrise industries' and fuelling a boom period of prosperity, rising prices, and inflation. Unemployment fell to less than 5% of the workforce. As the boom continued, morals relaxed and authority - both government and religious - was rejected; fraud and theft became common again, music became louder and faster, entertainment and fashions grew more risqué. Business was so brisk, and the volume of trade so high, that even with increasingly sophisticated computers detecting fraud was nearly impossible - and by the time it was detected, the perpetrator had often moved to another system by stutterwarp. However, the rise of a new Kafer leader - Total Supremacy - on the Kafer homeworld was to lead to another incursion into human space, changing human politics for ever.

The Second Kafer War (2322-2340) differed greatly from the First in its intensity, duration and extent. Intermittent skirmishes had continued since 2308, but almost as if by agreement Kafers and humans each kept to their own side of Arcturus. In 2322, Total Supremacy led a coalition of Kafer groups up the French Arm, into a human space grown

complacent in its prosperity. Kafer warcraft entered the Solar System in numbers for the first time in 2324, and the resulting carnage involved ships of all the spacefaring Terran nations. Throwing the Kafers back from human space took a generation, and cost over 200 million lives in battle-related deaths alone - not counting many more killed indirectly by famine and disease.

Almost unnoticed in the background was the *Bayern* mission's first contact with the Greys, and the evidence of a great (and perhaps ongoing) war between advanced ancient civilisations.

Foundations of Empire: 2340-2350

The tremendous losses of the Second Kafer War, both in personnel and materiel, triggered a both a sharp, severe recession, and a general feeling throughout humanity of "never again". The war had served to clarify and prioritise the central problem of the day: How was humanity to survive in a potentially hostile universe? Victory had required humanity to organise on an interstellar level, forming a coalition of states with the necessary multi-national military and administrative structures. As the major starfaring powers, America, France and Manchuria were the most powerful members of the Coalition; America gradually took the lead, while France slowly fell into third place in the inner circle - some historians speculate that after the military junta and the Third Empire, for nearly 60 years France had not had the multiple internal parties which would have given her leaders practice in Coalition politics, whereas on the other hand American politicians were particularly accomplished at making inter-party deals to reach their goals.

Four factors now combined to nudge the infant interstellar state towards an Imperial form:

Firstly, the Kafer bombardments during the late 2320s had left Earth with a shattered ecology, and a landscape of ruins. The smouldering scars where proud cities had once stood were visible from the Moon. The need to co-ordinate the reconstruction on a global level forced the Coalition more and more into the role of a world government. By the early 2340s, industrialisation, bombardment and tailored plagues had damaged Earth's ecology to the point that it was no longer self-sustaining, so that only constant human intervention using Pentapod constructs kept the planet habitable; and the retreating Kafers had left small war bands behind, throughout the Solar System and the French Arm.

Secondly, pre-starflight Earth had enjoyed direct sea and air routes by which any city could reach any other. The Coalition had essentially linear communications and trade routes - the three Arms of human space - much like the Silk Road or Roman sea routes of ancient times.

Thirdly, Earth's previous four-layer political structure (global, regional, national and local) was now obsolete. The anagathic drugs first introduced in 2264 had now been in use for nearly a hundred years by some of Earth's richest citizens. Power and wealth were becoming concentrated in the hands of a few virtual immortals; the political arena was reverting to a two-layer structure - the normal-lifespan 'Ephemerals' on the one hand, and the anagathic-using 'Immortals' on the other, matching the division of the ancient world into the village peasants, and nobility in the towns. Immortal influence gradually slowed technical progress and made society ever more conservative in its outlook.

Finally, contact with the Vilani Ziru Ssirka ('Grand Imperium of Stars') made it clear to the Coalition that they were trapped between hostile Kafers on one side, and a huge and ancient empire on the other. To a generation raised and trained for war, it was clear that Terran humanity would be exterminated by the Kafers, absorbed and enslaved by the Vilani, or become strong enough to fight both and win. They chose to be strong, and Coalition policies began leaning towards expansion and outright fascism. A massive military buildup and an equally huge exploration and colonisation effort made it seem that humanity was playing Go on an interstellar scale, with colonies as the pieces and local space as the board.

The combination of these factors made it gradually apparent that the nation-states and democratic processes which had served Earth's people well for centuries were no longer relevant in an interstellar age. Although it would be nearly a century before the term was used, historians date the beginning of the Terran Empire from 2350, by which point these trends were shaping human interstellar government into a militaristic, feudal aristocracy dominated by wealthy Immortals.

History 2350-3000 AD

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This is how the period 2350-3000 unfolds in my *Traveller* universe. Your Mileage May Vary, especially if you are using plain vanilla *Traveller*. My timeline reverts to *Traveller* canon after 3000 AD or so; *White Dwarf* readers may be interested to know that the Terran Empire was the game background for many of the *WD Traveller* articles...

2350-2450: Coalition to Empire

Although historians date the beginning of the Terran Empire from 2350 AD, it did not use that name for itself until a century later, initially referring to itself as the Coalition, a name probably developed by journalists looking for a shorthand way to describe the concerted effort against the Kafers.

By the close of the Second Kafer War in 2340, humanity felt backed into a corner - there were Kafers at the end of the French Arm, Vilani at the end of the Chinese Arm, and the American Arm was for all practical purposes a dead end pending some miraculous breakthrough in FTL drive technology.

The popular feelings of the time are perhaps best captured in Noguchi's classic bronze sculpture, *Never Again*, which depicts a screaming Kafer raising its weapon high over a human woman collapsed on the ground, shielding a terrified infant with her body. Later, this was regarded in some circles as a propaganda piece, and it is true the Coalition funded it; but Noguchi always claimed he had sculpted from memory, and records prove he served as a soldier on Aurore. Copies of the sculpture are to be found in the main reception area of every Terran Empire starport; it is in stark contrast to the main artistic movement of the period, which drew its inspiration from Eber or Sung works, or from the rural forms produced by frontier colonists.

