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No.35

CHALLENGE

GDW's Magazine of Futuristic Gaming

For Twilight: 2000—

City Maker

by Loren K. Wiseman & Timothy B. Brown

For Space:1889—

Victorian Times

by Howard Whitehouse

For Star Wars®—

Team Recovery and H-Wing Fighters

by James B. King

For Star Trek®—

Spaceports In The Star Trek Universe

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PLUS:

MegaTraveller, 2300 AD, Renegade Legion™ & BattleTech™

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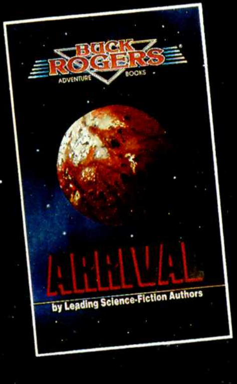
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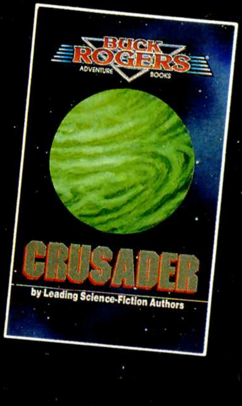
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No. 35

CHALLENGE

GDW's Magazine of Futuristic Gaming

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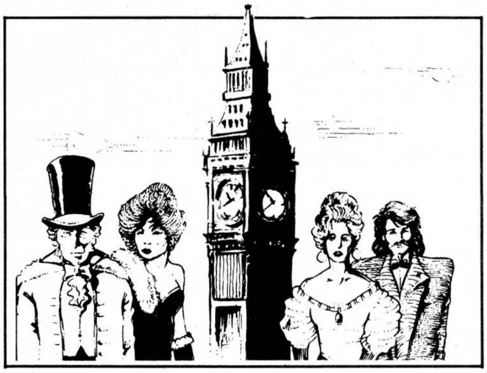

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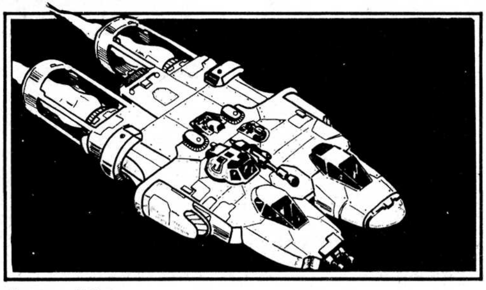

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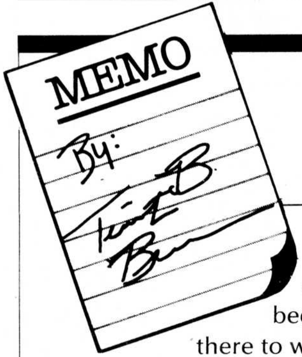

From the Management

Personally, I've never attended a convention on my own. I've always been a part of the GDW contingent, there to work the booth and run seminars. As such I have attended virtually every large gaming convention since 1978. You know what? They're still just as fun as they've always been.

You say you've never been to a gaming convention? If not you've been missing out on the very heart of the gaming world. Especially at the larger shows, all of the manufacturers show up with their latest products. Literally thousands of enthusiastic gamers travel from around the country, and the world to attend. Seminars are organized on gaming topics you are interested in. Demonstrations are set up to introduce you to the cutting edge of gaming concepts. Open gaming can be found as far as the eye can see, where interested gamers get together and play lots of different games that you'd love to enjoy. It becomes a veritable orgy of intense gaming.

Conventions are an essential source of fresh ideas and opponents. This is especially true if you are isolated and cannot find opponents very often, or if you are in a group which refuses to play a game that you are compelled to at least try out. I have found gamers at conventions to be the friendliest people on Earth, eager and willing to get new people into their games, have fun, and make new friends. You can come once a year and get a tremendous "fix" of gaming.

I, myself, found gaming conventions to be a place to make long-term friends. I have played many play-by-mail games, the opponents in which I would never have met were it not for conventions across the country. Other friends will remember you from year to year, ready to meet up again for another

Continued on page 30

WHERE ARE THE FEEDBACK RESULTS?

Our scheduling shift from quarterly to bimonthly has caused one problem—not enough time passes for feedback cards to come in. We'll be running the feedback results for 34 in the next issue (36) and will be off by two in subsequent issues.

—Loren K.Wiseman

JUST DETECTED

MINIATURES

HARPOON®

The first of a series of modern ships produced under license for GDW's **Harpoon** modern naval miniatures rules is now available. The ships are 1:2400 scale and can be used with other rules systems. There are two sets: HN1 (containing one *Ticonderoga*-class CG, two *Perry*-class FFG, and three *Pegasus*-class PHM) and HS1 (containing one *Slava*-class CG, two *Sovremenny*-class DDG, and three *Nanuchka*-class FFL), at $24.95 each.

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ACCESSORIES

TERRAIN MAKER™

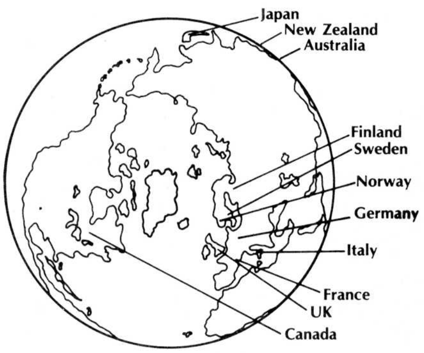
Manufactured by GHQ, the Terrain Maker system is a package of styrofoam hexagonal tiles used to create terrain features for use with miniatures. The hexagonal tiles are five inches across (flat to flat) and are designed for use with GHQ's 1/285 scale Micro-Armour™ line of miniature tanks and vehicles or other miniatures. They come in packages of 24 tiles, in various thicknesses. Four sets are available: TM1 Flatland Hexes (one-half inch), TM2 Stream and Shore Hexes (one-fourth inch), TM3 Low and rolling hill hexes (one inch), and TM4 Mountain Hexes (one and one-half inches), at $6.95 each.

Manufacturer: GHQ, 2634 Bryant Ave South, Minneapolis, MN 55408.

BOOKS

HOW TO SELL YOUR GAME DESIGN

For those of you who are budding game designers, Gamescience has issued a 1988 edition of Lou Zocchi's book of advice on designing a game and getting it published. Lou has long been in the game business, and this book is good advice for those of you who are thinking about designing a game, even if you have no plans to try to sell it to a game company. Available for $6 (plus $3 postage and handling) from Gamescience, 1512-30th Ave, Gulfport, MS, 39501.



