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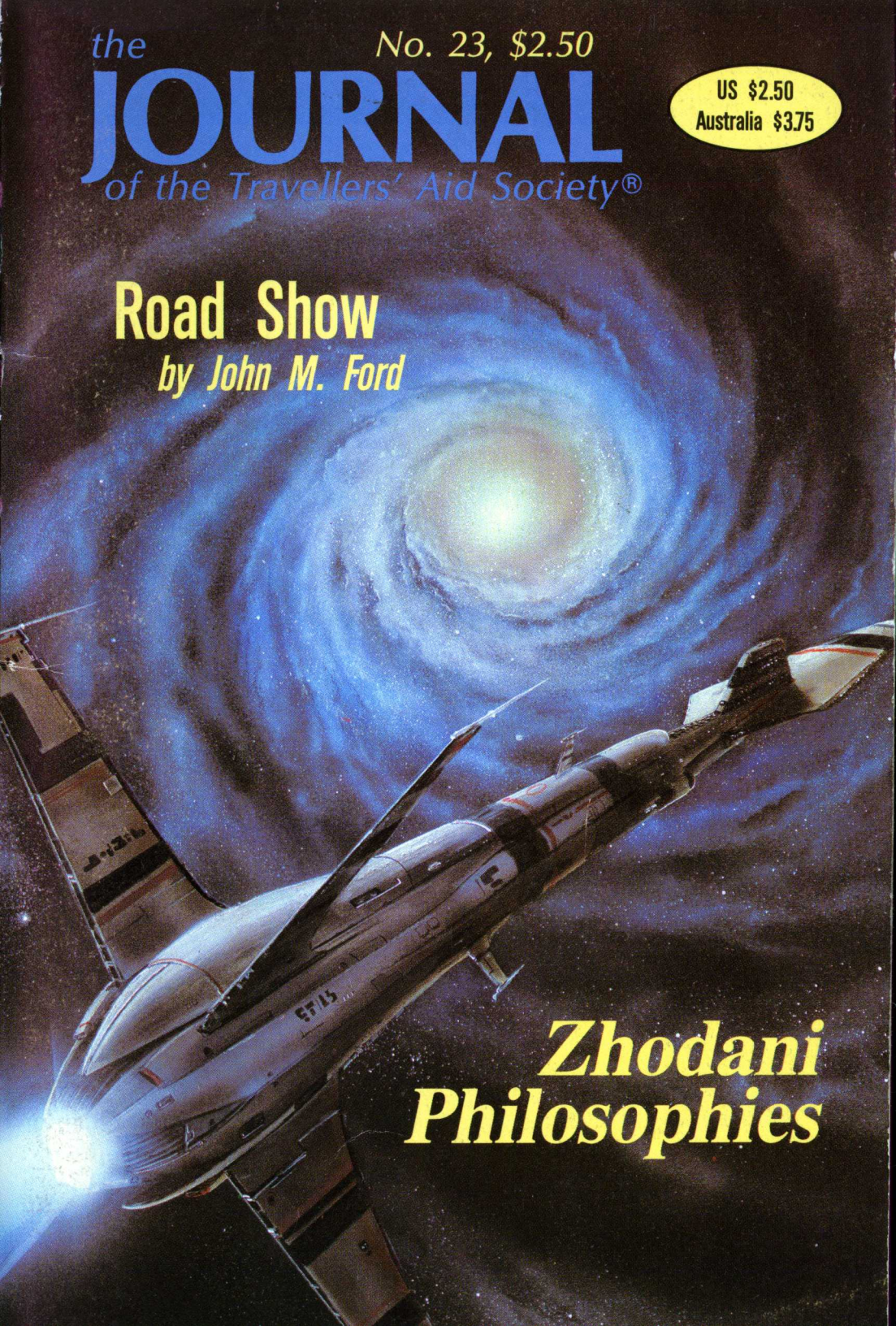
JOURNAL

of the Travellers' Aid Society®

US \$2.50
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Road Show

by John M. Ford



**Zhodani
Philosophies**

TWILIGHT: 2000™

A Major New Role-Playing Challenge: *Survival in a War-Torn World*

Welcome to 2000 AD. World War III began five years ago. It's still going on, but that's the least of your problems. A few days ago, you were soldiers in the U.S. 5th Division. Now you're just fighting to survive.

Your equipment was brand new in 1995; now it's wearing out. Gasoline is rare, so your vehicles run on alcohol you distill yourself. And 5th Division's cavalry—when there was a 5th Division—rode horses. There's not much government left, just warlords, marauders, and free cities. Even the major powers are collapsing; whole divisions are refusing orders and heading home.

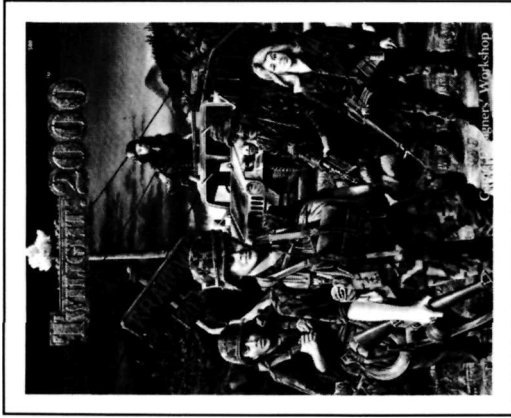
Your division is gone, and you're hundreds of kilometers inside enemy territory; fortunately, the Soviets aren't in much better shape than you are.

Your job is to stay alive, find enough fuel and spare parts to keep moving, get home (wherever that is), and maybe even strike at the enemy.

Twilight: 2000 is a major new roleplaying game, with new systems covering combat (from hands to tanks), skills and tasks, survival, encounters and NPC motives, and a great variety of equipment. It also contains extensive background information on the war and the current state of central Europe.

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Game Designers' Workshop



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The *Journal of the Travellers' Aid Society* is Game Designers' Workshop's registered trademark for its science fiction gaming magazine devoted to **Traveller**.

Traveller is Game Designers' Workshop's registered trademark for its role-playing game of science fiction adventure set in the far future.

Dates in this issue of the *Journal* are given in accordance to an arbitrary Imperial calendar of 365 days. The date consists of a three-digit day number (the current day of the year) a dash, and a four digit number (showing the current year since the founding of the Imperium).

The date of this issue is 180-1111, or the 180th day of the 1111th year of the Imperium.

The *Journal of the Travellers' Aid Society* is a science fiction magazine devoted to Traveller, GDW's role-playing game set in the far future.

Editor: Loren K. Wiseman

Spiritual Advisor: Marc W. Miller

Booklet Design and Layout: Loren Wiseman

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Artists in this issue: William H. Keith, Jr.— cover, pp. 6, 9, 12, 15, 18; D. J. Barr- pp. 33, 35; Liz Danforth- pp. 45; Clifford Van Meter- pp. 36, 39.

WINNER - H. G. WELLS AWARD: BEST MAGAZINE COVERING ROLE-PLAYING. 1979, 1980, 1981

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Advertisers should inquire for an advertising rate card.

Submissions: We welcome articles and illustrations for the *Journal*. Please inquire before submitting manuscripts, enclosing a stamped, self-addressed envelope; we will send manuscript guideline and format sheets. Foreign inquiries (except APO/FPO) please include International Reply Coupon.

From the Management

Here we go again! Another convention season approaches fast, and we here at GDW are already deep into the preparations necessary. It seems we only just recover from one when it's time to start thinking about the next. GDW as a whole (including Marc Miller and my humble self) will be attending Origins '85 in Baltimore and Gen-Con 18 in Milwaukee. Drop by our booth and offer to buy us lunch (well...drop by the booth, anyway). Certain individuals from the Workshop will possibly attend lesser conventions over the summer and fall, but we do not have a list of these available (mostly because attendance at a particular convention is often a last minute decision).

Here is an update on the new *Journal* format: issue number 24 will be the last one under the old format (so that the traditional four-issue anthology *Best of the Journal* can be issued for a complete four-issue volume). Number 25 will be the first issue of the new *Journal*. It won't really be a new magazine. We'll have to change the name (to include the other games we'll be dealing with), but we plan on keeping the same numbering system (that's why the first issue of the new format is number 25, not number 1).

With this in mind, I would like to pose the following question. What do you, the readers of the *Journal*, most want to see in the new format? The larger page size opens up wonderful vistas not available to us before. It was hard to do any decent sized map, deck plan or illustration in the old format without slopping over onto two pages and looking sloppy (except in certain rare cases, things printed on two separate pages seldom line up exactly). In addition, we will have the potential of larger diagrams, more informative and easier to read charts, wider columns (and fewer hyphenated words, which I personally find annoying), and more space generally. In the next couple of months, I extend an invitation to the readership to sound-off on what they would like to see in the expanded *Journal*. I would like to hear about **Traveller**, of course, but I'd also like to know what you'd like to see in the way of articles concerning our newest RPG, *Twilight: 2000*. We have a few ideas already in the works, but input from the readers is always valuable. After all, it is you we must please. In addition, needless to say, we will be needing articles on *Twilight: 2000*. If you like the game, and have something you feel other players might find valuable, write it up and send it in.

Ed Edwards has written to inform me that the mention of the **Traveller** Data Base Project in last issue's FTM has drawn an amazing number of inquiries and offers of help. For those of you who don't have last issue, TDBP is an effort create a central registry and listing of all sorts of information about **Traveller**, including a general index to the rules, a list of available products, a list of worlds and their UPPs, and numerous other items of great utility to players and referees alike. To find out more about the current status of this mighty undertaking, send a note to Ed at 1410 E. Boyd, Norman, OK 73071. As I

mentioned last issue, money for things like postage is in short supply, so for the sake of Ed's bank account, please send a stamped, self-addressed envelope with any request.

What Ed particularly needs is for those of you who write **Traveller** articles, either for professional magazines (such as *Space Gamer*, *Different Worlds* or *Dragon*) or in amateur publications (like club newsletters or fanzines), to let him know what, when, and where. Also, if you publish a small circulation **Traveller**-related publication, how about sending Ed a free copy? He can't afford to subscribe to all the magazines, even if he could read them all, and he needs help to make his listings as complete as possible. Your assistance will pay dividends.

As some of you may have already noticed (especially if you read *Just Detected* before you read this), there is a new **Traveller** magazine on the market called *Traveller Digest*. Details are included in this issue's *Just Detected*. The first issue looks very interesting (one of the advantages of being in this business is that you get to see all sorts of interesting things well ahead of everybody else). It is inexpensively produced, but is by no means cheap, and is one of the best efforts I have seen in quite some time. Be sure to check this one out. You won't be disappointed.

And now it's time for the feedback portion of this editorial. I remind those of you who don't subscribe that you can still participate in the feedback. Simply list each article in an issue, rating it from 1 (unsatisfactory) through 5 (excellent), and send it in.

Journal 22 feedbacked as follows:

AZ: Ventures Afar.....	3.6
AZ: The Thing in the Depths. . .	3.6
'Til They Glow.....	3.4
Computer Implants.....	3.9
Planetary Maps.....	4.0
Acad. of Science & Medicine....	4.0

From Port to Jump-point.....	3.7
Seastrike.....	3.6
From the Management.....	3.6
Just Detected.....	2.8
Traveller News Service.....	3.7
Contact: The Hlanssai.....	3.6
Issue 22 as a whole.	3.8

GDW products (including **Traveller**) are available through distributors as follows:

West Germany: GDW products are imported and distributed by Fantastic Shop, Kirchfeldstr. 143, Postfach: 3026, 4000 Dusseldorf 1, West Germany. Some titles are translated into German.

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TRAVELLER NEWS SERVICE

DENTUS/REGINA (0601-C979500-A)

Date: 032-1111

¶ Vice-Admiral Elphinstone's staff announced today that the last members of a small group of Vargr renegades are still at large in the Spinward Marches. These renegades are the remnants of hostile Vargr units which refused to surrender upon the withdrawal of the Vargr from the recent war.

¶ A spokesman reports that approximately 20 Vargr and two starships managed to elude pursuing forces and escape capture after the destruction of a hidden re-supply base, located on a small planetoid in the outer orbit of the Heya system (Regina 0802). "The vessels were unarmed transports," reported Captain Bolinghurst of the Admiral's staff "and pose no serious threat to shipping. Despite this, the Regina subsector remains under martial law until we can kill or capture the last of these criminals."

QUAR/CHRONOR(0808-B532720-B)

Date: 092-1111

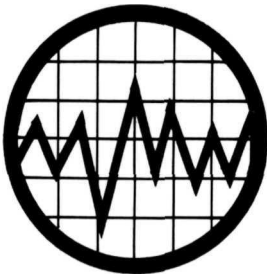
¶ Imperium and the Zhodani Consulate emissaries formally closed their conference today, after having overseen the administration of the cessation of hostilities between all belligerents which began on 001-1111. All military forces have been withdrawn to behind their respective prewar borders.

¶ All colonial forces have returned to their home worlds. Selected Imperial military forces will remain active to deal with various renegade military personnel.

¶ "This is not uncommon after a war," a spokesman for the Admiralty stated. "Some personality types get so keyed up that it takes them time to settle down again. Anyway, a lot of these people were criminals before the war, and are simply returning to their old occupation with some new equipment."

¶ The Imperial government has declared Regina, Jewell and Lanth subsectors to be amber travel zones. All other Imperial territories in the Spinward Marches revert to their pre-war travel classifications.