Through a hundred years of warfare and expansion, which saw the Kafer Genocide and the numerous Interstellar Wars with the Vilani, Coalition humanity developed a myth of Terran supremacy, a belief that Terran humans were somehow superior to other races, whose tyrannical cultures deserved to be conquered. The Kafer Genocide solidified this conviction, according to some historians as a means of relieving Terrans of any guilt they might otherwise have felt at wiping out an entire species. Kafers lived on in legend as bogeymen, and the discovery of a surviving Kafer enclave is a recurring staple of adventure fiction.

At first this myth was fuelled by a series of Coalition successes; later, the psychological effects on both Terrans and Vilani contributed to further Coalition victories. Since the Coalition's best commanders were given anagathics to maintain their usefulness in the field, they survived well beyond the initial campaigns; this further increased the mystique of elite Terran units, and the popular support enjoyed by these officers is widely credited with their eventual elevation to the Imperial nobility.

In hindsight, the Terran success is largely attributable to Pentapod and Ylii support against the Kafers, and the general enfeeblement of the Vilani empire, whose gigantic imperial buildings, poverty-stricken masses, and archaic, artificial art forms point to a moribund culture.

2450-3000: The Terran Empire

Up to the mid-25th century, Terrans still saw themselves as members of their various nations and corporations, owing allegiance to their military leaders and colonial governors as individuals, and in a vague, abstract way to humanity as a whole. However, the political reforms of the 2440s and 2450s formalised and ratified the *de facto* state of affairs: An Imperial state, ruled by an hereditary nobility, most of whom had free access to anagathic drugs and a lifespan far in excess of that enjoyed by the ephemeral masses. The longer they stayed in power, the more experienced they became, and thus the more adept they were at retaining control. The continued presence of an external enemy united Terrans until they had come to accept this state of affairs as normal - in fact, there is some evidence that towards the end of the Interstellar Wars hostilities continued primarily because of the political needs of the Terran nobility.

Government

The politics of the Terran Empire are mandated by the nobility's widespread use of anagathic drugs, and are characterised by expansionism, conservatism, and balkanisation.

The Empire is expansionist, because there must be new fiefs for new generations of nobility. As the elder nobles are anagathics users, and so do not die, their heirs cannot inherit. The alternatives to expansion are assassination and civil war, which are sometimes seen in the Imperial Core, but are rare on the frontiers.

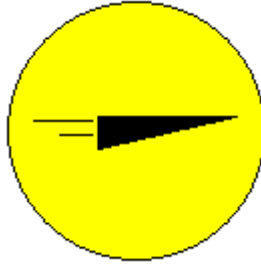
The Empire is conservative, because long-term anagathics users tend to extremes of risk-taking or risk avoidance. Over a period of centuries, the ones who take risks die at an earlier age than those who don't, and so the Imperial nobility becomes gradually more averse to change and the risk it brings.

The Empire is balkanised, because the nobility cannot agree on how planets should best be run. The compromise which has been reached is that what any planetary ruler does within 10 diameters of his world's surface is his own business; anything beyond that range is governed by Imperial Law. This is why there are such a wide range of government types, law levels, and technological levels in the Empire.

Terrorist organisations in the Empire are dedicated to overthrowing or assassinating the immortal nobility, and differ mainly in the alternative form of government they propose should they succeed.

In most times and places, the Empire is firm but fair, although non-humans are seen as second-class citizens at best, and a potential threat to be eliminated at worst. However, the treatment a traveller receives depends on the whims and vagaries of the local nobility, so this is a dangerous generalisation.

The Imperial logo is a yellow sun - symbolising Sol - on a black field, with a starship flying across it from left to right. The ship is the characteristic folded-arrowhead design of streamlined Imperial vessels, and is trailed by two 'whiz lines'. The basic logo sometimes has an additional symbol added to identify a particular unit; for example, shoulder patches worn by personnel of the Maat Subsector Fleet have a stylised ostrich plume superimposed on the standard symbol.



The Military

The Imperial Terran Space Navy has two main roles. Firstly, to defend the realm against external aggression; and secondly, to act as a 'cultural bridge', unifying the many and diverse worlds of the Imperium. Naval uniforms are midnight black with gold piping and white hats. Sector Fleets are equipped to tech level 15 levels, and used as strike or reaction forces; subsector fleets are equipped to tech level 11-12 levels, and used for local security and piracy suppression. Piracy is normally a covert disagreement between nobles or shipping lines.

The Imperial Marines are primarily intended to deter rebels or invaders from action against the Empire. This limits them mainly to spaceborne missions, as what happens within 10 diameters of a world's surface is the planetary ruler's problem - unless he specifically asks for help, or rebels. Marines wear 'smart uniforms', able to take on a variety of camouflage patterns or the maroon and light blue of parade dress. Marine units may be light infantry or heavy infantry; light infantry are equipped to tech level 11-12 standards (advanced combat rifles or gauss rifles and combat armour), and heavy infantry are equipped to tech level 15 standards (powered armour and plasma guns). Marine operations are characterised by speed and overwhelming firepower, and only authorised in the case of a threat to the realm. Exactly what constitutes a threat to the realm is left to the discretion of the Subsector and Sector Dukes. Marines are also taught a 'battle language' which is suited to discussing tactical problems and easily understood when shouted down a radio amid static and gunfire; this is actually a debased form of the Kafer language.

The Imperial Terran Scout Service is essentially an advance guard for the empire's expansion; exploration and contact are carried out mainly to identify suitable new fiefs. Officially the dress uniform is a black flight jacket and calf-length black boots worn over dark blue trousers or flight suits - scouts refer to this as 'the black and blue', and half-humourously maintain that it symbolises the bruises they take in the Empire's name. In practice, scouts wear whatever they feel like and equip themselves as they see fit. They have a long-standing and bitter rivalry with the Marines, which is regularly discussed with boots and fists in starport bars. The ITSS also houses the Empire's primary intelligence organisation, the Covert Survey Bureau.

'The Army' is a general term applied to various planetary defence units and household troops. The quality of their manpower, equipment, leadership and tactics varies immensely from world to world.

The Empire's Merchant Marine is made up of a bewildering variety of shipping lines of all types and sizes. Imperial policy encourages trade as keeping the individual fiefs dependent on trade with each other makes it harder for them to rebel.