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There are currently six levels (ultimately there will be nine) and over 400 players already exploring the depths. This game has been extensively play-tested, and has been running since 1982. The per turn fee is only $2.50 and for this one fee you get to move all 15 of your characters. They can stay together or split up into several parties moving in different directions, all for one single turn fee! No "extra action fees" ever. Our game is completely computer-run, so no human referee interferes with your enjoyment, and there are seldom any errors. (If we DO make an error on your turn, we will refund DOUBLE your turn fee!)

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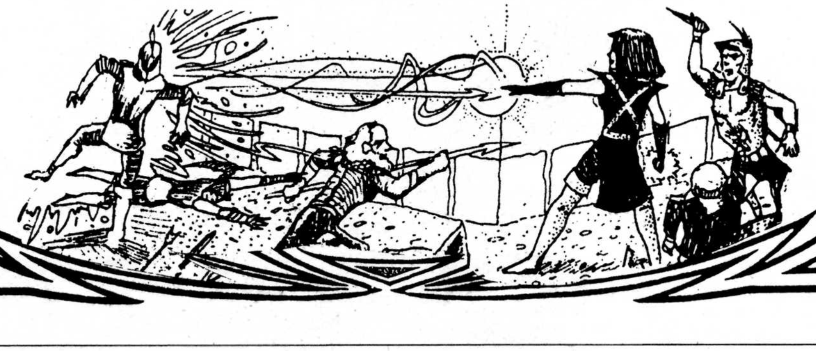
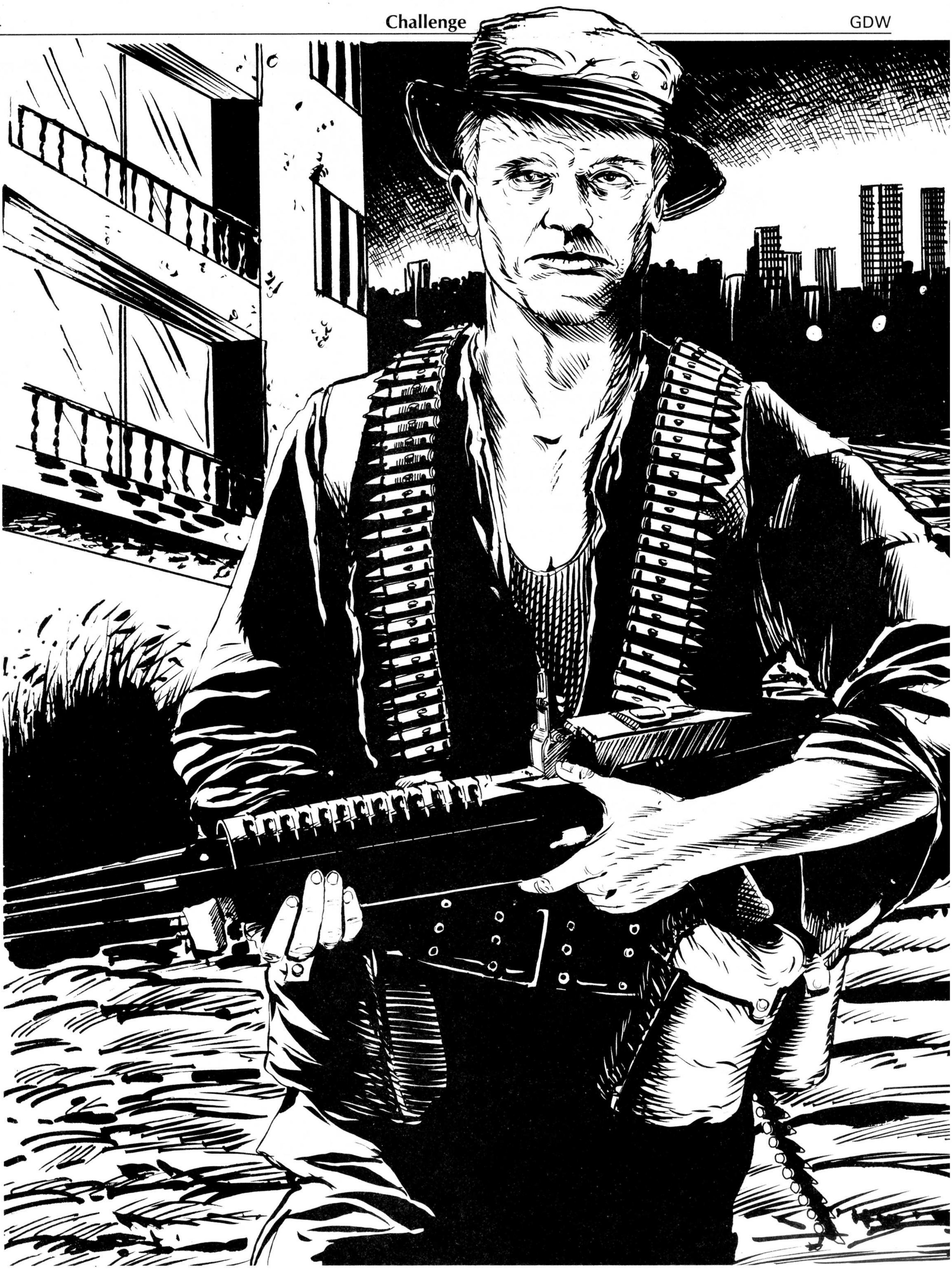
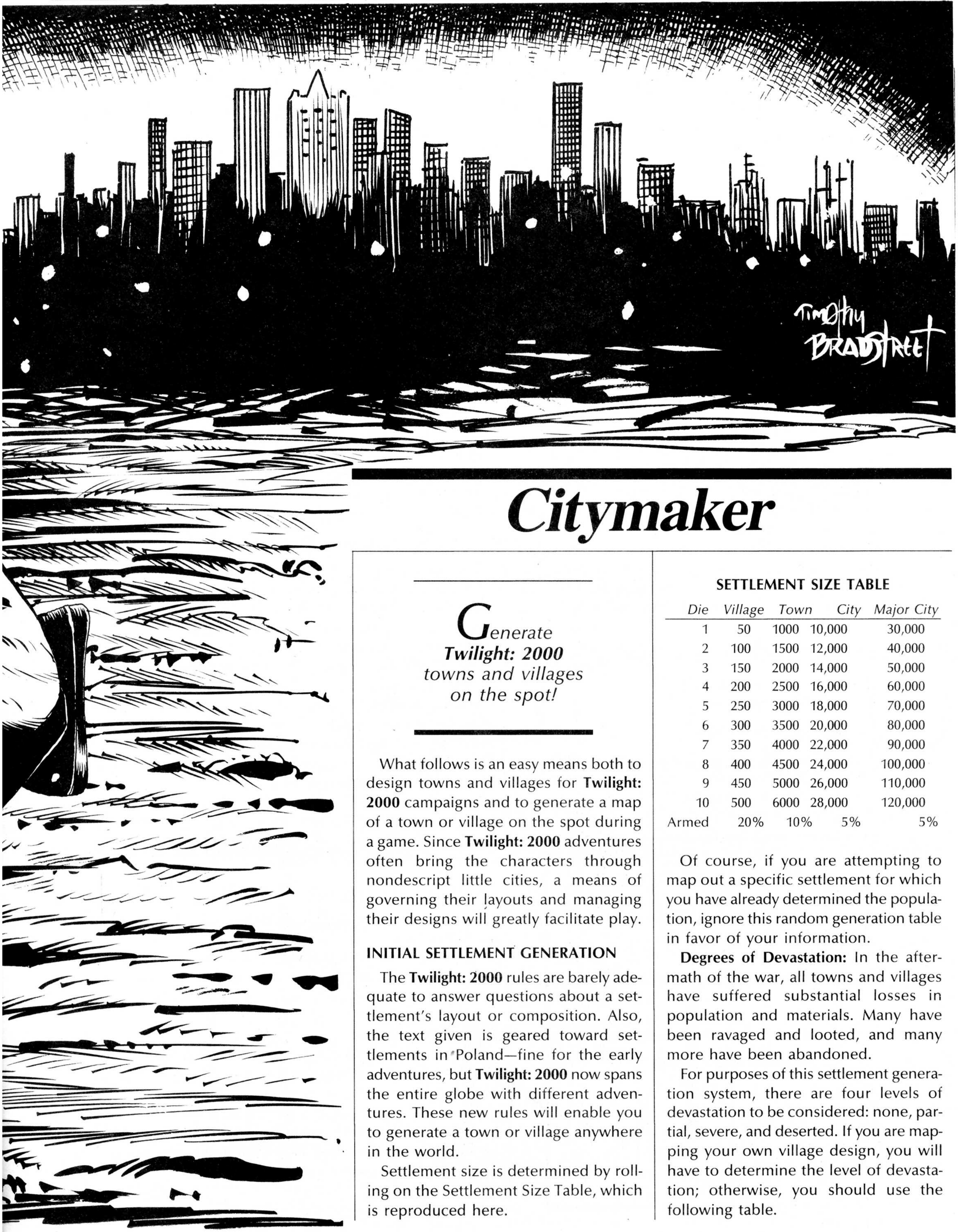