Traveller News Service is another Imperium-wide benefit of membership in the Travellers' Aid Society.



JUST DETECTED

CONVENTIONS

Origins '85

June 27-30, Baltimore, Maryland. This is the big one! Practically everybody in the game business comes to this convention, and the event list is staggering. For information, write *Origins '85*, PO Box 139, Middletown, NJ 07748.

Polycon 85

June 21-23, San Luis Obispo, California. Presented by the Simulation and Adventure Gaming Association, and featuring wargames, SF and fantasy RPGS, miniatures and a costume contest, *Polycon 85* will be held on the campus of California Polytechnic University. For more information, write SAGA/POLYCON, Box 168, Julian A. McPhee University Union, California Polytechnic State University, San Luis Obispo, CA 93407.

Northquest '85

June 1-2, Boise, Idaho. Fantasy and SF RPGS, miniatures, and others. For information, write *Northquest '85*, PO Box 633, Boise, ID 83701.

MAGAZINES

Travellers' Digest

A new magazine devoted to **Traveller** players. Each quarterly issue contains a 26 page feature adventure; maps, jump routes, and library data for the sector; regular columns on new technology and refereeing; and other feature articles.

The 52 page charter issue features the Deneb Sector, with articles on expand-

ed robot generation, designing orbital complexes, and refereeing skills effectively.

Single issues are \$3.95; subscriptions are \$14.00 for four issues (one year).

Publisher: Digest Group Publications, 8979 Mandan Ct, Boise, ID 83709.

The Space Gamer

Issue number 70 contains *Competitive Citizens*, an expanded character generation system for *Citizens of the Imperium*, by Dan Perez, plus reviews of *Safari Ship*, *The Traveller Adventure* and *Secret of the Ancients*. Issue number 71 contains a review of *K'kree*; issue 74 contains a review of *Twilight: 2000* and an article on how to incorporate vampires into various games (including **Traveller**).

Single issues are \$3.00; subscriptions are \$13 for one year (six issues), \$23 for two years.

Publisher: Steve Jackson Games, PO Box 18957, Austin, TX 78760-8957.

Dragon

The Ares section of issue 97 contains Igor Greenwald's *Rogues of the Galaxy*, an expanded character class for **Traveller**.

Single copies are \$3.00. Subscriptions are \$30.00 for one year (12 issues).

Publisher: TSR, Inc., PO Box 110, Lake Geneva, WI 53147.

Adventures in Traveller: *Wilderness Situations*



In a previous article (Adventures in **Traveller**, JTAS #20) I discussed some of the considerations involved in staging an exploratory adventure in **Traveller**, sending the players "where no man has gone before" (or at least where no one has been recently). Whether they went boldly or not wasn't at issue.

Another thing that wasn't at issue in that article was the particular approach a referee should use in staging adventures out in the wilderness. The exploration article was concerned with the broad sweep of exploration, being concerned with everything from "historical" adventures of interstellar exploration in the days of the Sylean Federation to voyages into the less well-known regions of the universe "today" (c. 1111, Imperial era). With all of this to cover, little detailed attention could be applied to expeditions into the outback of individual worlds. This article is intended to help make up for the limitations of the

previous discussion.

In general, virtually all adventures fall into one of two categories: "civilized" and "uncivilized." In civilized adventures, the setting is one where technology is omnipresent, the opposition generally people (or sentients, at least), and the overall emphasis is on dealing with society. These are the adventures where swindles and scams, blackmail and business, politics and people, all take the stage. Most merchant, mercenary, and criminal endeavors involve civilization, though some stray out into the outdoors on occasion.

Uncivilized adventures take us out into the great outdoors on a regular basis. Many times these are expedition situations, where groups set out in search of traces of a lost civilization, a wrecked starship, or the legendary "diamond as big as your fist." There is a powerful tradition of adventure and romance clinging to situations of this sort. Here,

though our group may be in conflict with people who oppose them, the true adventure comes in the concept of characters pitting themselves against the forces of nature. Animals, the elements, and terrain become important, and we have an opportunity to really feel that the setting is an alien one (as opposed to the backdrops of civilized adventures, where it is all too easy to fall into the trap of visualizing all technological societies as alike).

Wilderness settings are popular, and have a great deal of potential. The question is, how to set about ensuring that an adventure realizes that potential?

PLOT

We refer here to the story line of a wilderness adventure. It is important to keep in mind that the referee is a sort of writer, spinning out a story. There is nothing more crucial to constructing a good story than to assemble a cohesive and believable plot to the adventure, for without this, all else collapses.

For example, the core of most wilderness adventures is the "man against nature" aspect. When constructing the adventure, this should figure prominently. But to make the adventure work, the referee has to give nature a chance to win...believably.

In practical terms, this means that most wilderness adventures with high technology settings are impractical. A world of tech level 10+ will have constant satellite communications links, a greater or lesser degree of weather control, and numerous other little gems of modern science which will make getting lost in the outback no more dangerous than an overnight camp-out in the backyard.

Another of this general guideline is the technology of the adventuring group. The party with the truckload of ultra-sophisticated gadgetry isn't going to be

greatly jeopardized by the unsophisticated, primitive headhunters out in the boonies, nor will animal life be more than a nuisance. Those who carry FGMP-15s as sidearms and clear out a hostile camp by bombarding it with RAM grenades are not going to be placed in a great deal of danger by a wilderness adventure.

There are a few ways to offset an enormous technological advantage on the part of an adventuring group, but none of these should be used too frequently. Basically, if your group is made up of armaments fanatics with unlimited budgets, don't run wilderness adventures too often. It isn't much of a challenge to them, and can be hard on the local wildlife.

When such adventures are run with characters like this, try a few tricks to equalize the situation. One of the drawbacks of high-tech equipment is the fact that it tends to be delicate. Being dropped from a couple of stories doesn't hurt a spear or a knife, but it can have a detrimental effect on a laser carbine. This damage needn't be severe, or totally debilitating...merely knocking delicate sights out of alignment can have a great effect on a character's performance.

There are several ways to relieve characters of their technological advantages. A crash landing is a good technique, but can be overused. Having the high tech vehicle carrying the characters struck by lightning is a nice way to introduce a malfunction, but smacks of divine retribution. If the characters are sloppy about maintenance, a breakdown at an inopportune time is the solution.

Practically every situation in which a group's resources have been cut down by such a disaster becomes more exciting. Remaining resources must be marshalled and conserved. And if the group really was one of those "kill everything that moves" teams, ac-

customed to high-powered weaponry and near-invulnerability, the sudden change will have a considerable impact on player attitudes and reactions. The resulting tension can be exploited to good effect for an enjoyable adventure scenario. This is good plotting; an expedition with no danger is as boring as a story with no conflict.

There are, of course, other ways to the same end. A group's resources can be artificially limited by lack of funds, by lack of available equipment (most backwater worlds are poorly supplied with battledress for instance), or by the insistence of a patron. A conservationist associated with a photographic expedition might be a little disconcerted when his guides bring out the gauss rifles and RAM grenades.

Another option, if the situation permits, is enemy action. Sabotage (as mentioned above), capture, ambush (the bad guys can buy the deadly stuff too, remember), all can be used to leave the players high and dry. Of course, this is possible only if there is intelligent opposition. Animals and plants don't use lasers very often.

There are some problems with this approach. Depriving players of their high-tech "edge" should be tempered with some common sense. Too much of this sort of thing gives players a persecution complex, which can upset them and disrupt the game. Although a good *story* demands some danger and suspense, a good *game* demands that the players have some fun, and it's hard to have fun when you feel picked on. This may lead to the players searching for other sources of amusement, such as stringing up the referee, which will prove a less than ideal solution.

Balancing story versus game can be a difficult equation, but once a balance has been struck, the potential for enjoyment is great. Perhaps the group will learn that

fusion guns and grav tanks aren't essential to their enjoyment of the game.

I have been focussing on the weaponry aspect of high-tech gear, but there are peaceful aspects of high technology as well. These can be used a little more freely, but still have their limits. The general rule of thumb here is that technology is fine as long as the players use it as a tool, not as a *deus ex machina*.

A good example of an adventure story that works using this principle is Michael Crichton's *Congo*. A team of American scientists, equipped with the most sophisticated equipment available today, is on an expedition into the African jungle. Computers and satellite communications link-ups allow them to plot their location with considerable accuracy; data processing and image enhancement enable them to reconstruct the design of an ancient lost city and recover almost invisible images from ruined murals. But the team is thrown on its own resources at the climax of the novel, thanks to sunspot activity that cuts their satellite link. In the final analysis, it is the people, not the equipment, which must solve the problems facing them. The **Traveller** referee who applies this principle will be in a good position to create and run a first-class adventure.

Other aspects of good plotting are common to all stories and to all adventures. There needs to be a clearcut beginning, middle, and ending; the early portions of the adventure should build, one upon another, up to a climax and resolution. There may be sidelights, and diversions and blind alleys that lead nowhere, but a good story requires more than a rambling, strung-together series of independent incidents. There needs to be a unifying thread, a problem or opponent or mystery, which unites the overall flow of the story. Even a simple survival



situation is far better in that there are complications which tie individual crises together. Consider Poul Anderson's *The Man Who Counts* or Alan Dean Foster's *Icerigger*, both examples of "wilderness" adventures that begin with a shipwreck, but are much more than simple survival novels.

OBJECTIVES

In wilderness adventures (indeed, in adventures as a whole), it is wise to have a concrete goal or objective (it may change later, of course). This must be reasonable. People don't trek into the trackless wilderness for no reason at all. Simple survival, of course, is one reason that may be forced on the characters. Generally, however, some form of exploration is behind the trek into the backwoods. The general title of exploration can include many subcases. There may be resources to be mapped, or lost cities to be found, or a lost expedition to

be recovered (nothing like this last to keep the next expedition on their toes!). Big game hunting (including trophy hunts, zoo collecting expeditions, photo safaris, or scientific studies by researchers or conservationists) is another whole subset. Adventure 10, *Safari Ship*, is a good example of this last category. Whatever the adventure's object, it must be a reasonable one, taking into account the sort of world upon which the adventure is set.

A QUESTION OF ENVIRONMENT

When creating a wilderness adventure, the referee should take stock of the environment in which the situation is to be set, and attempt to create an appropriate atmosphere. Each of the many types of environment that may be encountered offers unique hazards and problems to be overcome. The feel of adventures will vary considerably from one to another.

Consider a few of the "wilderness" adventures published by various companies for **Traveller**. *Legend of the Sky Raiders* is set in a jungle and has the flavor of a jungle safari; *Ordeal by Eshaar* involves a wilderness situation, but the wilderness in question is a hellish region with an insidious atmosphere and temperatures far above boiling. In Adventure 10, *Safari Ship*, we see a more standard wilderness, and more ordinary rugged terrain. Each adventure has its own special atmosphere, its own special problems to be overcome. For the most part, these situations stem from the nature of the environment in which they are set. Double Adventure 4, *Marooned/Marooned Alone* goes into considerable detail in the presentation of a variety of survival situations in a full range of planetary environments. The series of booklets on environments from Gamelords' deal with a particular environment for wilderness adventuring, focusing on climate, terrain, and special circumstances, plus sections on equipment, encounters and events, and possible adventure situations. Modesty prohibits me (as one of the principle writers of the series) from making any claims as to the worth of these booklets other than to say that they should prove interesting and inspirational to any referee pondering a wilderness adventure.

Actually, though, it is not necessary for a referee to have any published

sources. With research, common sense, and a little creativity, anyone can sit down and come up with usable rules to handle various environments. Sources like *Marooned/Marooned Alone* and the Gamelords' supplements should be viewed primarily as timesavers and idea sources.

IN SUMMARY

Wilderness adventuring is often overlooked, but there are many worlds where such adventures are possible. The wilderness situation makes a nice break from the typical activities common to the urban adventurer.

The nature of wilderness adventuring makes for an interesting test of the abilities of an adventuring group. Though some form of intelligent, referee-directed opposition may be present to lend spice to an adventure, much of the wilderness scenario is directed at resolving encounters and events which are essentially automatic in nature. The players are, for once, not competing with the referee...they are struggling against the environment, and it is the cleverness of the players and the abilities of their characters that will determine the outcome. Their ability to out-guess the referee is much less critical to wilderness situations, making for less "confrontation" play, and more exploration of the game's many possibilities.