Law and Order

Within 10 diameters of a world's surface, its local laws prevail and local police have jurisdiction. Local laws are essentially at the whim of the local nobility.

Beyond this distance, Imperial law prevails, and is enforced by the Imperial military. In *Traveller* terms this is equivalent to law level 3. Imperial law also prevails inside every

starport in the Empire; this is so that there can be no doubt as to which laws apply at any point during a passenger's trip.

Imperial law and its enforcement are aimed at serious crimes such as murder or rebellion, and both deter others and prevent repeat offences by making a hideous example of the perpetrator. The Imperial Inspectorate or 'Earth Police' are charged with enforcing Imperial law, and their sweeping powers to dispense instant justice make their green, gold and black uniforms feared and grudgingly respected throughout the Empire. The Inspectorate has its own military starships and Marine forces, and is a second Navy in all but name, answering directly to the Emperor rather than to local Sector Dukes as does the Imperial Navy proper.

Technology

Despite their contempt for the Vilani, the increasingly aged and conservative Imperial nobility restrict technology much as the Vilani did in their heyday. At first this was indirect and probably unconscious - nobles in their second and third centuries lacked enthusiasm for rapid change, and simply did not fund it. By the early 26th century it was direct and conscious; each layer of Imperial nobility had access only to specific and rigidly defined technology. (*Referee*: In *Traveller* game terms, the maximum tech level a noble has access to is his Social Standing - e.g., a Marquis with Social Standing 13 has access to technology up to and including tech level 13, but may not employ better devices. The ephemeral proletariat are limited to tech level 10 at best, and their planetary ruler might well impose further limits.)

3000: The Long Night

Aggression, willpower, and anagathics can only take a people so far. Conquering a Vilani empire hundreds of times the size of the former Coalition territories did not automatically imbue the Terrans with the ability to administer it. Without a credible external enemy to bind it together, the Terran empire fragmented into a myriad of successor states, each ruled by a handful of noble families.

One such state was the Solomani Confederation, also known as the Terran Confederation; this 'pocket empire' was the Aslan Hierate's main opponent in the Aslan Border Wars of the 3400s, and has been rightly described as "neither Terran nor a Confederation".

As these states squabbled amongst themselves and fragmented still further, interstellar civilisation collapsed; it did not rise again until 4518 AD, with the inauguration of the Third Imperium.

2300 AD/Traveller Conversion Rules

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These house rules came about after the demise of Classic *Traveller* and the emergence of 2300 AD, and were used to keep my *Traveller* campaigns going with a rules set that was quick, clean, easy to learn and use, and freely available to new players. Sadly, 2300 AD is no longer in print, but in many ways it is the rules set which best matches my style of play. I hope to see it properly in print again someday, although since 2002 reprints have been available from Far Future Enterprises at <http://www.farfuture.net>.

Generating and Running New Characters

Character generation, combat, equipment, skills and task resolution are as per 2300 AD. Treat a *Traveller* Credit as being worth one 2300 AD Livre.

Where careers give a character languages, English or French become Anglic (unless a character receives both, in which case the second one is treated as Vilani). Other languages commonly known are Darrian, Gurvin (the lingua franca of the Hive Federation), Gvaegh (Vargr), Trokh (Aslan), and Zhodani.

Human Characters

If using the full character generation rules, human characters must have Normal body types. Human states normally use Anglic as the language of government and trade; human PCs know Anglic as their native language.

Human characters are commonly of mixed Solomani/Vilani descent, but may be pure-blooded Solomani or Vilani, Darrians, Sword Worlders, Zhodani, or members of minor human races. When drawing motivation cards for Zhodani, note that most face cards are considered mental illness in the Zhodani Consulate, and will result in re-education by the Tavr'chedle (Thought Police) - at least, if they catch you...

Aslan Characters

Aslan are lionlike aliens with a samurai culture. If using the full character generation rules, Aslan characters must be Mesomorphs; if using the fast generation house rules, Aslan add 4 to Strength and 2 to Endurance, but deduct 2 from Dexterity, and mass 35 kg more than a human of the same attributes. Aslan have dewclaws which do Normal damage in melee, rather than Stun or Blunt Trauma. Male Aslan may only enter Military careers. Aslan know Trokh as their native language.

When drawing motivation cards for Aslan NPCs, note that any Aslan with a 'dishonourable' motivation is either an outcast from his clan, or will be as soon as they discover his motivation. Dishonourable cards are the king of spades (deceit) and any diamond except the Ace (generosity).

Droyne Characters

Droyne are small aliens, resembling bird-like lizards with vestigial wings. They are not suitable for use as player characters.

Gurvin Characters

Gurvin are six-limbed, bearlike aliens who serve the Hive Federation as merchants and businessmen. Their language has become the Federation's language of rule. Gurvin characters are generated in the same way as humans, except that after all dice are rolled or points allocated, Gurvin males halve their Intelligence attribute. This also reduces their Education.

When drawing motivation cards for Gurvin, treat the highest card drawn as a Diamond, whatever its actual suit. Gurvin are therefore very concerned with money, and tend to put

most of their skill points into Appraisal, Bargaining or Trader skills; this in turn predisposes them to the Core Worker and Independent Trader careers, where these are Primary skills.

Hiver Characters

Hivers are starfish-like aliens driven by curiosity and a strong parental instinct; they have a reputation for cowardice and meddling. If using the full character generation rules, Hivers must be Ectomorphs. If using the fast generation house rules, Hivers add 3 to Dexterity but deduct 2 from Strength. In either case, Hivers weigh 50 kg more than a human with the same attributes. Hivers have no spoken language, and communicate by touch, scent and gesture; however, the Hive Federation uses Gurvin as a lingua franca. Hivers may not pursue Military careers.

When drawing motivation cards for Hivers, ignore all face cards and diamonds. Clubs indicate the Hiver's ability to overcome its dislike of physical violence, with higher values meaning it is more used to the idea. Spades measure curiosity rather than ambition. Hearts measure the parental instinct.