Citymaker

Generate
Twilight: 2000
towns and villages
on the spot!

What follows is an easy means both to design towns and villages for **Twilight: 2000** campaigns and to generate a map of a town or village on the spot during a game. Since **Twilight: 2000** adventures often bring the characters through nondescript little cities, a means of governing their layouts and managing their designs will greatly facilitate play.

INITIAL SETTLEMENT GENERATION

The **Twilight: 2000** rules are barely adequate to answer questions about a settlement's layout or composition. Also, the text given is geared toward settlements in Poland—fine for the early adventures, but **Twilight: 2000** now spans the entire globe with different adventures. These new rules will enable you to generate a town or village anywhere in the world.

Settlement size is determined by rolling on the Settlement Size Table, which is reproduced here.

SETTLEMENT SIZE TABLE

Die	*Village*	*Town*	*City*	*Major City*
1	50	1000	10,000	30,000
2	100	1500	12,000	40,000
3	150	2000	14,000	50,000
4	200	2500	16,000	60,000
5	250	3000	18,000	70,000
6	300	3500	20,000	80,000
7	350	4000	22,000	90,000
8	400	4500	24,000	100,000
9	450	5000	26,000	110,000
10	500	6000	28,000	120,000
Armed	20%	10%	5%	5%

Of course, if you are attempting to map out a specific settlement for which you have already determined the population, ignore this random generation table in favor of your information.

Degrees of Devastation: In the aftermath of the war, all towns and villages have suffered substantial losses in population and materials. Many have been ravaged and looted, and many more have been abandoned.

For purposes of this settlement generation system, there are four levels of devastation to be considered: none, partial, severe, and deserted. If you are mapping your own village design, you will have to determine the level of devastation; otherwise, you should use the following table.

LEVEL OF DEVASTATION TABLE

Roll	*Level of Dev*	*Blocks*
1−	None	1
2-3	Partial	3
4-5	Severe	5
6+	Deserted	Special

DMs: +1 if in Eastern or Central Europe; +1 if in North America after 2002; −1 if in North America prior to 2002.

Number of Blocks: The level of devastation will directly affect the number of geomorphic blocks that will be needed to map the city. City population must be divided into groups of 50 individuals; blocks are assigned per group of 50. For instance, in a settlement which has been partially devastated, there will be three blocks for every 50 people living there. For severe devastation, it would be five blocks per 50 people living there. Deserted settlements can be of any size.

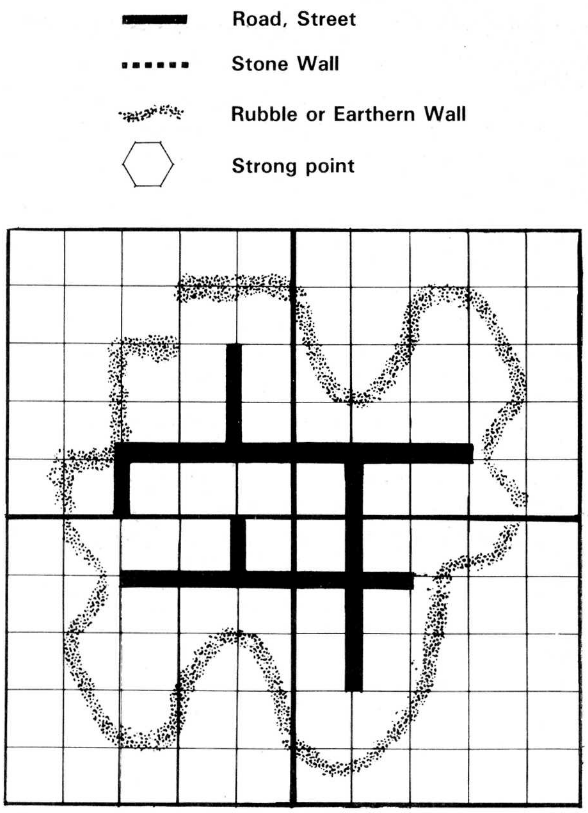
THE GEOMORPHIC BLOCKS

Villages are assembled out of geomorphic blocks of city map. These are provided on the following pages for you to photocopy as necessary. Each block is 200 meters across, and each square on the grid represents 40 meters.

Basic Varieties of Blocks: There are two basic varieties of blocks: perimeter blocks and interior blocks.