—J. Andrew Keith

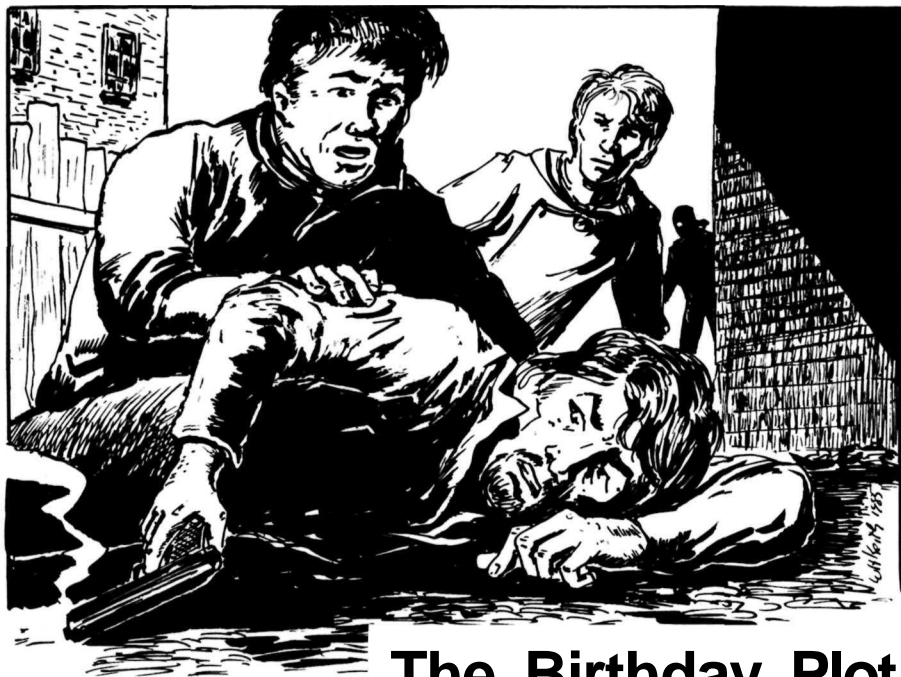
STRIKER EXPANDED NUCLEAR WARHEADS LIST

Missing from issue 22's "Nuke 'em 'til they Glow"

Yield (Kt)	Yield (Mt)	Crater Diam. (cm)	Induced Radiation Radius	Primary		Blast Radii Secondary		Tertiary	
				Ground	Air	Ground	Air	Ground	Air
1	—	3.8	8.2	6	6.5	25	37	46	71
2	—	4.7	10	7.5	8	31	46	58	89
2.5	—	5	10.8	8	8.5	33.5	50	63.4	95.5
5	—	6.1	13.5	10	10.5	42	62.5	79	120
7.5	—	7	15	11.5	12	48	72	90	138
10	—	7.6	17	12.5	13	53	79	99	152
12.5	—	8	18	13.5	15	57	85	106	163
20	—	9.4	20	15.8	17	67	99	125	191
22	—	9.6	20.7	16.3	17.5	69	102	129	197
25	—	10	21.5	17	18	72	107	135	205
50	—	12.3	12.3	21.4	23	91	135	170	260
75	—	13.9	30.9	24.5	26	104	154	194	297
100	—	15.1	33.5	26.9	29	115	170	214	327
250	—	20	43	36.6	39	156	231	290	443
500	—	24.5	53	46	49	196	290	365	558
750	—	27.7	59.5	53	57	224	332	418	639
1000	1	30	65	58	62	247	366	460	703
2500	2.5	39.7	85	79	85	336	496	624	955
5000	5	49	105	99	106	422	626	787	1200
7500	7.5	55.3	119	114	122	484	716	900	1376
10k	10	60.2	130	125	134	532	788	991	1515
25k	25	80	170	170	182	722	1070	1345	2056
50k	50	98	209	214	229	910	1348	1695	2591
75k	75	110	237	245	262	1041	1543	1940	2966
100k	100	120.2	258	270	289	1147	1698	2135	3265
250k	250	158.2	340	365	392	1556	2304	2898	4431
500k	500	194.8	418	460	494	1960	2903	3651	5583
750k	750	220	473	527	565	2244	3324	4179	6390
1m	1000	240	515	580	622	2470	3658	4600	7034

MISSING FROM ISSUE 22'S ACADEMY OF SCIENCE AND MEDICINE

- Occupational Specialty DMs:* +1 if Intel 12+
+1 if 4th undergrad year Cum Laude
- College of Medicine DMs:* ±2 (choice) if Intel 10+
±1 (choice) if Dex 10+
- College of Physical Sci DMs:* ±2 (choice) if Intel 10+
±1 (choice) if Educ 12+
- Special Surgeon Table DMs:* +1 if Dex 12+
- Personal Development Table DMs:* +1 if Educ 12+
- Engineering Table DMs:* +1 if Intel 12+
- Graduation Tables (both):* +1 if any occupation = 4+
+1 if ISU member



The Birthday Plot

Players' Information

In the aftermath of the Fifth Frontier War, the turbulent world of Efate (Regina 0105 A-646930-D) has been returned to the Imperium's fold, and the Ine Givar terrorists at last suppressed, save for a few sporadic skirmishes in the wilderness. Efate's war-ravaged cities, however, know peace for the first time in years.

Amber Zone

As the war wound down, Efate was been placed under military government, with martial law to remain in effect until the last of the Ine Givar can be put down once and for all. The new military government, though much more restrictive than the previous government (law level is temporarily set at 6), is still fairly moderate, and the newly appointed governor, Commodore Jamie haut-

Kunara, is a figure of considerable charisma and local popularity. Under his administration, liaison between the military government and the populace has remained excellent.

All of Efate is looking forward to the upcoming celebration of the Emperor's Birthday, the first unfettered celebration of this holiday since the beginning of the war. This, more than anything else, will symbolize the return of peace and prosperity to Efate.

By chance, the adventurers happen to be on Efate for the Emperor's Birthday, which promises to be one of the most lavish carnivals anywhere in the Marches. Now three days away, the festival looms large in everyone's mind. In the midst of the carnival atmosphere, the group visits a small startown bar for an evening's relaxation. They end up with much more than they had bargained for—but none of it relaxing at all.

As they leave the bar late at night,

they hear a scream from a back alley, followed by sounds of gunfire and a groan. Investigating, they find a man lying on the ground, clutching a gun and quivering with fierce muscle spasms. He seems unmarked, but is plainly suffering a seizure of some sort.

Gasping in pain between clenched teeth, the man speaks in an almost incoherent rush of words. "Stop... killer...Irklan...birthday plot...tapes of them...ship at berth seven...berth seven...tea..." With a final racking cough and a shuddering spasm, the man dies.

At this point, the characters must decide how deeply they will become involved. They could immediately pass on what they have learned to the police. They could see what more they could learn before going to the authorities, seeing this as an opportunity to advance themselves by turning over detailed evidence of a plot. They might see a chance to make some easy money by blackmailing someone. Their decision will have important ramifications.

Referee's Information

The plot referred to by the dying stranger is (surprise) an Ine Givar plot. Though in hiding, the terrorists are not yet so totally broken as the authorities believe, and they intend to demonstrate this in a dramatic way. On the Emperor's Birthday, they plan to have the governor, Commodore haut-Kunara, publicly assassinated. This will be the signal for a fresh outbreak of Ine Givar violence, renewing the guerrilla war so recently put down at such expense in lives and property.

To accomplish this deed, the Ine Givar have acquired the services of Inkula, a Grand Master of the Irklan religious sect. Inkula, an unscrupulous and totally merciless man, has accepted the task as the ultimate challenge to his skills; he

plans, after this crowning action, to take his own life and so be assured a place in the afterlife. Failure, and especially death-in-failure, is intolerable to Inkula, as this would result in a loss of his ability to live in the life beyond.

The dead man in the alley is Calmar Singh, an operative with the Imperial Interstellar Scout service. Posing as a merchant, Singh had been looking into Ine Givar activities on Efate and stumbled across the plot. Keeping the principals under surveillance, he made and concealed numerous tapes of meetings in which Inkula discussed plans with his employers. But on this night, just as he was ready to complete his report on the plot and alert his superiors, Singh was discovered. Inkula pursued him through the city and killed him with a blowgun dart tipped with a fast-acting nerve poison.

Inkula is lurking in the shadows as the adventurers rush to the dead man's aid; he does not hear Singh's dying words but he is fairly certain that the group has been told where Singh has hidden any evidence that he may have collected, and he will use the adventurers to lead him to it. Once he has learned what he can, he will kill them to prevent any possibility of their passing on any information that might cause the failure of his Chosen Test.

If the adventurers decide to take an active role in things, they may undertake several steps.

A search of the dead man's body will reveal a wallet containing Cr1000, an ID/credit card in the name of Jack Calimar, and (hidden in his shoes) his IISS ID card bearing the name of Calmar Singh. A character with medical skill who examines the body will discover a small dart imbedded in the neck; this dart is a standard Irklan pattern which any can recognize by throwing education or less on two dice. Any individual who

recognizes the dart will know about the Irklan and its reputation (see the article on page 15). This material can also be revealed if the characters consult a library terminal in response to Singh's last words.

The vague reference to a ship could lead the adventurers to speculate along two lines. Singh might be referring to a ship used by the plotters, or he might be talking about his own ship. If the ship is Singh's, his Scout affiliation might lead them to the Efate Way Station. Any character who was in the Scouts, however, will be able to tell the group that the Scouts use alphabetic designations for starship docking bays, not numeric ones. Efate starport has numeric bays, however, at the starport. Berth number seven is reserved for use by the port authority, and nobody there has ever heard of Jack Calimar or Calmar Singh.

At this stage, it would be good to let the players know they are being followed, to convince them they are not on a wild goose chase.

The riddle of the ship can be solved only if the adventurers realize that Singh was attempting to say "berth seventeen," not "berth seven. Tea..." There are fewer than seventy berths at the starport, which should eliminate another possibility. The players might also try to locate the ship by checking a port manifest. Here they will find that berth 17 is occupied by the free trader *Cal's Dream*, registered to a J. S. Calimar of Regina. If the ship is visited, the tapes will be found, after an extensive search, in the captain's cabin. There is no crew on board, they have been given several days' leave for the upcoming celebration (and are not members of the Scouts in any case). How the adventurers get past the security guards is up to them.

The tapes prove the existence of the plot, and contain everything but the ex-

act place and time of the planned assassination, including a list of Ine Givar leaders and supporters that will put the local organization out of operation for a long time. With this evidence, the adventurers can easily convince the authorities to act, and will no doubt receive a sizable reward for their efforts.

Their problems aren't over, however. Inkula is still lurking about, and will strike when he is sure he has an advantage. Though he must kill the governor face-to-face, the Inkula has no such scruples about the adventurers, who are merely obstacles to be removed to ensure his own survival.

Even if the adventurers take no action concerning Singh, Inkula will assume the worst, and follow them. After the group has gone about its business for a day or so, Inkula will decide they know nothing, and will attempt to kill them to ensure that any scraps of information they might possess don't get to the authorities (in case he's wrong). In the interim, the characters might be tipped off by reports of break-ins and mysterious deaths at places they visit in the course of their routine activities around town.

RESOLUTION

Inkula is an awesome foe, capable under the right circumstances, of taking on the entire group and winning easily. His major weakness, which the group should be able to exploit if they recognize it, is the fact that he works alone. If the group separates, he can only follow one of them.

Inkula's statistics (given on page 27) were taken from the character generation system included with the article on the Irklan (see page 15). If using the optional martial arts skills, use the parenthetical skill breakdown, otherwise melee combat skill is used instead.

continued on page 27

Contact: THE IRKLAN



The Irkklan are not an alien race, nor even a distinct human culture. Instead it is a human religious sect from the desert highlands of Menorb (Regina 0203 C-652998-7). This sect is of special interest because of their high stress on personal survival and individual prowess in hand-to-hand combat. The ascetic subculture of the Irkklan is a rigorous training ground for body and mind, and members of the sect enjoy an awesome reputation throughout the subsector (and beyond) as masters of stealth, unarmed combat, and rigorous control of their bodies and their minds.

The powers at the command of the Irkklan are somewhat exaggerated by outsiders (which is encouraged by the sect); certain superstitious natives of Menorb believe them to be sorcerers or mystics,

while more sophisticated people claim them to be psionic heretics. For this reason they are often shunned, sometimes attacked without reason, and always feared.

In actual fact, the Irkklan are not so awesomely powerful as popular superstition makes out, though their philosophy and lifestyle give them considerable talents.

HISTORY

The origins of the Irkklan are obscure. It is believed the sect dates back to the earliest days of the colony, several hundred years ago. Menorb, a poor world with little water and generally harsh conditions, presented a rugged challenge to the first colonists, and a traditional punishment for wrongdoers in those

days was expulsion into the upland deserts, a hostile environment similar to the Mojave Desert on Terra. Few criminals survived expulsion, but some did, and a group of these seems to have formed the nucleus of the Irkklan. The derivation of their name is not completely certain, but *irakolon* means "band of brothers" in one of the early dialects of Rhylanor, from which many settlers of Menorb had their origins, and this is the suspected root of the name.

At any event, the Irkklan survived. Originally a simple nomadic subculture of the world, members of the Irkklan gradually elevated the collected teachings of survival in their harsh environment into a complex religion, one in which personal survival was the highest proof of fitness.

The sect was forced to do so without the benefits of technology, and in fact developed a dislike for such, believing that use of too much technology made one soft and incapable. Cut off from advanced weaponry, they learned martial arts disciplines and the manufacture and use of primitive weapons, such as bolos and blowguns. They also learned the techniques of stealth and many aspects of basic survival.

As the settlement on Menorb grew, the Irkklan tended to resist integration into civilization, and gradually withdrew into the depths of the harshest highland deserts. This region was formally made a reservation for the Irkklan people by the government almost 250 years ago. However, the reserve cannot hold all of their numbers, and some members of the Irkklan do leave their desert fastness to venture to other worlds, usually as part of a personal religious "quest" in search of ever harder tests of personal survival abilities. Those who leave Menorb tend to be the best of their people (in terms of skills) and this factor has helped preserve the tradition that the Irkklan are

inhumanly or even supernaturally powerful.