Ithklur Characters

Ithklur are reptilian aliens with a culture vaguely resembling Zen Buddhism as interpreted by Monty Python; they are the Hive Federation's elite ground troops. If using the full character generation rules, Ithklur characters must be Mesomorphs; if using the fast generation house rules, Ithklur add 4 to Strength and 2 to Endurance, but deduct 2 from Dexterity, and mass 35 kg more than a human of the same attributes. Ithklur may only enter Military careers; when drawing motivation cards, ignore face cards. Ithklur have two native languages; Ithklur, and Gurvin (the lingua franca of the Hive Federation). They make a point of speaking Gurvin badly.

K'Kree Characters

K'Kree are centaur-like aliens; they are herd animals and militant vegetarians. They are not suitable for use as player characters.

Vargr Characters

Vargr are wolflike aliens with a reputation for piracy and impulsiveness. If using the full character generation rules, Vargr must be Ectomorphs. If using the fast generation house rules, Vargr add 3 to Dexterity but deduct 2 from Strength, and mass 20 kg less than a human of the same attributes. Vargr know Gvaegh as their native language.

Converting Traveller Characters

Characteristics

In general, characteristic names are the same in both systems.

Social Standing and Eloquence are treated as equivalent as their basic game function - persuading NPCs to do what you want - is the same.

2300 AD Size is derived from body type and Strength, so can be worked out normally.

2300 AD Determination can be treated as equal to Intelligence, Endurance or the average of the two, depending on how you see it. My personal preference is to rate it at the same level as Endurance, which is the closest match to the original (1977) *Traveller* rules.

To convert characteristics, you can work out the exact probabilities of each value under each system, but frankly just adding three to the *Traveller* value gets you pretty close to the 2300 AD value, and that's the method I normally use.

Skills

Skill names are much the same in both systems. Based on the % chance of success at a Routine task, Classic *Traveller* and *2300 AD* skill levels are roughly equal; if converting characters from *MegaTraveller*, *Traveller: The New Era*, or *Traveller 4th Edition*, deduct one from the *Traveller* skill level to reflect the fact that tasks are easier in those systems.

The table below shows *2300 AD* skills and their equivalents in *Traveller*. As I didn't play *MegaTraveller* or *Traveller: The New Era* for very long, there were no characters worth converting, so I never developed specific skills conversion lists for them.

Traveller Book 1 Only	Full Classic Traveller	2300 AD
Administration	Administration	Bureaucracy (and Trader, for Book 1 PCs only).
Air/Raft	Grav Vehicle	Aircraft Pilot
ATV	Vehicle (Tracked / Wheeled)	Ground Vehicle
-	Battle Dress	Combat Walker and P-Suit
Blade Combat (all)	Blade Combat (all)	Melee
Brawling	Brawling	Melee
Bribery	Bribery	Subsumed in Eloquence
-	Broker	Trader
-	Carousing	Subsumed in Eloquence
-	Combat Engineering	Engineering, if learned in Ground Military career
-	Communications	Communications
Computer	Computer	Computer
-	Demolitions	Demolitions
Electronic	Electronic	Electronic
Engineering	Engineering	Ship Drive Engineering
-	FA Gunnery	-
-	Fleet Tactics	Tactics, if PC's career was Ship Crew or Space Military
-	Equestrian	Riding
Forgery	Forgery	Forgery
Forward Observer	Forward Observer	Forward Observer
Gambling	Gambling	Gambling

-	Gravitics	-
Gun Combat (Auto Pistol, Body Pistol, Revolver)	Gun Combat (Handgun, Pistol)	Sidearm
Gun Combat (Auto Rifle, Carbine, Laser Rifle, Laser Carbine, SMG, Shotgun)	Gun Combat (Combat Rifle, Laser Weapons, SMG)	Combat Rifle
Gunnery	Gunnery (Meson Weapons, Ship's Energy Weapons, Ship's Lasers, Ship's Particle Accelerators)	Gunner
Gunnery	Gunnery (Ship's Missiles)	Remote Pilot
-	Gunnery (Screens)	-
-	Heavy Weapons (All)	Heavy Weapons
-	Hunting	Hunting and Tracking
-	Instruction	-
-	Interrogation	Interviewing
Jack Of Trades	Jack Of Trades	-
Leader	Leader	Leader
-	Legal	-
-	Liaison	Subsumed in Eloquence
Mechanical	Mechanical	Mechanical
Medical	Medical	Medical or First Aid
-	Melee Combat	Melee
-	Naval Architect	-
Navigation	Navigation	Sensors
Pilot	Pilot	Pilot, and Aircraft Pilot at one level lower
-	Prospecting	Prospecting
-	Recon	Reconnaissance
-	Recruiting	Subsumed in Eloquence
Ship's Boat	Ship's Boat	Aircraft Pilot

-	Ship Tactics	Tactics, if PC's career was Ship Crew or Space Military
Steward	Steward	-
Streetwise	Streetwise	Streetwise
-	Survey	-
-	Survival	Survival
Tactics	Tactics	Tactics
Vacc Suit	Vacc Suit	P-Suit
Vehicle (Grav Belt)	-	-
Vehicle (Ground Car)	Vehicle (Wheeled)	Ground Vehicle
Vehicle (Hovercraft)	Vehicle (Hovercraft) or Water Craft (Hover)	Hover Vehicle
-	Vehicle (LTA Craft)	LTA Vehicle
Vehicle (Watercraft)	Vehicle (Small Water Craft) or Water Craft (Any)	Sea Vehicle
Vehicle (Winged Craft)	Aircraft or Vehicle (Any Aircraft)	Aircraft Pilot
-	Zero-G Combat	-

Notes

Book 1 Vehicle skills are not listed in the 1977 edition, but do appear in the 1981 edition. 'Full Classic Traveller' means the character generation systems presented in Books 1, 4, 5, and 6, Supplement 4, and Special Supplement 1.

Converted characters should be given Combat Rifle-0, Melee-0 and Sidearm-0 to represent the 'skill level 1/2 in all weapons' enjoyed by *Traveller* PCs. They should also be given the initial skills for the appropriate career.

While *Traveller* characters must specialise in a specific Heavy Weapon, *2300 AD* characters are equally skilled with all.