Perimeter Blocks: Virtually every city in the world now has some sort of protective perimeter. These perimeters vary from earthworks and fences to barbed wire and concrete walls. The set of blocks which is provided here is designed to represent earthworks or stone walls.

SAMPLE TOWN—4 BLOCKS



The number of blocks is determined from the devastation level and total population, as described above. The referee must decide which perimeter type he wishes to use (either earthen or stone wall), and then assemble a group of perimeter and interior blocks for the village.

The blank hexagons along the perimeters are strongpoints. These can be machinegun nests, hardened mortar positions, blockhouses, or whatever. They are for you to define when the settlement is completely mapped.

Interior Blocks: These blocks represent all interior features inside a settlement. Note that a particularly small settlement may have no interior blocks at all, depending upon the final layout.

ARRANGING BLOCKS INTO A SETTLEMENT MAP

The number of blocks is determined from the devastation level and total population, as described above. The referee must decide which perimeter type he wishes to use (either earthen or stone wall), and then assemble a group of perimeter and interior blocks for the village.

The blocks are geomorphic and will fit together any way. Perimeters should form a continuous, unbroken ring around the village (unless the referee decides to leave some portions of the village unprotected; there are city-edge pieces which have no perimeters marked on them). Use any combination of perimeter and interior blocks which total the correct number to form a viable settlement map.

Roads: Roads may run into or through a settlement. As the referee, you will have a pretty good idea where these roads lead, and you should use the blocks with roads leading out of town where they are needed.

FINALIZING THE SETTLEMENT

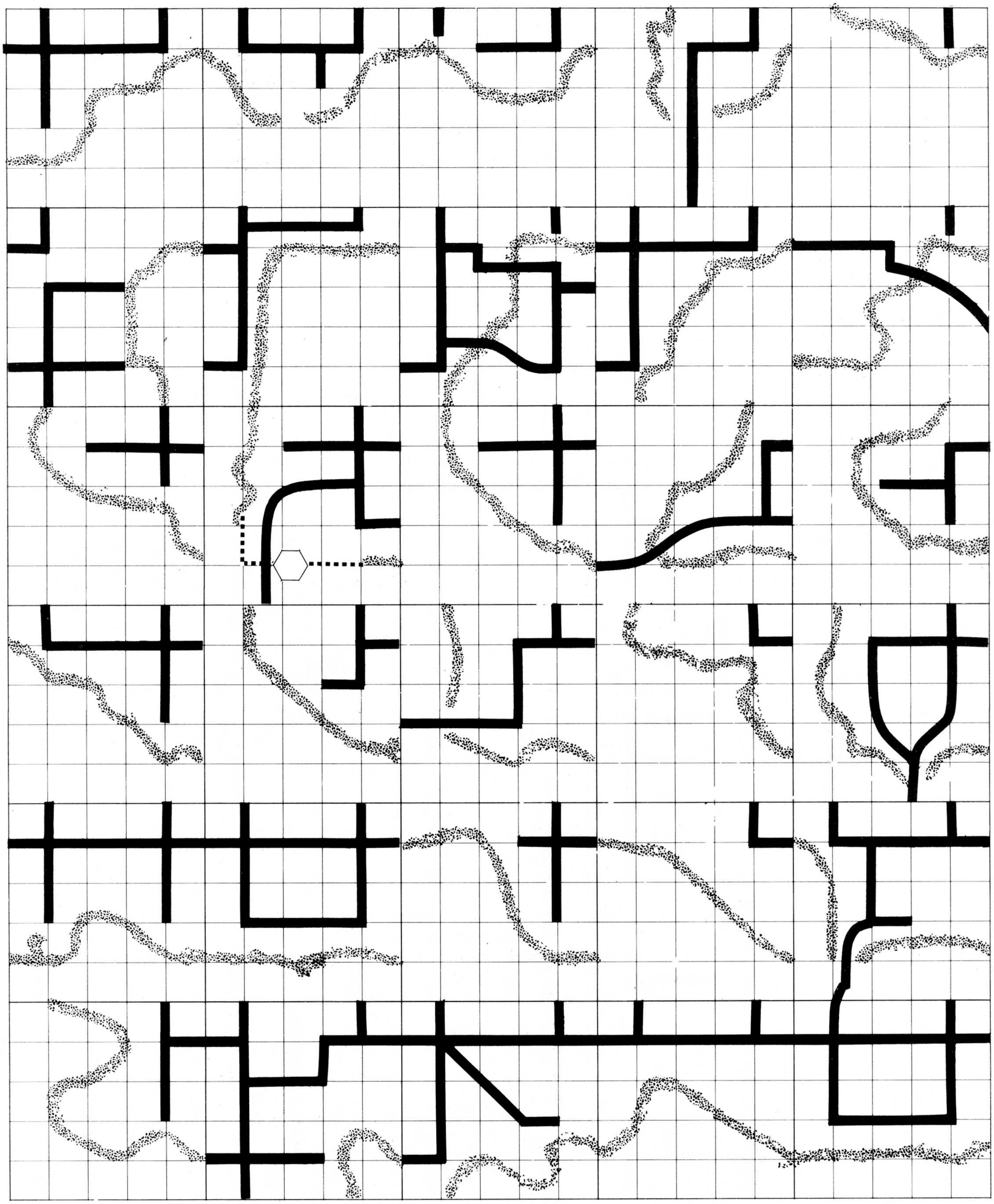
Using the **Twilight: 2000** rules, determine the percentage of the population which is armed. Next, number and define the strongpoints, as indicated on the settlement map. Notes should be compiled on total population, rough location of the settlement, and any other pertinent data regarding this map.