BELIEFS

Irkklan religious beliefs dominate their lives. They believe that all of life is a great struggle, a test of worthiness. Those who survive are fit for a better life in the next world, those who fail lose all chance for the next life, their souls perishing at death along with their bodies. The object of every member of the sect is to live a long and glorious life, filled with triumphs over every possible challenge both environmental and social. In the end, though, they would rather die of natural causes than in combat, for though their deeds through life earn them merit, the idea of failing any test of strength is repellent, implying unsuitability to survive.

There are a number of subsects in the Irkklan religion, some holding that even death by natural causes is a failure, and that only a glorious career capped by ritual suicide is the way to reach the afterlife. Other groups are somewhat less rigid in their beliefs. The Irkklan religion has nothing of personal morality in its teachings. Because it stresses survival above all else, the religion does not attempt to codify behavior; anything that helps a person survive is good, while those things which shorten life are bad. There are a complex set of taboos and rituals associated with some subsects (some have commented that each individual Irkklan is a subsect all his own), but there are some general rules that can be applied to almost all. These are all applied because of the relation to survival. Thus, alcohol and narcotics of all kinds are forbidden, because of their deleterious effect on the body. There are also complicated dietary regulations, to assure that an individual eats only those items which are best for good health and maximum fitness. Most members of the

Irklan are ascetic in the extreme, scorning money, power, technology, and all the other traditional goals of other societies in favor of concentrating on the acquisition of merit by seeking out and overcoming challenges.

In the absence of a code of religious morality, the personal morality of each individual is the only check on antisocial behavior. Cooperation is seen by some as a pro-survival trait, by others as a weakness. Thus, some members of the Irkklan lead a lone wolf existence, caring about no one but themselves; others realize that the good of the whole is as important as the good of an individual. The Irkklan are generally distrustful of outsiders, but can be won over by a demonstration of individual prowess or some other feat which indicates a suitability for survival. A few outsiders have even been inducted into the sect on Menorb, or trained by wandering masters who see potential in an individual. Thus, it is possible for characters not born on Menorb to undergo the character generation process described here for the Irkklan, and become initiates.

CHARACTER GENERATION

Irkklansa can be generated with the character generation tables given here. Standard procedures are used, with certain special exceptions. There is no retirement, and all aging throws receive a DM +1. Note also the various table entries, which indicate other unusual points. Skills not found in the standard **Traveller** rules are described below.

Recon: See Book 4, *Mercenary*.

Survival: See Book 4, *Mercenary*.

Hunting: See Supplement 4, *Citizens of the Imperium*.

Control: This is equivalent to psionic talents in the area of Awareness. All characters have the equivalent of psionic strength points (but only for this pur-

pose) equal to their Endurance. The level of control skill shows the "maximum activity level" that can be undertaken. Thus, Control-2 permits suspended animation, while Control-9 would be required for regeneration (this is almost impossible to achieve). Other procedures are as per the psionic awareness rule, but this skill should not be considered the same as psionic training.

Melee Combat: Described in Special Supplement 1, *Merchant Prince*. However, those who prefer more detail should use each melee combat result as the receipt of three specific skills or three +1 DMs (or any combination thereof) in a martial arts skill, as described in Bob Liebman's "Suggestions for Martial Arts Combat in **Traveller**" printed in JTAS #10. Any of the skills presented there except Stealth and Special Skills may be acquired upon the receipt of melee combat. DMs would still be limited to a +4; on the receipt of a particular skill, it is granted without DM, and subsequent receipts can increase the DM or involve acquisition of other skills instead.

Stealth: This was introduced in Liebman's article as well. A roll of 8+ will permit a character with Stealth skill to avoid being seen or heard by other characters (but not by electronic devices). Modifiers can be imposed by the referee for darkness, multiple observers, or other special conditions; Stealth skill can offset these modifiers, but never alters the basic throw.

Weapons: The bolo and blowgun are special weapons used by the Irkklan. They are treated much like bow weapons (see Supplement 4, *Citizens of the Imperium*); the modifiers applied for handling these weapons are based on both Strength and Dexterity; both figures must be over the given limits for a +DM, or under the limits for a -DM. Data for both of these weapons are shown at the end of this article. For additional primitive weapons.



referees may wish to consult "Archaic Missile Weapons," printed in issue #11, and reprinted in *Best of the Journal*, #3.

REFEREEING THE IRKLAN

The Irkklan are a harsh and pitiless society, concerned with their own ways and little more. Wandering Irklansa may occasionally be found, working in various risky and challenging occupations. Occasionally, they will undertake an assassination, not so much for the money (although most wandering Irklansa realize that they need money to survive in Imperial society), but for the challenge it presents them. Irklansa killers aren't the sort who use a sniper rifle from several hundred meters. A challenge requires that their victim be confronted directly, and given a chance to resist in hand-to-hand combat. This means that when killing for hire, they won't strike from behind or from am-

bush. When on the defensive, however, they will show no such scruples. A hunted Irklansa will use every trick and trap in his extensive arsenal in order to escape death. This characteristic makes them extremely dangerous to police and security forces, and is the reason why the Irkklan are careful to conceal their affiliation from government officials.

PLAYING IRKLANSAs

It is perfectly permissible for players to create Irklansa characters. Two approaches are allowed. Characters can be born to the Irkklan; the referee should designate this, and it should be done sparingly. No enlistment roll is needed in this case, and a DM + 1 should be applied when rolling up Strength, Dexterity, and Endurance, and a DM-2 to Education and Social Level (Irklansa do not have the time or the inclination to acquire more than a thin veneer of civilization).

A much more common method is to join the Irkklan as an outsider. Only characters who are adventuring in the Spinward Marches may do this. The enlistment throw must be achieved; following this, character generation may be undertaken. It may be done after an ordinary career, unlike the standard character generation, provided the character is no more than 34 years old, and has Strength and Dexterity scores of 9 or more (the vigorous regime requires these as minimum values).

Characters who join the Irkklan must cultivate the proper mental attitude and philosophy of life. They will scorn or even actively dislike technology and advanced society; guns and high-tech gadgetry are strictly out of their ken. They are ascetic and aloof, disliking luxury and abstaining from most conventional entertainments and vices. Their attitude is stoic and (even for a frontier society) rather grim. Non-Irkklan are usually despised, but the Irkklan are always ready to give credit to a competent opponent, even though he may lack

the special survival skills of the Irkklan.

Appearance: The typical Irklansa is gaunt and lithe, with excellent control over movements and reflexes. Irklansa may be of any race of humaniti, and of either sex. They prefer to avoid the daylight, even in pleasant climates, because of an ingrained teaching that exposure to direct sunlight is dangerous (a result of their desert origin). Widely travelled Irklansa will be less concerned, but will still prefer darkness and shadows. Their traditional garb is a loose-fitting overall, which allows maximum freedom of movement and provides protection from the elements as well. At their belts, they carry their weaponry—knife, blowgun, and so on; the belt itself is often a bola. They have no reservations about adopting local clothing styles to help them fade into the background, but will never compromise their melee combat ability by wearing tight, restricting garments or useless ornaments. They prefer dark, subdued colors and often cover their basic coveralls with a hooded black cloak.

WEAPONS

Item	Base	Length	Base	Req. Dex	Adv. Dex	Weakened	
	Weight	Overall	Price	Level DM	Level DM	Blow	TL
Blowgun	150	500	Cr50	8 -2	11 +1	-3	0
Bola	200	—	Cr25	6 -1	10 +1	-2	0

WEAPONS MATRIX

Attacker's Weapon	Defender's				Armor		
	Nothing	Jack	Mesh	Cloth	Reflec	Ablat	Combat
Blowgun	+2	-5	-5	-6	-3	-3	-7
Bola	+1	0	0	0	+1	+1	-4

RANGE MATRIX

Weapon	Range					Wound
	Close	Short	Medium	Long	Very Long	Inflicted
Blowgun	+3	+1	-3	No	No	1*
Bola	0	+2	-1	No	No	1D

*Blowguns are generally used with poison darts which inflict 1D damage per round for 2D rounds.

—Keith Douglas

CHARACTER GENERATION DATA

2. Character Type
Irklan Sect Member

3. Prior Service Table
Prior Service Table

Enlist 12+
DM +1 if Dex 9+
DM +2 if End 10+

Draft -

Survival 6+
DM +2 if Intel 9+

Position 9+
DM +1 if Dex 10+

Promo 9+
DM +1 if any skill 3+

Return 3+

4. Table of Ranks
Table of Ranks

1. Initiate
2. Student
3. Warrior
4. Master
5. Grand Master
6. Elder

5. Acquired Skills Tables

Acquired Skill Tables

Personal Development

Service Skills

1. +1 Strength	1. Survival
2. +1 Dexterity	2. Stealth
3. +1 Dexterity	3. Recon
4. +1 Endurance	4. Blowgun
5. +1 Endurance	5. Blowgun
6. +1 Intelligence	6. Blade Combat

Education

Advanced Education

1. Hunting	1. Leader
2. Melee Combat	2. Control
3. Recon	3. Melee Combat
4. Stealth	4. Melee Combat
5. Melee Combat	5. Control
6. Medical	6. Instruction

Restrictions:

None

Restrictions:

With position only

6. Skill Eligibility

Two for first term, one per subsequent term.
2 upon position, 1 upon promotion

7. Automatic Skills

Master— Instruction-1;
Grand Master— Control-1

8. Character Type
Irklan Sect Member

9. Benefit Tables

Benefit Tables

<i>Material Benefits</i>	<i>Cash Benefits</i>
1. +1 Dexterity	1. None
2. +2 Intel	2. None
3. +1 Educ	3. None
4. Blade	4. None
5. Bolo	5. Cr1,000
6. Blowgun	6. Cr5,000
7. High Passage	7. Cr10,000

Restrictions:
+1 if rank 5 and 6

Restrictions:
+1 if rank 5 or 6, 3 roll limit.

10. Benefit Descriptions
Additional weapon benefits can be taken as skill in that weapon.

11. Skill Descriptions
Per article.

12. Career Restrictions
None.

Career Choices in Traveller: What Are the Odds?

One of **Traveller's** major innovations as a role-playing game, and a feature that is still distinctive, was its system of previous experience, included in the character generation sequence. By having each character undergo one or more cycles of career experience, with effects determined partly by player choice and partly by chance. **Traveller** provides a means of individualizing characters, adding more of the unpredictability of reality to the game. At the same time, it confronts players with a series of decisions to make, starting with the most crucial: what career to attempt.

It is always possible to choose a career on intuitive grounds, and this is what most players do. Certainly it is what I have done. But intuition does not give a very precise estimate of the likely results of pursuing a career; and it is always possible for it to be misleading. What, in fact, are the actual expected outcomes of various career choices? Experience tells us that joining the Scouts will get you killed, joining the Army will cut your career short, and joining the Merchants will make you money; but can we be more precise than this?

Eventually, I became curious enough to explore this question systematically, using some elementary statistical methods. I started out by generating 50 **Traveller** characters. I then attempted enlistment rolls for each in each of the six services. Those that succeeded I carried through as many terms of service as possible, stopping each career line when the character died or retired. After this was done, I examined the results, computing some basic statistics. What these results were, and what they suggest

about careers, is what this article presents.

There are two basic ideas involved in describing a population, such as a group of **Traveller** characters. One is *central tendency*; the other is *dispersion*. Central tendency describes what the typical member of a group is like. In this article, I use two main measures of central tendency: the *mean*, or average, and the *median*, which is the score for whichever group member falls at the middle of a complete list of group members from largest to smallest scores. I use one measure of dispersion, the *standard deviation*. This is somewhat more technical, but it can basically be described as a range of scores just large enough so that roughly two-thirds of a population will be no lower than one standard deviation below the mean score, and no higher than one standard deviation above the mean score.

These measures can all be worked out mathematically for any given set of dice rolls. For a roll of two six-sided dice, for example, the mean score is 7; the standard deviation is 2.4. This means that two-thirds of all rolls should be above 4.6 and below 9.4. And, in fact, out of the 36 possible ways two six-sided dice can come up, 24 fall into this range. (There are some technical problems with using the standard deviation for dice rolls and other processes that can only take on a limited number of scores within a limited range, but they can be disregarded for the purposes of this article.)

The first thing I did was to test whether the characters I created were actually a random sample. I computed the mean and standard deviation for

each individual characteristic, obtaining these results:

INITIAL CHARACTERISTICS

<i>Characteristic</i>	<i>Mean</i>	<i>Standard Deviation</i>
Strength	7.0	2.6
Dexterity	7.1	2.4
Endurance	7.5	2.4
Intelligence	7.2	2.5
Education	7.1	2.6
Social Standing	7.0	2.7

While the scores ran marginally high, I decided that both the means and the standard deviations were close enough to what they should be to make this sample acceptable.

Now that I had my sample, my next step was to put them through various possible careers. For the sake of having a project of manageable size, I chose to put them through only the careers in the basic rules: Navy, Marines, Army, Scouts, Merchants, and Other. For each character, I attempted the basic enlistment roll. If it failed, I simply dropped the character from the sample. If it succeeded, I ran the character through the appropriate service's experience tables. I attempted to make every decision in a way that would best serve the character's interests. Thus, each character completed from zero to six careers. I brought a career to an end only when the character died, failed re-enlistment, or was forced to retire by age; no characters took early retirement.