There are no *2300 AD* equivalents to the *Traveller* skills of Bribery, Carousing, Instruction, Liaison, Recruiting or Steward. These skills are similar in their effects to the Eloquence characteristic in *2300 AD*. There is also no *2300 AD* equivalent to Jack of All Trades skill, although since *MegaTraveller* uses it to make it easier to retry a failed task, you could argue that it is similar to the Determination characteristic.

Pilot and Ship's Boat skills are related in *Traveller*, but Pilot and Aircraft Pilot are not in *2300 AD*. *Traveller* characters can use Pilot as Ship's Boat of one skill level lower, hence converted characters also have Aircraft Pilot.

If a character gets the same skill as an initial skill from the appropriate career, and also from a converted *Traveller* skill, use the higher of the two skill levels (e.g. a character with Rifle-3 converted to a Ground Military career would get Combat Rifle-2 from the career, and Combat Rifle-3 from his skill; he has Combat Rifle-3 when converted). If

several *Traveller* skills all convert to the same 2300 AD skill, use the highest *Traveller* skill level (e.g. Brawling-2 and Cutlass-3 convert to Melee-3.)

Other Attributes

Mercenary and *High Guard* generate characters with medals. The SEH is worth 3 Renown Points, the MCG is worth 2, and the MCF is worth 1. Purple hearts and CSRs are too common to give a character Renown.

If the character has a Morale rating (explained in *Mercenary*), it becomes his Coolness Under Fire. Otherwise, Coolness Under Fire is generated in the normal way, i.e. roll 1D6 and add +1 per turning point in a military, law enforcement, field agent or extralegal career.

Example Character

Shel Meldol (Book 1)

Before conversion: 797AC8; Scout 3 terms. Electronic-1, Jack Of Trades-1, Pilot-2, Vac Suit-1.

By the 'add 3 points' rule, this gives him Size 10, Strength 10, Dexterity 12, Endurance 10, Determination 10, Intelligence 13, Eloquence 11, Education 15.

Ship Crew, Scout or Contact careers would be suitable; the best fit to Shel's established past as a courier pilot is Ship Crew. This gives skills of Computer-0, Melee-1, Pilot-0, P-Suit-1, Ship Drive Engineering-0, and Survival-0.

The *Traveller* skills convert to Aircraft Pilot-1 (from Pilot), Combat Rifle-0, Electronic-1, Melee-0 (superceded by the Melee-1 from Initial skills), Pilot-2 (superceding the Pilot-0 from Initial skills), P-Suit-1 (superceding the P-Suit-1 from Initial skills), and Sidearm-0. Jack Of Trades is dropped as it has no equivalent - an alternative would be to increase Shel's Determination by this amount, but it would have no game effect as it would not take the attribute over a break point.

Shel's complete converted skill list is therefore Aircraft Pilot-1, Combat Rifle-0, Computer-0, Electronic-1, Melee-1, Pilot-2, P-Suit-1, Ship Drive Engineering-0, Sidearm-0, Survival-0.

Shel has no medals (you don't get them in the Scouts), and so no Renown. Under *Mercenary* his Morale (and thus his Cool) would be generated by rolling 1D6.

Psionics

Ah, now that would be telling!

Equipment

Normally I convert these by function rather than specifically looking at statistics. For example, the Skyhopper Jetpack and Grav Belt serve the same game function, although the technology and statistics are wildly different.

Antigravity versions of any 2300 AD hover vehicle can be bought at ten times the hovercraft's list price; the antigrav versions are operated using Aircraft Pilot skill.

Worlds

Starport

2300 AD Core worlds have A class starports. Frontier worlds have class B-D starports - B if heavy colonisation, C if medium colonisation, D if light colonisation. Outposts have class E starports. Class X starports are not on the normal trade routes.

Size

This is used as it stands to describe world diameter.

Atmosphere

This determines the gravity, world type, and protective gear required. For purposes of this table, 'Garden' includes Pre-Garden, Garden, Glacier and Post-Glacier worlds. The costs of filter masks are subsumed in upkeep.

#	Description	Gravity	World Type	Protection Required
0	None	Zero	Iceball or Rockball	P-Suit
1	Trace	Zero	Failed Core	P-Suit
2	Very Thin, Tainted	Zero	Desert	Respirator
3	Very Thin	Zero	Desert	Respirator
4	Thin, Tainted	Low	Garden	Filter Mask
5	Thin	Low	Garden	None
6	Standard	Normal	Garden	None
7	Standard, Tainted	Normal	Garden	Filter Mask
8	Dense	High	Garden	None
9	Dense, Tainted	High	Garden	Filter Mask
A	Exotic	Not Zero	Garden	Respirator
B	Corrosive	Not Zero	Hothouse	Hostile Environment Suit
C	Insidious	Not Zero	Hothouse	Hostile Environment Suit

Where the atmosphere type alone is not enough to determine gravity, assume that worlds of size 0-3 have Zero gravity, 4-7 have Low gravity, 8-9 have Normal gravity, and A have High gravity.

Hydrographics

These are the same in both systems.

Population

Population 0-3 worlds are Outposts. Population 4-8 worlds are Frontier worlds. Population 9-A worlds are Core worlds.

Government

This is used as it stands to describe the local government. In 2300 AD, most human worlds are government type 6 (colony) or 7 (balkanised); Kafer worlds are always government type B (non-charismatic dictator).

Law Level

This is used as it stands to describe the local laws.

Tech Level

Humanity in 2300 AD is on the cusp between *Traveller* tech levels 11 and 12. The majority of technology is TL 11, with occasional TL 12 items, especially in the field of personal weapons.

2300 AD to GURPS Traveller Conversion Rules

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Background

Nationality, homeworld, gravity, frontier/core, gender, birthdate, age and career(s) are unaffected. Languages are known at IQ level as is your native language under *GURPS*, but only your native language is free.

Money: Treat each available Livre as \$3.