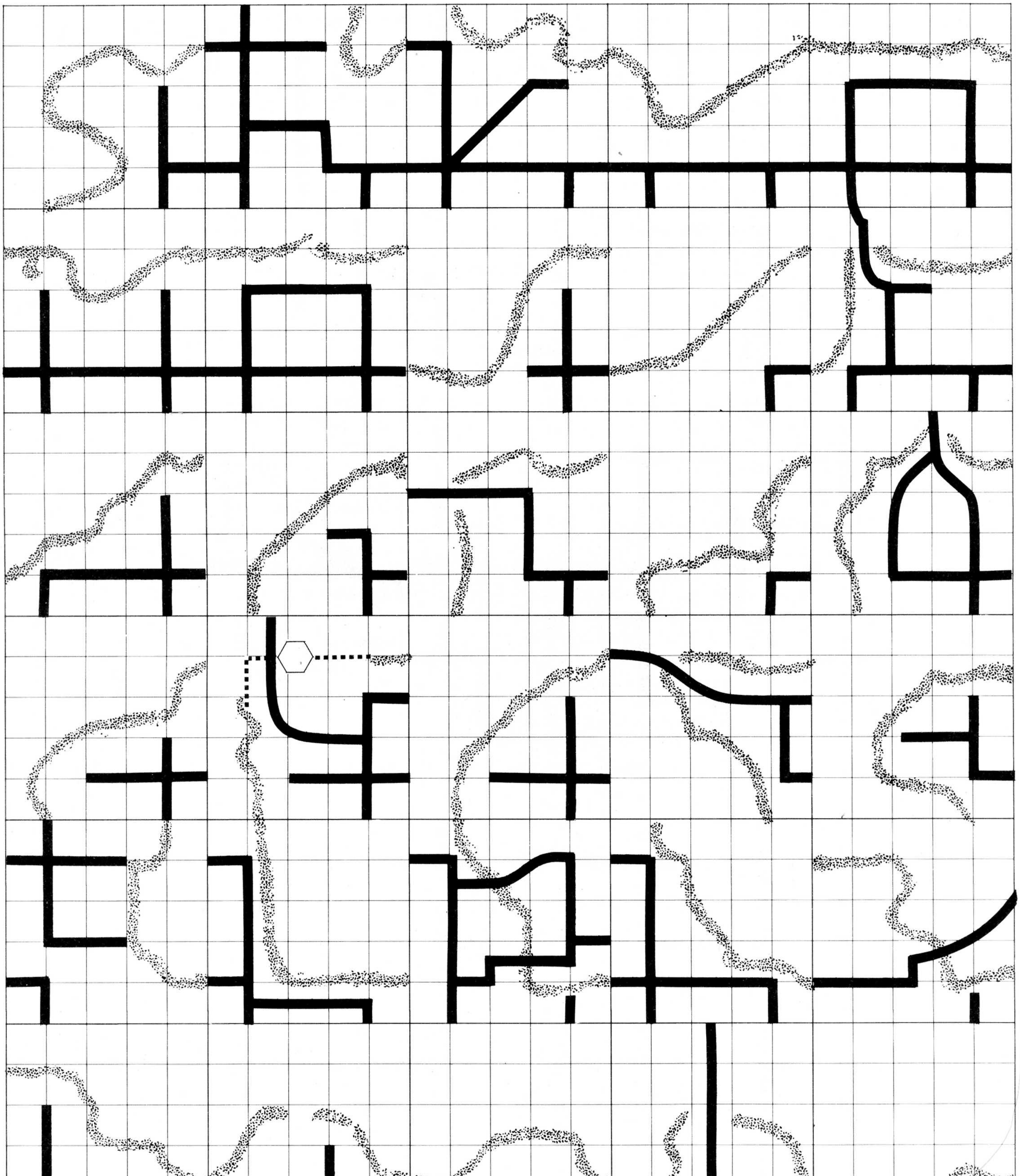
PRACTICALITY

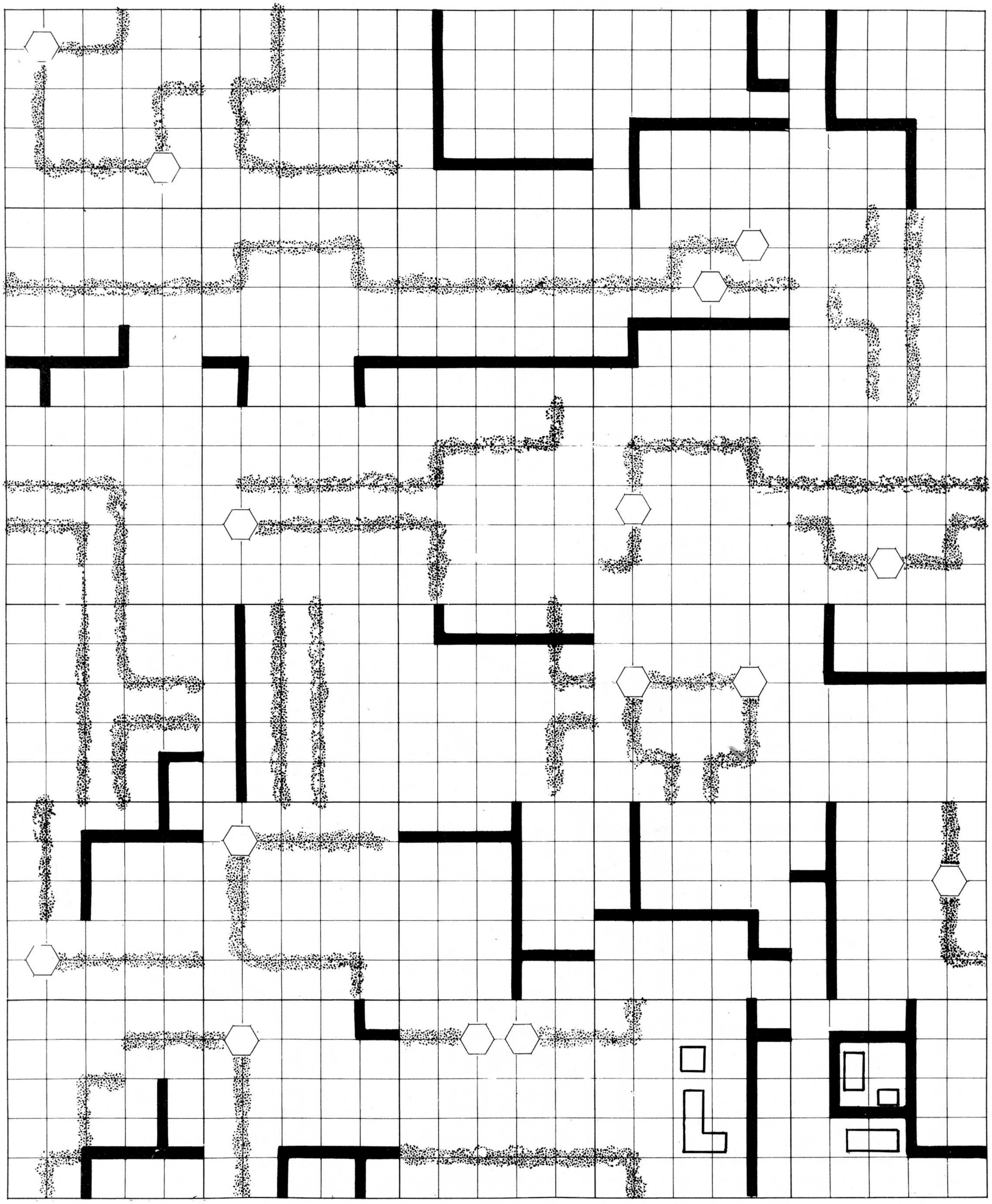
Photocopy these blocks for your use. They can be assembled as required and then photocopied again to obtain a single map.