The most basic questions, of course, are whether a character gets into a service, and whether the character lives to retire into play. The next table gives these results for each service, both as a number and as a percentage. For enlistment, the percentage is a percentage of all characters; for survival, it is a percentage of the total number of characters enlisted.

ENLISTMENT AND SURVIVAL RATES

<i>Service</i>	<i>Enlistment</i>	<i>Survival</i>
Navy	32 (64%)	20 (63%)
Marines	25 (50%)	18 (72%)
Army	50 (100%)	50 (100%)
Scouts	37 (74%)	5 (12%)
Merch.	44 (88%)	32 (73%)
Other	50 (100%)	30 (60%)
<i>Total</i>	238 (79%)	155 (63%)

It can be seen that the Army and the Other service are the easiest to get into, and the Navy and the Marines the hardest. As to survival, the Army has a very low mortality rate, and the Scouts a very high one; the remaining services all cluster in the middle. Joining the Scouts, with a long-term survival rate of 12%, indeed seems to reflect "a subconscious view to suicide."

How long does a career last? Here, too, there are significant differences. The next table presents mean and median career lengths for the various services, based on the survivors from each service. (Note that, for this and later tables, there are few enough survivors from the Scouts to make the estimates of that service unreliable.)

LENGTH OF CAREERS IN TERMS

<i>Service</i>	<i>Mean</i>	<i>Median</i>
Navy	3.3	2.5
Marines	3.1	2.5
Army	2.8	2
Scouts	4.6	7
Merchants	5.4	7
Other	3.7	3
<i>Overall</i>	3.7	3

If you're looking for a long career, pick the Merchants; not only do they offer the largest mean number of terms, but their survival rate is fairly favorable. The Scouts, which also offer a chance of long careers, are very likely to kill the characters pursuing those careers. On the other hand, the Army offers a way

for a character to get through a career and be retired while still young, and survival to retirement is almost a sure thing.

Four of the entries—Navy, Marines, Army, and Merchants—have commissioned officers of various ranks. The next table gives the likelihood of receiving a commission in each service, and the mean and the median ranks achieved. The "overall" figures in this table are for those four services only; since the Scouts and the Other service do not have officers, their inclusion on this table would distort the comparisons it offers.

OFFICER STATUS

<i>Service</i>	<i># Comm.</i>	<i>Mean Med.</i>	
		<i>Rank</i>	<i>Rank</i>
Navy	13 (65%)	2.2	2
Marines	11 (61%)	1.8	2
Army	50 (100%)	1.8	2
Merch.	32 (100%)	2.6	3
<i>Overall</i>	106 (88%)	2.7	2

From this table, it can be seen that the Army and the Merchants virtually guarantee a commission, while the Navy and the Marines make one relatively hard to get (though over half of all voluntary enlistees who live to retire will hold commissions on retirement).

How rapidly do commissions and promotions actually come, though, and how far are these differences due to differing lengths of service? To provide an estimate of both, the following table compares ranks gained per term of service across the various services.

RANKS GAINED PER TERM SERVED

<i>Service</i>	<i>Ranks/Term</i>
Navy	0.43
Marines	0.35
Army	1.07
Merchants	0.48
<i>Overall</i>	0.63

For this table, the average rank at

retirement is figured for *all* survivors; non-commissioned retirees are considered to be rank 0. This table reveals the vastly superior promotion chances of Army personnel, with more than twice as many ranks gained per term of service as in any other career. A similar pattern is evident with skills gained, as shown in the next table.

SKILLS GAINED

<i>Service</i>	<i>Skills</i>	<i>Skills/Term</i>
Navy	4	1.2
Marines	6	1.9
Army	7	2.5
Scouts	6	1.3
Merchants	9	1.7
Other	5	1.2
<i>Overall</i>	6	1.6

The Merchants offer the most skills (computed as a mean number of skills gained); the army offers nearly as many, and the highest rate of skill acquisition over the course of a career. This is understandable, given the linkage between skill acquisition and promotion. The Navy is particularly unsatisfactory as a source of skills, offering scarcely better chances than the Scout and Other services, where promotion does not exist.

What skills are actually gained? As a means of judging this, I went through each service's survivors, noted total levels of skills in every specialty, and divided by the number of survivors. Rounding this off to the nearest whole number gave me a typical skill configuration for each service. When the typical number of skills was larger than the number of skills determined by this procedure, I listed the extra skills as "unspecified." The following list is the result:

Navy: Engineering-1, Gunnery-1, Vacc Suit-1, Unspecified-1.

Marines: ATV-1, Brawling-1, Cut-

lass-2, Revolver-1, Tactics-1.

Army: ATV-1, Bayonet-1, Rifle-1, Submachinegun-1, Tactics-1, Unspecified-2.

Scouts: Pilot-1, Unspecified-5.

Merchants: Electronics-2, Gunnery-1, Mechanical-1, Navigation-1, Pilot-1, Streetwise-1, Unspecified-1.

Other: Brawling-1, Electronics-1, Forgery-1, Streetwise-1, Unspecified-1.

As this list shows, the Scout service is least predictable, probably because the sample size was too small to eliminate the effects of random variation; the one certainty is that every scout *will* have Pilot-1. The various other services all have fairly expectable patterns, though it should be emphasized that these are not guarantees. It can be seen that a Navy career will give technical skills, a Merchant career largely technical skills but more diversity, an Other career various semi-legal skills with little technical ability, while Army and Marine careers tend strongly toward combat skills.

Finally, we reach the end-point of a character's original career: retirement. At this point, characters become eligible for retirement benefits. These benefits can take various forms: cash, pensions, material benefits, and so on. For the sake of simplicity, I decided to convert Low, Middle, and High Passages to cash at their resale value (90% of initial price) and to add them to cash benefits. None of the other benefits were gained by a majority of retirees in any service, so I chose to disregard them. This left only two classes of benefits to consider: immediate cash and pensions. The next table includes both. In addition, it provides an estimate of total equivalent case value of the two combined. To derive this, I noted that a Travellers' Aid Society membership, with a cash value of Cr1,000,000, pays dividends of six High Passages annually, with a total

cash value of Cr60,000; this gives an effective interest rate of 6% annually. Dividing the total amount of a pension by .06, therefore, gives the equivalent of a pension as a lump sum. (This is actually something of an overestimate, since the pension will not last indefinitely, but only until the character dies, but, lacking an estimate of character longevity, I decided that this figure would be close enough for the purposes of this article.) This can be added to immediate cash to give the total effective wealth for a given character.

WEALTH ON RETIREMENT

<i>Service</i>	<i>Cash</i>	<i>Annual Pension</i>	<i>Total</i>
Navy	28,745	1,400	52,078
Marines	23,511	1,333	45,728
Army	34,328	800	47,661
Scouts	78,360	—	78,360
Merch.	52,431	4,625	12,9067
Other	64,067	—	64,067
<i>Overall</i>	43265	—	69,065

All numbers are in Cr.

From this table, it is evident that the three standard military services offer retirees the worst financial position. Given the shortness of a military career, most retirees will not serve long enough to even get a pension, which is why the average pension is so low. The Merchants are the worst off of the non-military services when pensions are not taken into account—though still well ahead of the military services—but adding their pension raises them to first place.

A further step is to compare cash benefits per term of service across the services. For this purpose, I used the basic cash amounts excluding pensions, since pension benefits increase with service in a fairly well-defined way. The next table gives the comparison for all services.

CASH PER TERM OF SERVICE

<i>Service</i>	<i>Amount</i>
Navy	Cr8,711
Marines	Cr7,584
Army	Cr12,260
Scouts	Cr17,035
Merchants	Cr9,709
Other	Cr15,626
<i>Overall</i>	Cr11,693

This table shows that the Scout and Other services are the most profitable, and the Navy and Marines least profitable, in cash accumulated per term.

There is, of course, one modification to this analysis. Nearly half the Navy retirees and a number of the Marine retirees got out with Travellers' Aid Society memberships. If the cash value of these memberships were figured into the average, it would substantially raise the net worth of these service careers.

On balance, then, what can we say about the various services? Let's put it in summary form.

Navy: Hard to get in; commission and promotion chances poor; few skills gained, technical orientation; cash low, pension seldom earned; chance of Travellers' Aid Society membership.

Marines: Very hard to get in; short career; commission and promotion chances poor; skills combat oriented; cash low, pension seldom earned; chance of a Travellers' Aid Society membership.

Army: Very easy to get in; survival almost certain; short career; commission and promotions rapid, but cut short by early retirement; skills gained rapidly, combat oriented; cash low, pension very seldom earned.

Scouts: Very high mortality rate; long career for survivors; skills variable; cash high; no pension.

Merchants: Long career; commission and promotions slow but accumulate over time; numerous skills, mainly

technical but some diversity; cash high, excellent pension chances.

Other: Very easy to get in; skills mainly semi-legal; cash high; no pension.

No one career will suit everyone. One player, one character, may favor secure but modest benefits; another may favor risking death or rapid retirement to get the chance at wealth, Social Standing, or a Travellers' Aid Society membership. These statistics do not mean to dictate what career choices anyone should make, but they do offer data to enable the players to make a more informed choice.

—William G. Stoddard

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continued from page 14

Inkula

Grand Master 8CBC65 Age 46 7 terms Cr50,000
Melee Combat-4, Stealth-3, Blade-3, Control-3, Blowgun-2, Recon-2 Blowgun,
Blade, Bolo.
(Jump Kick+1, Kick+3, Disarm+2, Punch+2).

— Keith Douglas

continued from page 35

everything, including murder, to get Veedback to perform one of his tunes.

— A booking mixup causes the Veebs to appear before an audience that is expecting "Clip Dyfanwy and his Prosthetic Guitar Play the Emperor's Easy Listening Favorites." (Or conversely, a doddering Imperial Grand Duke might demand that the Veedback play his favorite polkas or be tried and executed for

treason.)

As always in these situations, the referee has carte blanche to adjust the length of the tour, the payoff (Ruby is a very sharp operator, but honest, and bonuses or "combat pay" are possible), or the personalities of the band and the crewmembers.

Remember, whatever the tech level, rock and roll never forgets.

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TRIAD CLASS MERCHANT VESSEL

The Military in Traveller: Naval Command

Because of the inherent flexibility of the Traveller system, referees and players can participate in almost any kind of adventure or campaign. One type of adventuring which has gone virtually unexplored is to play characters on active duty in the Navy and Marines, since it is assumed that an adventurer's life begins when he leaves the service. For those of you who wish to depart from the rules slightly, this can be an interesting challenge. Simply assume that the characters remain in the service, and begin their adventures there. Players can assume roles at various levels in the military hierarchy, with exciting and interesting results. Not only are they challenged in space and personal combat, diplomacy, and so on, but their skills as leaders are tested as the crew reacts (through the referee) to the decisions made by the players in command.

The following guidelines will suffice as a brief introduction to Naval shipboard command structure, and offer suggestions for refereeing adventures using characters in active Naval service.

RANK

Characters on active duty may either be senior officers, enlisted men, or a combination. An interesting approach is to allow each player to have *two* characters, one a senior officer, one a lower rank (preferably in a different department of the ship). In this manner, each player can involve himself in the operation and leadership of the ship as a whole, and still participate on missions or adventures in which no senior officers are present (thus avoiding the requirement for the top command structure of the ship to risk life and limb in order to have a good adventuring session).

I recommend the use of a medium size ship, such as *The Azhanti High Lightning*

class (60,000 tons). The AHL class is an excellent example, since it is large enough for the commanding officer to have a rank of Commander, with lieutenant commanders in all senior staff positions. In addition, it has 150 Marines aboard, opening up wide vistas of dirt-side military actions, ship boardings, and other shoot-'em-up excitement. Further, use of a medium-sized ship such as the AHL class allows the referee the most freedom in starship encounters, and smaller ships sometimes get more interesting (read dangerous) peacetime duties.

If you decide to use another vessel, either of your own design or someone else's, bear in mind that the rank of the commanding officer will depend on the size of the ship: carriers and dreadnoughts will be commanded by captains and commodores, large cruisers and destroyers by commanders and captains, and escorts by lieutenant commanders. Lower ranking officers on board ship will scale down from the top level on each ship. Vacancies in positions due to death or injury may, on occasion, find lower-ranking officers filling positions of higher authority, but these are rare. Such Battlefield Promotions last only until a qualified replacement can be brought on board (but are usually accompanied by a decoration if the junior officer did a good job).

COMMAND STRUCTURE

The commanding officer (CO) is the ranking line officer assigned to the ship. Other officers may outrank the CO, but they cannot command him in the performance of his duties with regard to "his" ship. In addition, he is sometimes referred to as the "Captain," "Skipper," and (less respectfully) "the Old Man," regardless of his actual rank or age.

The executive officer (XO), the CO's right-hand-man (or woman), is one rank below the CO. XOs will never hold a rank of less than sublieutenant. There is only one XO per ship, and he (she) must also be a line officer.

Department officers are subordinate to the XO, and are the ranking officers in each department. They may be either one rank less than or equal to that of the XO. There is a department officer for each section in a ship (see Book 5, *High Guard*, the section on *Crew*). This includes ship's troops, if any. Depending on the number, the commander of the troops may be considerably lower in rank than other department officers, or may be equal to them.

Within departments, there may be several divisions, depending on the complement of the ship and functions of that department. On most naval starships, for instance, the Engineering Department is divided into Power, Maneuver, and Jump divisions (on smaller ships, Power and Maneuver are often combined). Each division has a division officer (DivOff, or DO), who is the ranking officer at the actual work site, and directly oversees all day-to-day operations of the division.