Attributes

2300 AD	GURPS Traveller	2300 AD	GURPS Traveller
Size	Figure height and weight as if your Size were your ST.	1-3	8
Strength (use Normal gravity value)	ST	4-7	9
Dexterity (use Normal gravity value)	DX	8-11	10
Endurance	HT	12-15	11
Determination	Will - apply Strong Will or Weak Will to give correct value for Will roll.	16-19	12
Intelligence	IQ	20	13
Eloquence	1-3: -2 reaction (select disadvantage to suit). 4-7: -1 reaction. 8-11: No effect. 12-15: Charisma +1. 16-19: Charisma +2. 20: Charisma +3.		
Education	No equivalent.		

Examples: A character with Strength 17 in 2300 AD has ST 12 in *GURPS Traveller*. A character with Determination 17 and Intelligence 11 in 2300 AD has IQ 10 and Strong Will +2 in *GURPS Traveller*.

Secondary Attributes

2300 AD	GURPS Traveller
Body Type	Subsumed in height and weight.
Eyesight	Poor becomes Bad Sight; Average has no effect; Excellent becomes Acute Vision +1; Exceptional becomes Acute Vision +2.
Hearing	Poor becomes Hard of Hearing; Average has no effect; Excellent becomes Acute Hearing +1; Exceptional becomes Acute Hearing +2.
Appearance	Unattractive becomes Ugly (-2 reaction); Plain becomes Unattractive (-1 reaction); Good-Looking has no effect; Attractive becomes Attractive (+1 reaction); Sensational becomes Handsome (+2 reaction).
Coolness Under Fire	Coolness less than 4 becomes Combat Paralysis; Coolness greater than 6 becomes Combat Reflexes.
Encumbrance	Use GURPS rules based on converted ST.
Throw Range	Use GURPS rules based on converted ST.
Renown	Each Renown Level (i.e. each four Renown points) becomes a +1 Reputation.
Infamy	Each Infamy Point becomes a -1 Reputation.
Experience Points	If any are left over, treat them as unspent GURPS Character Points.

Social Class (Optional, from article in Challenge 44)

2300 AD	GURPS Traveller
1-2	Status -1
3-6	No effect
7-8	Status +1
9	Status +2 or better

Skills

Skill Levels

Simply adding 10 to the 2300 AD skill level gives a skill level with a roughly equivalent chance of success (within plus or minus 5%) at a Routine task.

Example: Skill level 2 in 2300 AD is equivalent to skill level 12 in GURPS Traveller.

Skills

2300 AD	GURPS Traveller
Aircraft Pilot	Piloting (type)
Anthropology	Anthropology
Appraisal	Merchant
Astronomy	Astronomy
Bargain	Merchant
Biology	Biology
Bureaucracy	Administration
Chemistry	Chemistry
Combat Rifleman	Guns (Rifle)
Combat Walker	Battlesuit
Communications	Electronics Operation (Comms)
Computer	Computer Operations
Demolitions	Demolition
Disguise	Disguise
Electronic	Electronic Operations
Engineering	Engineer
First Aid	First Aid
Forgery	Forgery
Forward Observer	Forward Observer
Geology	Geology
Ground Vehicle	Driving (type)
Gunner	Gunner (Ship's Lasers)
Heavy Weapons	One or more of Gunner (Plasma Gun), Gunner (Machinegun), and Gunner (Antivehicle Missile).
History	History
Hover Vehicle	Driving (Hovercraft)
Hunting	Tracking

Imaging	Photography
Information Gathering	Research
Interviewing	Detect Lies (and possibly Interrogation)
Leader	Leadership
Linguistics	Linguistics, and one additional language at IQ per level of Linguistics
LTA Vehicle	Piloting (LTA Craft)
Mechanical	Mechanic
Medical	Diagnosis, Physician and Surgery
Melee	One or more of Boxing, Brawling, Judo, Karate, and any type of Ancient/Mediaeval Hand Weapon.
Pilot	Piloting (Starship)
Physics	Physics
P-Suit	Free Fall-12 plus Vacc Suit
Prospecting	Prospecting
Psychology	Psychology
Reconnaissance	Tracking
Remote Pilot	Gunner (Ship's Missiles)
Riding	Riding (type)
Sea Vehicle	One or more of Boating, Powerboat, and Seamanship.
Security Systems	Electronics Operation (Security Systems)
Sensors	Electronics Operation (Sensors)
Ship Drive Engineering	Engineer
Sidearm	Guns (Pistol)
Stealth	Stealth
Streetwise	Streetwise
Survival	Survival
Swim	Swimming
Tactics	Tactics

Theoretical Sciences	Engineer
Thrown Weapon	Throwing
Tracking	Tracking
Trader	Merchant
Writing	Writing

Worlds

These convert more easily to *GURPS Space* than to *GURPS Traveller*; if you want to convert to *Traveller* directly use the *Traveller to 2300 AD* conversion rules.

Settlement Type

2300 AD	GURPS Space
Core	PR 9 or more
Frontier	PR 4 to 8
Outpost	PR 3 or less

World Type

2300 AD	GURPS Space
Chunk	Asteroid
Desert	Desert
Failed Core	Hostile
Garden	Earthlike
Gas Giant	Gas Giant
Glacier	Earthlike
Hothouse	Greenhouse
Iceball	Iceball
Post-Garden	Earthlike
Pre-Garden	Earthlike
Rockball	Rockball

2300 AD/ 3G³ CONVERSION RULES

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Greg Porter's *Guns! Guns! Guns!* (aka 3G³) is a weapon design system for any RPG, available from Hyperbooks at <http://www.hyperbooks.com>, or from the publishers, BTRC, at <http://www.btrc.net>. These guidelines allow you to design weapons in 3G³ and then rate them for use in 2300 AD. Note that you can't design real world weapons, or those from the *2300 AD Adventurer's Guide*, using 3G³ and match the numbers exactly, although you can get close to the actual statistics.

Conversion Rules

Tech Level

2300 AD does not have a strongly defined set of Technological levels, but these are needed in weapon design. The 3G³ Tech Level of the weapon can be up to 14, and is typically in the range 12-14, as shown in the table below.

3G3 Tech Level	2300 AD Technology	Examples
14	New Military	Current service rifles, FDLMS lasers
13	Old Military / New Civil	Surplus service rifles, LMS lasers
12	Old Civil	Civilian and hunting weapons

Note that when designing lasers, 2300 AD's flywheel-pumped HPGs should be treated as 3G³ superconductor loops. Capacitors are just too heavy.