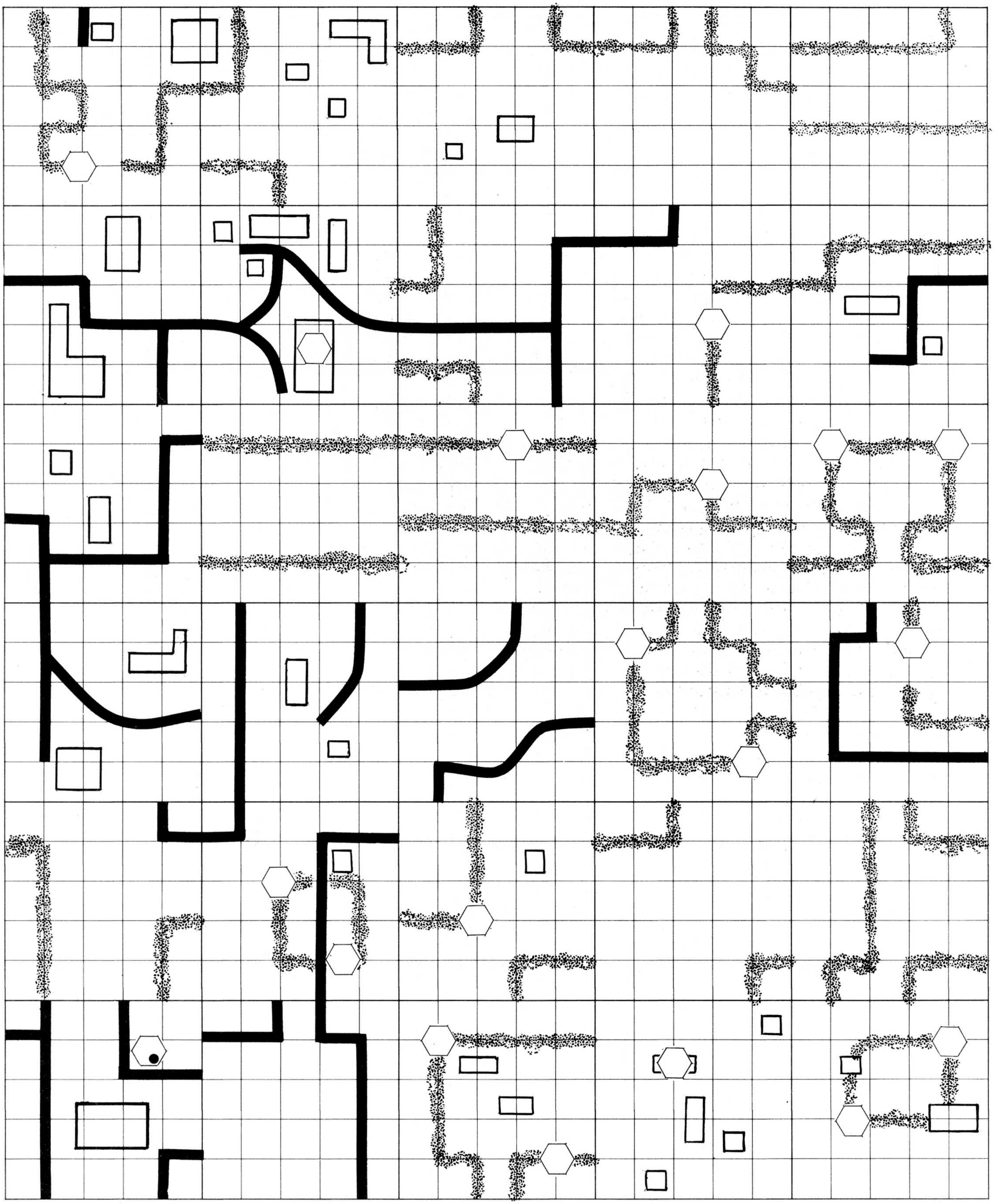
When generating a map on the spot, it might be handy to have the blocks set on some sort of card stock. They then can be arranged and used on the table without being blown away or jostled out of position as easily.

—Timothy B. Brown









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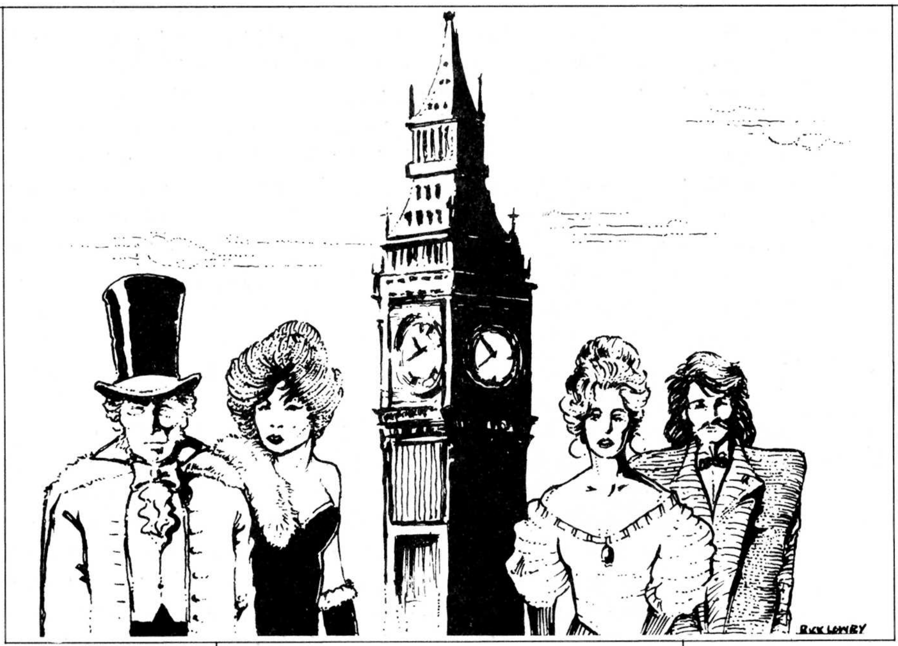


POLITICS

Great Britain was a constitutional monarchy, the first of its kind. And over the centuries, from the Magna Carta through the Glorious Revolution of 1688 to the period of major electoral reforms from 1832 onward, the power of the Crown had been stripped away; it was now a ceremonial, almost ritual symbol of British nationhood. The queen, much beloved by her subjects, reigned but did not rule. Government was in the hands of Parliament, the two houses of Lords and Commons, and specifically the Prime Minister and his cabinet.

By 1886 there was universal male suffrage in Britain, but the extension of voting rights had as yet made little difference in the traditional pattern of government. A tight ruling clique of eminent, often aristocratic families, who had controlled British politics for centuries, remained in power; Lord Salisbury's cabinet was overwhelmingly patrician.