Smaller ships (500 tons or less) will tend to have a foreshortened command structure, in which senior enlisted personnel act as DivOffs. They retain the title Division Officer (or Division Chief, Division Petty Officer, and so on, depending on the COs personal preferences). On such vessels, divisions may have as few as three or four personnel.

One of the greatest advantages (and responsibilities) to the referee granted by this type of adventure is that the players have no choice but to go where they are told. Orders dictate, in most circumstances, where a ship and its complement goes, and what it will do once it gets there. This gives the referee immense freedom to devise new perils for

his players. It also puts a responsibility on the referee, however, to make the adventures interesting and allow opportunity to the players for profit in other or related ways. Short of committing mutiny and taking the ship out of their home area, they have no choice but to obey. Loyalty to the Navy and their government, as well as fear of jeopardizing their careers, should see to that, but the rewards of bravery in normal naval service seldom exceed the occasional commendation. Most crews feel extended shore leave on an attractive world to be a perfect reward for excellent service. (This is also a good way for characters to blow off steam, make some extra cash, and become involved in short side adventures.)

SALARY

One of the first questions players will ask the referee concerns regular monthly pay. I arrived at the following formulas:

Enlisted:

Rank x (Cr500 + M + T) = Monthly Pay

Officer:

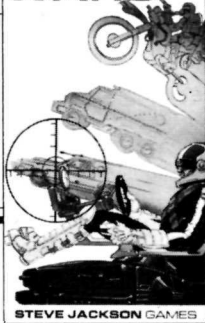
Rank x (CM 200 + M + T) = Monthly Pay

Where M is the MOS skill bonus and T is the terms in service bonus, or term bonus. The MOS skill bonus equals 5% of the base pay for each MOS skill point over 1. The Term bonus (terms in service bonus) equals 5% of the base pay per completed term in service. The MOS Skill and Term bonuses are applied to the base pay, which is then multiplied to the rank digit. For example, an E-3 with MOS skill of 4 and one full term in service complete receives a base enlisted pay of Cr500, plus 1 5% of 500 as an MOS bonus, plus 5% of 500 as a Term bonus, all multiplied by his rank digit, 3. This yields the following (Cr500 + 75 + 25) x 3 = Cr600. An O-3 with the same time in service and MOS bonuses would

continued on page 44

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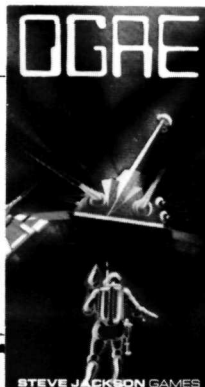
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ROADSHOW



Players' Information

The players are attracted by an advertisement, promising high pay and travel for a year's term of service; there is a warning that the contract terms are strict and there is some risk involved—in other words, it sounds a lot like the usual private-contractor mercenary recruiting notice for a less-than-popular war.

Answering the ad will lead the players to a confusing and maddening series of blind meetings, room-switches, and anonymous phone calls. The people they meet are silent, security crazy, and discreetly but well armed. The recruiters check out the players' physical conditions and combat skills—their records with the military or the law are of no interest. On at least one occasion, they will be shown photos of five slightly weird-looking people (the referee should decide what's weird in his particular universe), three men and two women, and ask if they recognize them. At least

once, this question will be asked using a lie detector. The people are, however unknown to the party.

Amber Zone

Finally, at just the point when the referee sees the players' patience is ready to snap, they are taken in a closed car through an underground garage to what seems to be a conference room in a fancy hotel. A woman in red-mirrored sunglasses and very expensive clothes, flanked by two goons (one of whom disarms the players) puts blank contracts on the table and states the terms:

The tour of duty is for one year, starting now, with up to 60 days extra for travel delays. The payment is Cr10,000 per person on signing, all meals and housing provided. At the end of the contract, they will be paid another Cr90,000 and one high passage each (destination

of the character's choice).

Anyone who quits before the year is up, however, loses everything but the advance. Anyone hurt in the line of duty gets free medical care and Cr20,000 if they have to drop out. Anyone killed gets a free funeral and Cr40,000 to next of kin.

The only job description given is "security and support." It is not on this planet.

Referee's Information:

If the players sign on, the woman will count out Cr10,000 each, in new 100s, taken from a metal briefcase chained to a goon's wrist. The players will then be taken to quite comfortable rooms in the hotel...which, they will soon realize, is actually a super-luxury starliner, the *Hotel California*, taking off in only a few minutes. If they planned to take the advance and run, they will get no chance until the liner's next stop, a barren company-owned world which will cost them almost the entire advance to leave. At that world, heavy equipment will be loaded aboard and a group of passengers will board the liner's *really* fancy staterooms. After takeoff, the group will be told what they've gotten themselves into...

Our heroes are now roadies for Veedback (the five people in the pictures), one of the most popular amp-rock bands in the Solomani Rim. They've never heard of Veedback—that's why they were hired. The Veeb's fans are...enthusiastic. Veedback has the highest LRI (Lost Roadie Index) on the Rim concert circuits. This tour will be complicated, because a video team is going to be shooting tape for a live tour cassette. *Everybody* (rabid fans, rock-hating vigilantes, ticket scalpers, video pirates, *pirate* pirates bent on kidnapping) is going to be after the players. It's going to make a short ticket on a tech 6

swamp world look like a junior prom at East Tulare High.

The members of Veedback are:

Mordred Rosegold—vocals, plays lead guitar (wears silk shirts and black leather, likes to have his picture taken and party all night).

Delilah d'Aubry—vocals, lead guitar (acid-queen rocker, packs a revolver, rumored to be a Sector Admiral's daughter).

Lydia Vervain—percussion (flashy dresser, in long gowns and lots of jewelry; also cool, smart, writes the band's biggest hit songs).

Ginch—keyboards (big guy who builds and maintains his own synthesizers; also a motorcycle fanatic...rare in this age of grav vehicles).

Herman Zero—bass (tall, thin, wild-eyed and *completely* weird city; he may be a burnt out psionic).

There are three other important people on the tour. Rosalita "Ruby" Tuesday, the lady with the mirrored glasses, is the band's business manager. The video crew is headed by mad-genius director Sandor Cronstein, who has done all the Veeb's hit videos, including their last live cassette, *POSITIVE VEEDBACK*. Walsingham "the Dopp" Doppler, "The Man with the Sixty Track Mind," runs the mixing boards. He is the one most responsible for Veedback's sound, though their songs are written by Rosegold, Vervain, and Tuesday.

Previous albums include *RED NOISE*, *VBdB*, and *SUPERLIMINAL*. The tentative title for the current live tape is *VEED VORWARD*.

Veedback should play about a dozen planets in the course of the year, giving from one to five concerts at each stop based on population, wealth, size or available arenas, and so forth. The band's expenses are high; running the ship and catering to the musicians' tastes in food and recreation cost plen-



ty (so does hiring roadies at 100 grand plus costs). Obviously they're not going to do a concert for ten scientists at a research outpost. Rosalita will schedule a gig if it will produce at least MCr5 in ticket sales, which could mean 100,000 seats at Cr50 each, or a much smaller number of seats on a rich resort world. Even then, most of the money is actually made from selling tapes afterward.

This is really a do-it-yourself campaign situation, a heavy-metal version of *Leviathan*. While it is of course possible for each stop on the tour to be another variation on "you violate local customs (religious beliefs/health codes/parking ordinances/artistic sensibilities) and have to finagle (shoot/shoot/shoot/shoot) your way out of the local hoosegow," there are an infinite number of possibilities, both serious and humorous. Some suggestions:

— Video bootleggers sneak a camera into a concert; the tape must be

recovered and erased before hundreds of copies are made.

— A "free goodwill" concert at a naval base brings the roadies into accidental contact with military spies.

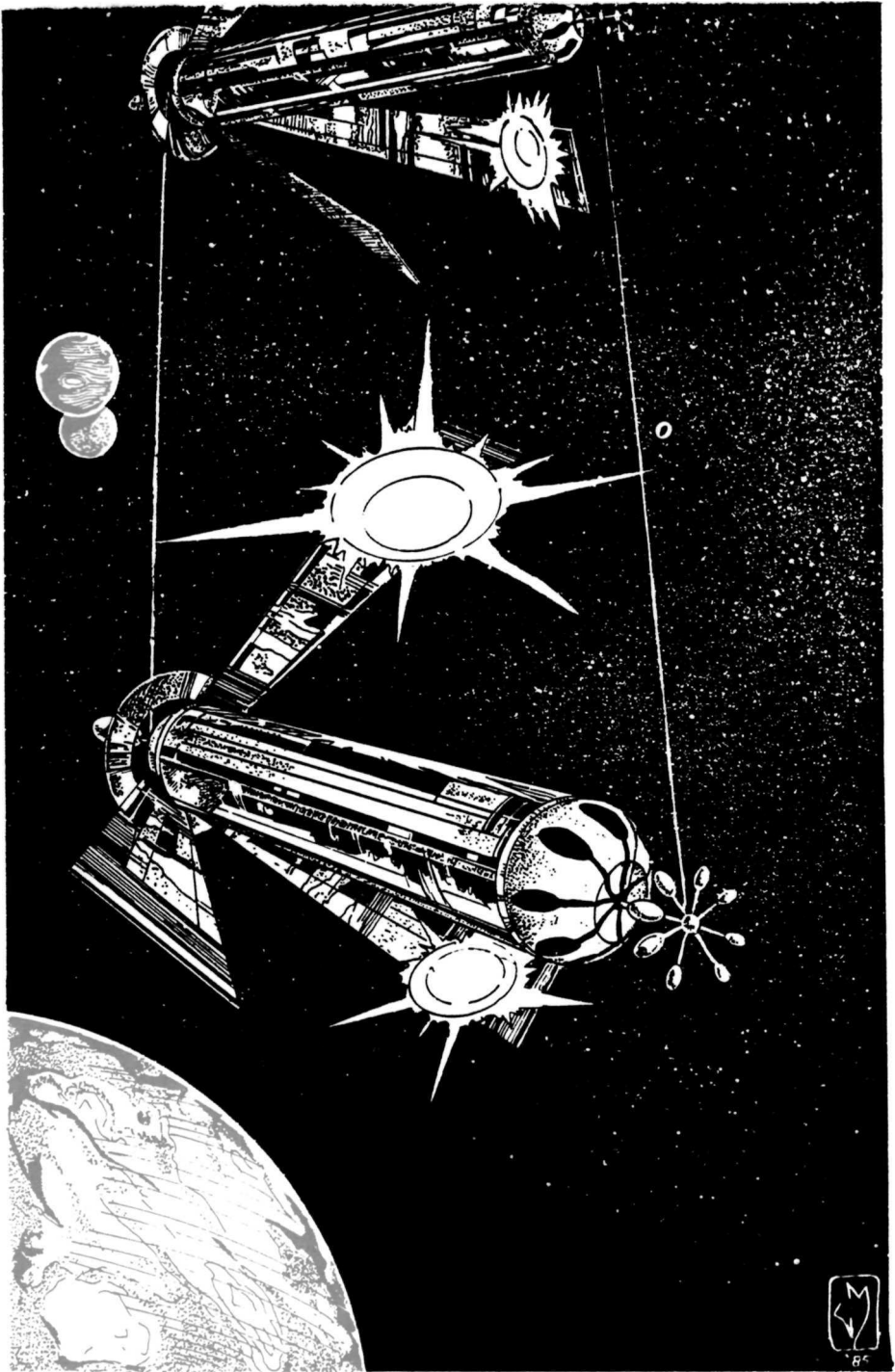
— A revolution starts in the middle of a performance (author Somtov Suchartikul tells me this really happened to him).

— A multibillionaire hires the band for his daughter's/son's birthday, and s/he decides to elope with one of the musicians.

— One or more bands members are incapacitated, and the players have to fill in. The Dopp's equipment makes this possible, even if the ringer can't sing or play a note; make-up and clever camera work covers up for appearance. The sub does have to be of the right build and sex; if there are no female characters, Rosalita can double for Delilah or Lydia.

— A crazed would-be songwriter tries

continued on page 27



SPACE HABITATS IN TRAVELLER

There are many reasons why a world might choose to build space habitats. Population pressure is one. A world might find itself in need of new agricultural land, but lack suitable worlds within its system. A world might wish to take advantage of the unique space environment to bolster its economy. Such activities might range from processing of high-tech materials in zero gravity to construction of large solar power arrays capable of transferring great amounts of energy to a planetary surface (via microwave or laser beams).

TYPES AND DESIGNS

There are two types of space habitats: rotating habitats and gravitic habitats.

Rotating Habitats (TL8 to TL14): Rotating habitats are large, hollow bodies, usually in the shape of a sphere or cylinder, that are set to rotating to provide artificial gravity along the interior surface. These contain atmospheres, and admit light through transparent sections of the exterior. The inhabitants live on the interior surface. Rotating habitats can be built in any size from .5 km to 100 km across. As they are simple to construct and non-mobile, they are quite inexpensive.