Name

This is the common name of the weapon, e.g. "SK-19 (Sturmkarabiner-19)".

Type

This is a general description of the weapon, e.g. "9mm binary propellant assault rifle with integral 30mm grenade launcher".

Country

This is the weapon's country of origin, e.g. "Germany" or "Generic".

Weight (Empty)

This is the empty weight of the weapon in kg, and is whatever the final 3G³ empty weight comes out as. Round to the nearest 0.1 kg.

Length

This is the weapon's length in cm, and is whatever the 3G³ design says it should be. Round to the nearest whole centimetre.

Bulk

Bulk is the weapon's length in feet, rounded down; e.g., the SK-19 is 75 cm long, or 2.461 feet, giving it a bulk of 2. This can be approximated as half the 3G³ bulk, rounded down. Note that:

Plasma guns are bulkier than their length alone would indicate, and the Director should feel free to increase their Bulk by one point.

Melee weapons are often handier than their length alone would indicate, and the Director should feel free to reduce their Bulk by one.

Action

This only applies to ranged weapons, and will always be one of the following:

Single shot, which is equivalent to $3G3$ RV/n, SS/n, SA/t, LA/t, or B/t.

Single shot or bursts, which is equivalent to $3G3$ AT/t or AB/t.

Ammunition

This only applies to ranged weapons, and is whatever the designer has chosen for the weapon, e.g. "9x12mm APHE".

Muzzle Velocity

This only applies to ranged weapons, and is whatever the $3G^3$ calculations produce. It is quoted in metres per second, e.g. "700 mps (area fire 400 mps)". Round to the nearest whole metre per second.

Magazine

Where applicable, this is the type and capacity of the magazine, e.g. "50 round box magazine with integral propellant gas bottle; separately loaded internal catalyst gas bottle with charge for 600 aimed shots or 200 bursts" or "60 round box magazine".

Note that for standard *2300 AD* lasers, batteries are $3G^3$ 'external magazines'.

Magazine Weight

Where applicable, this is usually whatever the $3G^3$ calculations produce. Note however that FDLMS and LMS batteries in *2300 AD* are much lighter than their $3G^3$ equivalents, and their weights should be divided by five.

Round to the nearest 0.1 kg.

ROF

Where applicable, this is the weapon's Rate Of Fire in aimed shots (or bursts) per 30 second combat turn, *not* per action. It depends on the weapon's $3G3$ Action:

Large-bore semi-automatics and single-action revolvers have ROF 1.

Pump, lever and bolt actions have ROF 2.

Semi-automatics and double-action revolvers have ROF 3.

Automatics have a ROF equal to one-third of the weapon's $3G^3$ maximum rate of fire in rounds per second, rounded to the nearest whole number.

Aimed Fire Range

Where applicable, this is derived from the weapon's $3G^3$ Damage Range Class:

Damage RC	Typical For	Aimed Fire Range (Metres)
1	Snub-nosed pistols	100
2	Pistols	200
3	Carbines	400
4	Rifles	800
5	Light cannon	1,500
6	Medium cannon	3,500
7	Heavy cannon	6,500
8	Superheavy cannon	14,000

Modifiers: Shotgun pellets or flechettes, -85%; pistols, -80%.

Area Fire Burst

Where applicable, this is the number of rounds fired in a burst.

For semi-automatics and double-action revolvers, the AFB is always 3.

For automatics, the AFB is the $3G^3$ maximum rate of fire in rounds per second.

For lasers with more than one bank, the AFB is the number of banks.

Area Fire Value

Where applicable, this is one-tenth of the weapon's Area Fire Burst, rounded off to the nearest 0.25. *Example:* A semi-automatic with an Area Fire Burst of 3 rounds would have an Area Fire Value of 0.25.

Area Fire Range

This is 50% of the Aimed Fire Range for pistols, and 75% of the Aimed Fire Range for longarms.

DP Value

This is derived from the weapon's $3G^3$ Damage Value as follows:

$$DPV = 0.008 * DV^{1.12}$$

Example: A weapon with DV 15 would have DPV 0.2.

DPVs are rounded off to the nearest significant figure - for example, a weapon with a DV of 40 has a DPV of 0.4982, which is rounded to 0.5; one with a DV of 260 has a DPV of 4.0538, which is rounded to 4.0.

A *really* rough and ready approximation of DPV can be made for slugthrowers by taking DPV as one-tenth of calibre in mm for longarms, or one-thirtieth of calibre in mm for pistols, and rounding off to the nearest 0.1. This will almost always be within 0.1 of the

DPV calculated using the above equation. For example, a pistol firing 9mm Parabellum will have a DPV of roughly 0.3; a rifle firing 5.56mm NATO will have a DPV of roughly 0.6.

A hit from a shotgun firing pellets, or a continuous beam laser, indicates that 1D10 rounds have struck the target; roll for hit location and damage separately for each one.

The break-points for DV to DPV conversion are listed in the table below.

DV	1-5	6-13	14-21	22-29	30-36	37-43	44-50	51-57	58-64	65-71
DPV	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
DV	72-107	108-168	169-228	229-285	286-341	342-396	397-450	451-503	504-556	557-608
DPV	1.0	2.0	3.0	4.0	5.0	6.0	7.0	8.0	9.0	10.0

Price

This is one-third the calculated $3G^3$ price, to allow for one Livre being roughly equal to three 1980s dollars. Note that:

Laser pistols do not double their base cost as in $3G^3$; they cost the same as equivalent longarms.

Laser magazines ('cells') cost Lv 5 per kg.

For melee weapons, the prices in the *2300 AD Adventurer's Guide* are better approximated as the cube root of the $3G^3$ price. I justify the greater expense of $3G^3$ -designed melee weapons by claiming that they are made-to-order special items.

Melee Range

This only applies to melee weapons, and depends on weapon length. If a weapon is 40 cm long or less, its Melee Range is Short. If it is more than 40 cm long, its Melee Range is Long.