A two-party system was in force. The Whigs had become Liberals, and their Tory opponents were now Conservatives. Both were dominated by established, landowning families, and both were feeling the push from below, from ambitious middle-class politicians and from working-class voters. The Liberals were more prone to "progressive" instincts— a tendency which, as we look at the world of 1889, had brought division and eclipse. Two issues had brought this about. Firstly, the age-old Irish question had split the party into "Home Rulers," who favored limited self-government for Ireland, and the "Unionists," who did not. The "Grand Old Man" of the Liberals, William Ewart Gladstone, had worked to preserve unity, but the failure of his Home Rule Bill (1886) broke the party and swept Salisbury's Conservatives into power. The second issue was the New Imperialism, the aggressive expansion of British influence in Africa, in Asia and, most importantly, on Mars. Gladstone had railed against the expense, questioned the moral reasoning, and thundered against the motives. It did no good. The Liberal-Unionists, led by Joseph Chamberlain, trooped over to join the Tories in support of "Union, Empire and Mars" (as Chamberlain was to put it in his "Selly Oak" speech of 1890), and the rump of the Liberals fell into disorder as Gladstone finally retired, at 82, in 1891.

All of which rather put the ball in the Conservative court. The Tories had taken on the confident, assertive spirit of Imperialism under the far-sighted Disraeli (1804-81), finding in it a cause which brought the new working-class vote together with the ancient landholding elite. Lord Randolph Churchill made Martian expansion a plank of his "Tory Democracy" platform, advocating investment and settlement in the mooted "White Man's Country" of the Meepsoor highlands. More aggressive still was Chamberlain, who as early as 1882 had looked forward to standing in the Commons Lobby with the Honourable Member for Parhoon West. All this came as something of a surprise to Salisbury, a traditional Tory who believed that Britain ought to be ruled by gentlemen bred for the purpose; a half-century in politics had shown Lord Salisbury the fleeting nature of Imperial glory, and he considered "this Martian Adventure" a red herring in Britain's efforts to preserve a waning global hegemony. He was by nature a power-broker, a maker of deals, and he is alleged to have mortified his cabinet in 1888 by advocating that Britain barter Syrtis Lapis, Heligoland, and Ceylon for the whole of the Kaiser's sphere of influence in Africa.

Outside these two parties, governing alternately, were others of a different stamp. The Irish Nationalists, led by Parnell, had seats in the Commons. George Bernard Shaw founded the Fabian Society, a group of Socialist moderates, while William Morris—the Renaissance Man of Victorian Britain—advocated a Utopian society. Karl Marx developed his theories in London and was buried in Highgate cemetery (1883), while the exiled Russian Anarchist, Prince Kropotkin, advocated the politics of the bomb from his home in Hammersmith.

The statesmen might devise policy and issue orders, but administration—the act of *doing*—was in the hands of career civil servants. Bureaucracy had grown immensely during the Victorian era in response to the increasing sense that government could be a force for improvement. The civil servants with Imperial responsibilities—the men at the Foreign, Colonial, and India Offices—were most smitten with a sense of dedicated destiny, which Kipling would dub "the White Man's Burden." They were idealistic and highly principled—more scrupulous than the trader or settler on the Imperial Frontiers—the products of public schools and universities, selected by examination. Fierce (if friendly) rivalry existed between the departments for control of the most prestigious territories and the budgets that went with them. The Foreign Office was in charge of relations with sovereign powers, from France and Russia to the Martian treaty dependencies, whose independence was no more than nominal. This was to bring friction with the Colonial Office, who had taken control of Syrtis Lapis on the establishment of the Crown Colony in 1881. The legality of Britain converting a Regency-Protectorate into a full-fledged colony, indeed, seemed doubtful to many in the Foreign Office and was to create a crisis as the young Anwaak grew to manhood. That the upstart Colonial Office, which Cecil Rhodes had denounced as being run "by missionaries, philanthropists and Jews," should administer important new lands concerned not only the smart set at the Foreign Office, but also the powerful India Office. In 1878 the Viceroy of India, Lord Lytton, took time off from the business of invading Afghanistan to suggest that the vast experience, huge treasury, and powerfully armed might of British India made her the obvious choice to govern the Martian Regency, as it had so many of the Princely States of the subcontinent. A series of biting editorials in *The Times*, and a famous Punch cartoon showing a winged elephant transporting the Viceroy from Calcutta to the Red Planet for the hot season ended the idea, although Indian troops were to serve in the Gorovaangian War as instructors to the Parhoon Rifles; the father of the famous Martian writer, Gurchan Xyypt Singh, was one of these men.

JOSEPH CHAMBERLAIN

Joseph Chamberlain (1836-1914) was perhaps the most significant politician of his age, and certainly its most characteristic. The son of a shopkeeper, Chamberlain became a manufacturer of screws, retiring at 38 to become Lord Mayor of Birmingham. His success in slum clearance led to his election to Parliament (1876) and an increasing standing in Liberal circles. Still the Radical, he saw himself as the successor to Gladstone, but the "Grand Old Man" showed no signs of stepping down, and Chamberlain's imagination was fired by the commercial possibilities opened by the Martian possessions; he began to "think Imperially." On his split with Gladstone in 1886, Chamberlain caused a sensation by accepting Salisbury's offer of the Colonial Office while still a member of the Liberal party; his popularity in the Midlands ensured re-election, and in 1895, he formally "crossed the House" to the Tories. Unlike the cool aristocrats of the Salisbury cabinet, "Pushful Joe" was sharp, aggressive, and a player to public opinion. Faultlessly dressed, monocled, with a fresh orchid in his buttonhole, his smooth manners did not cover his ambitions, and his devious maneuvers as Colonial Secretary—the Avenel Incident (1887), the Jameson Raid (1896) and the events leading up to the Second Boer War—caused disquiet in government circles. Chamberlain saw the new acquisitions in Africa and on Mars as a vast slum in need of "improvement," and his love of orchids meant that his trips to Syrtis Major (1886, 1894) were as much in search of new species for his conservatory outside Birmingham as they were for state visits. He left the Colonial Office in 1903, and was struck down by paralysis—possibly caused by chemical secretions of the Oenotrian Black Palm in Earth's atmosphere—three years later.