Gravitic Habitats (TL 15+): Gravitic habitats are flat, sometimes dome-covered habitations which can be built at high tech levels. Gravitic habitats generate gravity with grav plates imbedded in the habitat's base structure. Small grav habitats require domes to retain their atmospheres; larger ones can retain it through gravity alone. Gravitic

habitats can be built in almost any size or configuration as their grav structure makes them effectively massless — they are flying cities in the literal sense of the term. They are, however, extremely expensive. Also, engineering difficulties make them practical only at the highest tech levels.

The most common type in the Imperium is the rotating habitat. Gravitic habitats are limited to Ancient ruins and a few experimental facilities in the Imperial Core. Only rotating habitats will be covered in depth in this article.

CHARACTERISTICS

Space habitats will have UPP characteristics similar in many respects to those of planets, i.e., an 8-digit alphanumeric string. The first digit is starport/spaceport type; the second represents size. Any habitat of size F or greater (see below) may have a starport of type A, B, or C. Smaller habitats will have a type F spaceport for interplanetary ships. It is possible for a space habitat to have a better starport type than that of the world that constructed it. Size of a habitat is represented by a letter from A to Q. Spheres range from A to N, cylinders from D to Q. The third characteristic, configuration, determines the habitat's type cylinder (C), or sphere (S). Other shapes could be built, but they are not covered in this article. Atmosphere codes are identical to that for planets, though generally those atmospheres most comfortable to the inhabitants (5, 6, and 8 for humans) are present. Note

that the largest habitats will have wind, rain, clouds, and other weather effects, though on a smaller scale and with fewer extremes in temperature than planetary surfaces. There will be few oceans or large lakes, but small ponds and streams (usually a constantly recirculating water system) will not be uncommon.

Population Government and Law Level are represented per planets. In most cases, tech level will be equal to that of the world from which the inhabitants came.

CONSTRUCTION

Space habitats are constructed from basic metals and silicates available from moons, planetoids, and most worlds. A space habitat consists of three basic structural elements: structure (or framework), interior (including buildings, soil, etc.), and radiation shielding. The tonnage requirements (in millions of tons) are given in the tables on page 40. Note that this refers to mass in tons, not volume. Structural tonnage varies with size, tech level, gravity, and atmospheric pressure. Interior and shielding costs depend on size alone. Construction costs, in megacredits per million tons, are as follows:

Transport: MCr20 if from planetary surface, MCr10 if from a nearby moon or planetoid.

Structure: MCr1000.

Interior: MCr200.

Shielding: Rotating, MCr200; non-rotating, MCr100.

While tonnages in the millions would seem to preclude large developments, the above numbers (assuming the relatively simple technology of a rotating habitat) show otherwise. For about MCr120,000 (about the cost of a 200,000 ton battleship), a TL9 world could build a type G spherical habitat in high orbit capable of housing two million people, or an agricultural habitat capable

of feeding many times that number (see below).

Note that the above numbers assume a habitat with standard gravity and atmosphere and shielding sufficient to protect humans from stellar radiation. Reductions in gravity (i.e. the rotation rate) and atmospheric pressure will reduce structural tonnage as follows: multiply structural tonnage by gravity in G's, and by a pressure factor dependent on atmosphere type. These are Very Thin .25, Thin .5, Standard 1.0, Dense 1.5. Rotation shields double structural tonnage.

An agricultural habitat could be especially cost effective in terms of material and capital outlay. A habitat described above with a population of two million could produce enough food to feed 25 million.

POPULATION AND AGRICULTURE

The tonnage tables show interior surface areas for various sizes and configurations. Multiply this by .5 for spheres and .67 for cylinders to find usable land areas (areas not devoted to transparent sections to admit light) in square kilometers.

The average person requires about 90m² for residence, roads, parks, and so on, as well as another 60m² of farmland (assuming maximum-production agricultural techniques). Agricultural requirements can be reduced by 5m² per person for each tech level above 8 up to TL15. Thus a habitat built at TL8 can house (and feed) 6700 people per square km of surface, while one built at TL13 could house 8000/km².

CONSTRUCTION TIME

To construct a space habitat in its stellar system, a world must have at least a type A or B starport and a population of 6 or greater. The first space habitat constructed by a world requires



a start-up period of three years before any actual construction can begin (at double cost for the first habitat). Thereafter, construction proceeds at a rate of .1 ton per inhabitant per year, or about 100 times the shipbuilding capacity of that world's starport (because of the relative simplicity of space habitats compared to jump capable starships). Thus a world with a population of 9 (1 to 9 billion) could construct space habitats totalling 100 million tons per year.

Constructing a habitat requires forfeiting 1 ton of shipbuilding capacity per 100 tons of habitat built. Even at this seemingly staggering rate, the agricultural colony mentioned above would take six years to complete! Note that the cost per citizen would be a mere Cr20 per year, however.

ADVENTURES

Adventures in space habitats can be

very different from those on planets. They can offer an opportunity for the referee to create a unique new environment for the players. For instance, the fact that habitats can be custom-made regarding climate, agriculture, and culture enables the referee to create environments as diverse as Tahiti, Anchorage, Manhattan, or rural England all in the same star system. One colony might be a corporate facility involved in high-tech manufacturing, another might be a resort for the world's wealthy, another an exclusive Utopia for a future breed of Puritan or religious cult. These could all be a short trip from each other and the mother world.

Space habitats make the referee's job somewhat easier in that he need not create a whole world with all its facets. He need only create a small extension of it—a habitat the size of a single city, for example. Even in a habitat of only 10,000 people, there is plenty of room

for murder, intrigue, and all that other skulduggery that makes for exciting adventures.

Another possibility is exploration. A party may come across an abandoned or regressed colony of some lost race or civilization, and have to explore it. This brings forth the possibilities of ruins, out-of-control wildlife, and the degenerate descendants of the builders.

Even paramilitary adventures are possible. A militant group might decide to take control of an established habitat, and use it as a base for their nefarious deeds. The adventurers may have to get in and flush out the no-goods, possibly risking fatal damage to the habitat's pressure system in the process.

It remains to the referee to flesh out the myriad possibilities.

TABLES

SPHERE

Size	Area	Radius	8	9	10	11	12	13	Interior	Shields
A	.7854	.25	.016	.015	.014	.012	.010	.008	.156	.47
B	3.14	.5	.078	.072	.067	.06	.05	.04	.625	1.90
C	12.6	1	.375	.35	.325	.3	.25	.2	2.5	7.5
D	50.3	2	1.78	1.6	1.54	1.42	1.18	.95	10	30
E	113.1	3	4.4	4.1	3.8	3.5	2.9	2.3	22.5	67
F	314.2	5	14	13	12	11	9.2	7.3	62.5	187
G	615.8	7	30	28	26	24	20	16	123	367
H	1256	10	67	62	58	54	45	36	250	750
J	2827	15	167	155	145	131	112	89	563	1867
K	5026	20	—	295	275	250	208	167	1000	3000
L	11309	30	—	—	685	630	525	420	2250	6750
M	20106	40	—	—	—	1207	1005	805	4000	12000
N	31416	50	—	—	—	—	1662	1330	6250	18750

Formula: Mtons = $r^{2.25}$ x Mtons for 1 km.

Area = $4 \times \pi \times r^2$. Units are Km².

Structure weight in millions of tons, radius in km, area in km². Multiply structure tonnage by gravity factor. Multiply structure tonnage by pressure factor (given in text).

CYLINDER

Size	Area	Radius	8	9	10	11	12	13	Int.	Shields
D	15.8	.5	.39	.37	.34	.32	.26	.21	3.13	9.38
E	62.8	1	1.82	1.75	1.62	1.5	1.25	1	12.5	37.5
F	251	2	8.9	8.3	7.7	7.1	5.9	4.8	50	150
G	565	3	22	20	19	17.8	14.8	11.8	112.6	337.5
H	1570	5	70	65	61	56	47	37	312	937
J	3079	7	150	139	130	120	100	80	612	1837
K	6283	10	338	311	289	267	222	178	1250	3750
L	14137	15	830	75	720	664	553	443	2812	8437
M	25132	20	—	1480	1375	1269	1057	845	5000	15000
N	56548	30	—	—	3420	3159	2633	2106	11250	33750
P	100531	40	—	—	—	6035	5029	4023	20000	60000
Q	157808	50	—	—	—	—	8310	6650	31250	93750

Cylinders over 2 km radius must have rotating shields, otherwise as per spheres.

ENCOUNTER TABLES

Roll two dice to determine if space habitats are present in a system.

OR GREATER FOR HABITAT

Pop.	Hyd% —planet size						
	-0	1	2	3	4	5	6+
6	12	11	11	10	10	9	9
7	11	11	10	10	9	9	8
8	10	10	9	9	8	8	7
9	9	9	8	8	7	7	6
10	8	8	7	7	6	6	5
11	7	7	6	6	5	5	4
12	6	6	5	5	4	4	3

DMs: Planetoid belt +1 Gas Giant +1

HABITAT SIZE (1 die)

1-	C or less (S only)
2	D to F
3	G to J
4	K or L
5	M or N
6+	P or Q

LOCATION (2 dice)

2-3	Low Orbit
4-5	Synchronous Orbit
6-8	High Orbit
9-10	Asteroid Belt
11	Gas Giant Orbit
12	Elsewhere in System

NUMBER OF HABITATS (1 die)

1-	1
2	2-5
3	6-10
4	11-20
5	21-50
6	51-100

DMs: Population 9+, -9; TL8 to 9, -2; TL0-12, -1; TL3+, 0.

CONFIGURATION (1 die)

1-4	Sphere
5-6	Cylinder

DM: Population less than 7, -1.

— Chris Struble

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Zhodani Philosophies

Editors Note: This article was written by Brienshqloriashav, (press attache for the Zhodani diplomatic mission to the Imperium) shortly before the news of the recent war reached Capital.

The editor of this publication has requested that I compose a short article explaining the philosophies and motivations of my people. In the interests of improved understanding between us, especially in view of the tensions which

have almost always existed between the Imperium and the Consulate, I have cheerfully undertaken this task.

The physical differences between our two peoples are well-known, and have been fully dealt with in many fine reference works. I will, therefore, pass over our physical appearance except to correct a few of the more blatant misrepresentations. Firstly, your literature has a disturbing tendency to

depict us with heavy eyebrows, a thick beard and either a sinister leer or a scowl, as if we were perpetually contemplating some heinous outrage. Let me assure you, the natural variation in the patterns and length of our facial hair is as great in the Consulate as it is in the Imperium. I admit there is a marked tendency of our nobles to sport beards, but not all of us do so. Among us, too, the class you call Intendants (and a great many of our Nobles as well) wear their head hair longer as a mark of distinction. Secondly, contrary to what many of your holographic film directors seem to think, we smile (and even laugh) as often as Imperials. The Consulate is not the gloomy, humorless place which your entertainments seem always to show.

Contrary to what most Imperials believe, we are not robots. Creativity, divergence of opinion, freedom of expression...we have all of these within the Consulate. Our government is not oppressive...rather it is wholly concerned with the well-being of our citizens, both as a whole and individually. In return, our citizens respect, obey, and freely criticize their rulers (as is their duty).

PSIONICS

I shall turn now to the major difference between our peoples: psionics. It is the possession of psionic abilities which is the root cause of all tension between us. I have dwelt in the Imperium for years, and I believe I have an understanding of Imperials as great as any of my people, yet even I have only begun to understand the depths of the distrust Imperials feel for us. Most of your populace seems to fear psi powers, even though they have brought our society nothing but benefits (and could yours, if you would but embrace them).

For example, psionics permit us to advance the science of behavioral psychology far beyond the Imperial ef-

forts. Where your scientists must *guess* what occurs in a subject's mind, our observers can *know*. Our doctors can be certain of the precise effects of a particular course of treatment, instead of stumbling about in the dark, as yours do. Since such disorders as greed can be cured, there is no need for a Zhodani to steal. Since our citizens learn to be open and free in their opinions (and to respect and accept those of others), there is no need for a Zhodani to lie. Since most anti-social tendencies can be detected and corrected early, there is almost no violent crime within the Consulate.

The idea that we constantly monitor our citizens' thoughts is ludicrous. Privacy is not an unknown and alien concept to us. A citizen's privacy...his personal life, his dreams, his thoughts...are his own, and no one in the Consulate will violate a citizen's right to privacy without good and compelling reasons. In any case, not all of us have the ability to "read minds" as you phrase it. However, many of us are trained in "reading" subtleties of body language, speech and behavior, but these are talents anyone can learn, with or without psionic abilities (a great number of your own psychiatric and behavioral scientists study and use our techniques, so they can hardly be considered "evil" by your intelligensia).

Of course, a citizen's right to privacy does have certain limitations. Our *Teverchedle* patrols occasionally monitor the general state of certain minds (more or less at random), but this is no more a violation of their privacy than when Imperial police stop and question an Imperial citizen. It is done to detect the beginnings of mental illness, that such illness may be uncovered and treated as early as possible.

Which brings us, in a rather round-about fashion, to another basic difference between our citizens and

yours...their fundamental honesty. In conversations, I have noticed that many Imperials will signal that they are about to speak the truth with a phrase such as "believe me" or "to be perfectly frank." There are no such phrases in our language. They are not needed. Indeed, while we have an intellectual understanding of the concept of "lie," contact with the actual fact that people exist who willingly convey information that they know to be untrue disgusts those of us without special training. Naturally, some of us are often misinformed, and thus convey falsehoods, but these are accidental, and we all strive to be as truthful as possible. Our people believe that the truthful expression of opinion cannot be harmful if it is sincerely and constructively expressed.