Melee Skill Modifier

This only applies to melee weapons, and is equal to 1.5 plus half the weapon's $3G^3$ Initiative value, rounded off to the nearest whole number.

EP

This only applies to explosives and plasma guns.

For explosives (e.g. grenades), calculate EP exactly as you would DPV. Any fragments have the DPV appropriate to their DV within the weapon's blast radius, and half that within twice the blast radius. *Example:* A TL 13 hand grenade has a DV of 66. This equates to a DPV of 1.6, rounded to 2.0; the grenade has EP 2. Its fragments have DV 16, giving a DPV of 0.4 within the blast radius; this is halved to 0.2 within twice the blast radius.

For plasma weapons, again calculate EP as if it were DPV. Plasma weapons have the 'special effect' that their strikes count as tamped explosions. If you were to design particle beam weapons using $3G^3$, this special effect would not apply to them. *Example:* A plasma gun with DV 192 has EP 2.6, rounded to 3; its attack is treated as a tamped explosion of EP 3.

Optional Attributes

Hit Bonuses

Guns in *2300 AD* don't normally have a bonus to hit, but $3G^3$ can design weapons which do. If you want to make use of this option, halve the $3G^3$ bonus and round down to get a *2300 AD* bonus.

Special Ammunition

Since *2300 AD* uses DPV for both armour penetration and damage, the DV of special rounds is the average of the DVs before and after armour penetration. Specifically:

- Hollow point rounds add 25% to weapon DV.
- Armour-piercing rounds deduct 25% from DV.
- Exploding rounds add 50% to DV.

Discarding sabot, multiple projectile, HE, shaped charge, self-forging, fragmentation, and stacked projectile rounds are handled as stated in $3G^3$. Remember that the majority of conventional guns in *2300 AD* use caseless discarding sabot rounds.

Examples

The half-dozen examples below are taken from *More Guns*, BTRC's weapons supplement for $3G^3$. This provides statistics for over 500 weapons, and the *2300 AD* statistics can be quickly converted from the *TimeLords* section of the supplement. I recommend it, as it will save you hours of design time.

Beretta 92

A typical 1980s automatic pistol, standard US issue.

Type: 9mm pistol. *Country:* Italy. *Weight:* 1.2 kg. *Bulk:* 0. *Action:* Single Shot. *Ammunition:* 9mm Parabellum. *Magazine:* 15 round box magazine. *Magazine Weight:* 0.3 kg. *ROF:* 3. *Aimed Fire Range:* 40 metres. *Area Fire Burst:* 3 rounds (AFV = 0.25). *Area Fire Range:* 20 metres. *DP Value:* 0.2. *Price:* Lv 240.

M-16

The standard US Army assault rifle since the 1960s, widely exported and beloved of movie heroes and villains.

Type: 5.56mm assault rifle. *Country:* USA. *Weight:* 4.1 kg. *Bulk:* 3. *Action:* Single shot or bursts. *Ammunition:* 5.56mm fixed cartridge ball. *Magazine:* 30 round box magazine. *Magazine Weight:* 0.5 kg. *ROF:* 3. *Aimed Fire Range:* 400 metres. *Area Fire Burst:* 10 rounds (AFV = 1.0). *Area Fire Range:* 300 metres. *DP Value:* 0.6. *Price:* Lv 503.

Screamer BM

A highly illegal, disposable holdout pistol. Fully sealed until the trigger is first pulled, when the barrel end and ejection port covers blow off, the Screamer delivers a few seconds of low damage autofire at a very high cyclic rate, and is then normally discarded; it cannot be reloaded. The price is normally much higher than the price listed below, which is what the weapon would cost if it could be bought legally.

Type: 2mm automatic pistol. *Weight:* 0.3 kg. *Bulk:* 0. *Action:* Bursts. *Ammunition:* 2mm Screamer. *Magazine:* 100 round internal belt. *Magazine Weight:* 0 kg (subsumed in weapon weight). *ROF:* 11. *Aimed Fire Range:* Not applicable. *Area Fire Burst:* 33 rounds (AFV = 3.25). *Area Fire Range:* 10 metres. *DP Value:* 0.2. *Price:* Lv 48.

Entiires C9

A civilian gauss pistol. Professional guns for hire consider it an executive toy, as you can have a Stracher P-11 doing twice the damage for the same money and less weight; its main redeeming feature is the large magazine capacity.

Type: 4mm gauss pistol. *Weight:* 1.7 kg. *Bulk:* 1. *Action:* Single Shot. *Ammunition:* 4mm gauss needles. *Magazine:* 100 round box magazine. *Magazine Weight:* 0.6 kg. *ROF:* 3. *Aimed Fire Range:* 40 metres. *Area Fire Burst:* 3 rounds (AFV = 0.25). *Area Fire Range:* 20 metres. *DP Value:* 0.4. *Price:* Lv 350.

Predator

A (barely) man-portable heavy weapon with backpack ammunition cassette; uses an integral laser sight to compensate for the fact that it is always fired from the hip.

Type: 5.56mm gatling gun. *Country:* America. *Weight:* 17.9 kg. *Bulk:* 2. *Action:* Bursts. *Ammunition:* 5.56mm fixed cartridge ball. *Magazine:* 1,000 round backpack cassette. *Magazine Weight:* 10.1 kg. *ROF:* 17. *Aimed Fire Range:* N/A. *Area Fire Burst:* 50 rounds (AFV = 5... "Nothin' coulda lived."). *Area Fire Range:* 600 metres. *DP Value:* 0.6. *Price:* Lv 1,647.

Katana

The traditional Samurai longsword, beloved of players everywhere. The price listed is for a newly-manufactured weapon; one with a history would be worth much more.

Length: 100 cm (Bulk = 3). *Weight:* 1.3 kg. *Melee Range:* Long. *Melee Skill Modifier:* +0. *DP Value:* 0.2 *Price:* Lv 587.

3G³ is BTRC's trademark for its universal gun and melee weapon design system; More Guns is BTRC's trademark for its universal gun and melee weapon design system supplement. The use of these trademarks should be construed neither as a challenge to their status, nor as implying sponsorship by BTRC.

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