Just as the average Imperial citizen would be uncomfortable in the midst of the Consulate, the average Consulate citizen would be uncomfortable in the midst of the Imperium. He can trust no one. He believes himself to be completely surrounded by liars and thieves. Even if he has no psi abilities, no Imperial will believe him, and he will be shunned as if he has some terrible disease. For these reasons, only those of us with the highest motivations towards peace and mutual understanding can remain long in the Imperium, and even we require special training and education.

It is, of course, understandable that Imperials should fear the exposure of their innermost thoughts. Because of the structure of your society, anti-social thoughts are allowed to form, and grow without hindrance. An Imperial often grows to adulthood without ever receiving the help he needs to properly adjust himself to society, and make the greatest possible contribution to the common good (and to himself, by doing so). Criminal behaviors grow and fester

in his mind...greed, acquisitiveness, violence, hatred, prejudice...and come to dominate his behavior. Consider what could happen in your society if the energy, the inventiveness that is channelled into criminal pursuits were instead directed to the benefit of all. What a wonderful place the Imperium could be!

— *Brienshqloriashav*

continued from page 32

receive $(Cr1200 + 180 + 60) \times 3 = Cr1440$.

While at first glance the amounts seem unbalanced in the light of retirement pay, the referee must remember to have the players deduct the cost of clothing, food and any incidental expenses encountered during chore leave. Ordinary level food and average apparel for enlisted personnel costs Cr300 per month; luxury level food and luxury apparel for officers (required to maintain the proper appearance) cost Cr1100 per month. Players are required to arrange their own food and lodging when on liberty or leave. In addition, any personal belongings which cannot be transported on board ship (such as personally-owned air/rafts, etc.) must be kept in a warehouse at the owner's expense.

Of course, if a character undergoes this system during a career and then musters out, he cannot draw any mustering-out benefits for that time period. Drawing pay under this system during any part of a term disqualifies the normal mustering-out roll, except (at the referee's discretion) service members who have outstanding performance may be granted a TAS membership.

— *Jeffrey Groteboer*

Editor's Note: Readers may wish to consult the movie *The Sand Pebbles* or the book upon which it is based as an example of the sorts of trouble sailors can get into while on leave from their ship.

The Ship's Locker



TECH LEVEL 14+ VACC SUIT

The vacc suit in Traveller goes through a number of various changes as tech levels increase. One of the permutations of these advances is the TL14+ Vacc Suit.

This suit comes in a variety of forms, most of them imitating normal civilian or military clothing. The most common of these is the ship jump-suit where the gloves are kept in pockets and the helmet rolls into the collar. The helmet is made of a collapsible clear plastic which balloons out from the suit's internal pressure. Conversion from street clothing to vacc suit requires the donning of gloves and helmet, a process which takes about thirty seconds. The suit can be purchased in any of a good range of standard designs and colors (camouflage, business suit, etc.) and can even (for a fee) be tailored in any of a huge variety of styles (cost will increase but should not go over five times that for

the basic suit). Note that the suit must cover or be able to cover all parts of the wearer's body so that nothing is exposed—bikinis are definitely out.

The life support system consists of three parts. The first is a small, high pressure oxygen tank (like an oversized CO² cartridge) which provides the initial air supply as well as a slight maintenance supply. The second is an electrical carbon scrubber which breaks down the carbon dioxide which the wearer expels into oxygen for his breathing. The last is a solid state cooling system woven into the suit fabric which provides temperature control and which converts waste heat into electricity to power the suit's life support and other auxiliary systems.

One set of equipment that the suit notably lacks is the standard sanitary couplings common in most vacc suits. Because the TL14+ Vacc Suit is designed for long-term wear in normal,

ship-board and dirt-side environments, the couplings are not a necessity, and constant wear of them would cause considerable physical discomfort after a while.

There are numerous optional systems available for use with the TL14+ Vacc Suit. These include: a hard helmet (Cr1200, adds one kilogram) for additional duration as well as negative pressure situations (where the external pressure is greater than the internal pressure); communications gear of various ranges and capabilities; a self-seal modification (Cr5000, adds one-half kilogram) which provides sealant in the skin of the suit that prevents air loss except in extremely violent situations (like sitting on a hand grenade or getting hit with a PGMP-14); chameleon surface for enhanced concealment; and psionic shields.

Duration of the suit with the collapsible helmet is six hours, while the hard helmet extends the duration to twelve hours. The power system within the suit relies upon a re-charge principle. The human body does not produce enough waste heat to power the suit systems continuously; rather the cooling system spends two hours (unpressurized) recharging batteries that have a duration of twelve hours (pressurized). The suit requires light maintenance after every one hundred hours of wear time (pressurized or unpressurized).

The suit with its optional systems has no effective weight when worn but actually weighs two kilograms (plus the weight of individual optional systems). It provides a *Striker* armor value of seven and costs Cr14,000. The small high pressure oxygen tanks weigh one-half kilogram each, cost Cr200, and must be recharged after six hours (twelve hours with hard helmet) of pressurized use at a cost of Cr10 commercially and at no cost aboard a starship. A replacement

battery pack weighs one-half kilogram and costs Cr500. It may be recharged in ten minutes at a cost of Cr5 commercially and at no cost aboard a starship. All optional systems for which statistics are not given here conform to the specifications given in the *Striker* rules.

—Donald Dumitru and James Miles

NON-LETHAL WEAPONS AND AMMO

Law enforcement and security agencies in the Imperium may find themselves hindered by an inability to act with authority in the gray area between those situations resolvable by negotiation and those requiring deadly force. Since all archaic weapons systems work by actual physical damage, even when only used with intent to capture or subdue the offender, the law officer runs the risk of injuring or killing not only the criminal but also innocent by-standers as well. In situations involving hostages, incomplete identification of targets, or a number of other factors, the choice of whether or not to kill can end in tragedy. For this reason, forensic technology at and above TL8 lends itself strongly to the development of weapons and ammunition that will not prove lethal when used, thus allowing offenders to be safely immobilized and brought to trial, and the lives of accidentally struck by-standers or hostages to be spared. These innovations, while not eliminating the aforementioned gray area, nonetheless serve to narrow it greatly, saving many lives. This article provides a few examples in addition to the tranq rounds for the snub pistol discussed in the rules.

EXAMPLES

TL8 Tranq Shotgun Loads: The Tranq Shotgun Load is a TL8 form of ammunition issued to law enforcement and security personnel whose duties might involve subduing dangerous individuals

without harm to hostages or bystanders. In this type of load, the ordinary shot pellets are replaced by granules of a semi-rigid jelly containing a powerful skin absorption agent (such as dimethyl sulfoxide or DMSO) and a metabolic-rate-controlled general anesthetic or MCA. The granules' semi-rigid state allows them to penetrate armor as normal pellets -1; on contact with skin, the MCA is rapidly absorbed (almost instantly, in fact) and lowers the victim's metabolic rate to that of deep sleep, holding it there until the supply of MCA in the blood-stream is exhausted (in 1D Hours). This means that the drug is virtually impossible to shake off, yet cannot induce coma or death due to an overdose.

To use these rounds in standard **Traveller** combat, simply resolve a normal shotgun attack per the rules, with a save versus the MCA in place of a damage roll. The save is a roll of Endurance or less on 3D. The victim must also roll a similar save every round thereafter, until the MCA takes effect.

Tranq Shot loads cost Cr23 each, with size and weight as given for standard shotgun shells. Rules for group hits by shotguns apply, but may be avoided by use of a shotgun tranq slug, identical to the above shells but containing a single metal-foam MCA-coated sponge. This slug combines full MCA effect with 1D-1 physical damage and a physical knockdown (throw Strength or less on 3D to avoid).

TL8 Tranq Grenade Launcher Loads: The Tranq GL load is a TL8 riot control and anti-terrorist weapon used by law enforcement and military authorities. It consists of a standard 40mm launcher loaded with pressurized atomizer canister loaded with agents similar to those in the tranq Shotgun load, above. The grenade detonates on impact, spraying its contents in a circle of 10 meters

radius. Any skin contact necessitates a roll of Endurance or less on 3D to avoid unconsciousness, once per round after contact occurs. Unconsciousness lasts for 1D hours, with no serious side effects.

Tranq GL loads cost Cr20, and are the same size and weight as other 40mm GL grenades. Rules for group hits by high explosives apply. At TL10, this configuration becomes available for use with RAM grenade launchers of all types.

TL10 Tranq Needles: This is a TL10 anesthetic round for use against targets in or out of personal armor. Constructed in a fashion similar to that of an ACR Discarding Sabot round, the Tranq Needle projectile is a 2mm water soluble needle encased in a sterile plastic jacket corresponding to the caliber of the delivery weapon. Upon firing, the jacket imparts spin to the needle for stabilization, and peels away upon leaving the barrel to let the needle fly free. The sealed jacket contains a supply of MCA (mentioned above). The needle, on impact, releases its coating into the victim's skin or tissue, leaving a small, easily healed wound. Attacks using this round are resolved normally, for the weapon firing the needles; the dice of damage, however, are replaced by a saving throw against unconsciousness (throw Endurance or less on 3D, once per round after the needle hits). A save must be rolled for each hit if the target is hit more than once; the nature of the MCA compound prevents overdose-related side effects. Damage to the target is minimal unless the needle strikes the face or other sensitive areas.

Tranq Needles are available for slug throwers at the tech levels of their introduction; the ACR at TL10, for example, the gauss rifle at TL12, and the gauss pistol at TL13. Cost is approximately Cr2, size and weight per normal ammunition for a given weapon.

Retrofits for most low-tech weapons, such as the snub pistol, are available at TL11.

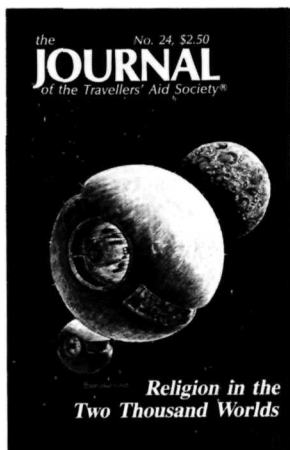
TL8 Police Combat Shotgun: Utilizing a special low-recoil 18mm shell for easier control, this weapon is a TL8 improvement on older designs for greater efficiency and safety in civil disturbances and other situations requiring heavy close-in firepower. It measures 950mm in length and weighs 3500 grams. The weapon features a light plastic unibody design for maximum stability with minimum weight. A clip of ten shells, weighing 800 grams, is attached under the weapon behind the firing grip. Reloading takes one round, during which the firer is treated as evading. The weapon has only a front bead-type sight to facilitate fast pointing, but comes with a flip-up ranging sight for long range fire. The weapon may be set to fire bursts of three rounds per trigger pull, a setting recommended only for firers of strength

10+. To expedite automatic fire, the weapon may be fitted with an optional 30-round drum magazine weighing 3000 grams. This option is non-standard due to its bulk.

This weapon uses the same combat tables as the standard model, and costs 800. Ten round clips cost Cr15 each, and 30-round drums cost Cr50. Bulk ammunition costs Cr1 per round for standard pellet loads, Cr2 for special payloads such as tear or tranq gas, marking paint, colored smoke, or Tranq Loads (per above).

At TL10, the Police Combat Shotgun may be gyrostabilized like an ACR to allow automatic fire by characters with strengths less than 10. Because of their low pressure construction, the special cartridges used with this weapon are incompatible with other shotguns and vice-versa.

—Mike Metlay



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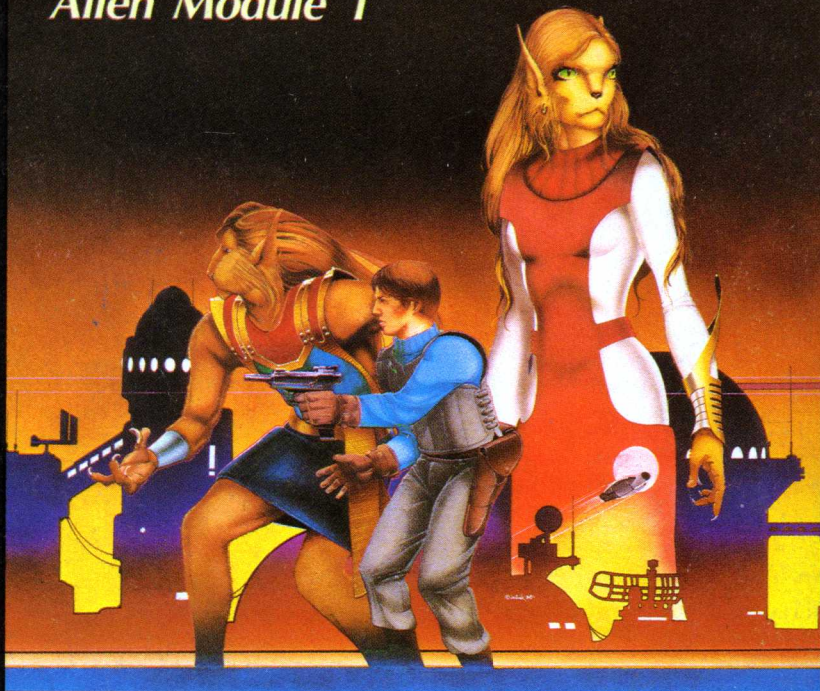
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