ADMINISTRATORS

The men who ran the Empire "on the spot" were products of a narrow caste, and most spent their entire careers running Britain's overseas possessions, working their way through postings in Sarawak or Swaziland in the hope of a plum job, a governorship in a pleasant land with a decent climate and properly organized sporting activities. Mostly young men of the upper middle class, educated at the public schools and older universities, they were generally Anglican in faith and Conservative in politics, and well imbued with the games-playing cult of "Muscular Christianity." The Foreign and Indian Offices selected candidates by examinations of notorious difficulty, to be followed by a year's study in law and languages before being placed in postings abroad. The less prestigious and pompous Colonial Office chose its men by personal recommendations and informal interviews, on the grounds that, in the strange and backward territories that fell to its lot, "character" and robust good health were rather more necessary than brains or knowledge. Once posted in Upper Burma or deepest Gorovaan, the young District Commissioner (or whatever his local title) would be judge, policeman, tax collector, census taker, architect, civil engineer, and a hundred other duties. As far as possible, he would try to follow local laws, omitting only those repugnant to Anglo-Saxon tastes, and invent local theories and procedures as seemed appropriate to the moment. Some stations were more comfortable than others—Ceylon and Syrtis Major were renowned as "good billets"—while others offered only mud huts and mosquitoes, the closest European company being the French or German official in his own thatched hovel across the ill-defined border. Not surprisingly, some administrators grew slack, taking to imported gin and local mistresses—especially in tropical Africa, where the "Old Coasters" had an unenviable reputation—but most showed a dedication, energy, and resource that far outweighed their lack of useful training or empathy with their often misunderstood charges.

THE PRESS

The advance of literacy during the Victorian era, particularly after the Education Act of 1870, fueled a growth in readership for cheap, popular literature of all kinds. The older, highly respectable press exemplified by *The Times* was joined by a vigorously Imperialist group of London dailies—*The Standard*, *The Morning Post*, and, especially, by "the embodiment and mouthpiece of the Imperial idea," *The Daily Mail*. Weekly pictorial magazines—*The Illustrated London News*, *The Graphic*, *The Black and White Budget*—portrayed the growth of the empire as both a divinely inspired mission and a jolly lark in the (often rather distant) countryside. Journalists became celebrities, especially the intrepid war correspondents. Archibald Forbes rode through enemy territory alone to be first with the news of the defeat of the Zulus at Ulundi in 1879, and would alternately predict trouble in the Balkans or the Belgian Coprates, "in the spring, mark my words." Bennet Burleigh rallied a broken square at Tamai in the Sudan; his "Desert Warfare," "Conquest of the Red Planet," and "Khartoum Campaign" were enormously successful. Melton Prior's impression of the "Last Stand at the Shastapsh Residency" hung above the mantelpiece in many a suburban parlour. G.W. Steevens, "the High Priest of Imperialism," never regained his health after a dose of Parhoon thorn fever, and died of typhoid at Ladysmith in 1900. It was the work of these correspondents, whose purple prose made the myth of the Empire so real for the man in the street, to create a popular enthusiasm for Imperial adventurism.

VICTORIAN SOCIETY

British society in the 19th century was divided, quite sharply, into classes which determined the lives and expectations of its members. Movement between classes was not easy; it was difficult to gain acceptance when attempting to rise, and it was a shameful degradation to fall.

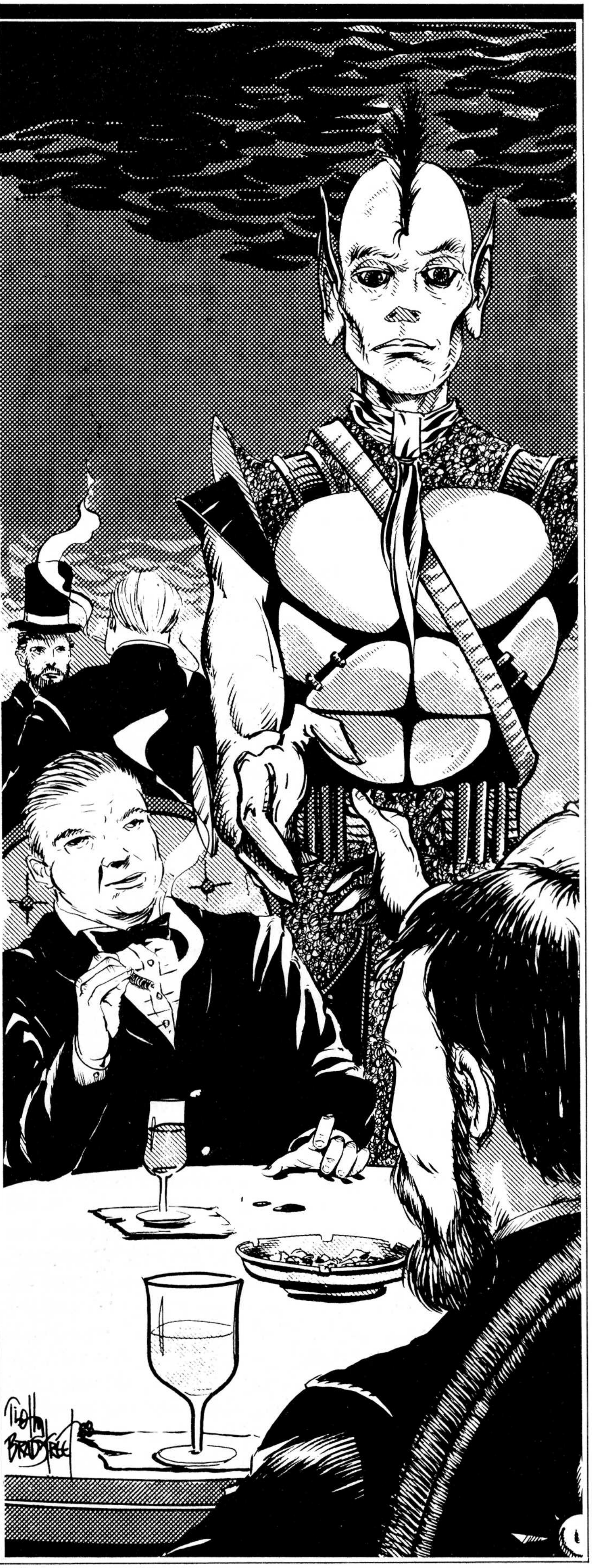
There was no real "system" at all in this class system; there were differences between the city people—who, for the first time, became the majority in Victoria's reign—and the country dwellers, and between the different regions. Wealth had little to do with class per se—certainly less than manners—but an improvement in personal fortune might well be the spur to acquire the behavior and attitude of a higher status, an effort which might succeed or fail according to the whims of fate and the competence of one's teacher or etiquette.

In descending order, as a Victorian observer might see them, the class hierarchy ran as follows:

The Royal Family: The royal family was then fairly large. Besides the queen herself, there were royal personages in key positions in society; the Prince of Wales was the leader of the London "fast set" of bon viveurs, while the queen's cousin, the Duke of Cambridge, was commander-in-chief of the army from just after the Crimean War until 1896. Nevertheless, many of the older noble families of England preferred to regard the Royals as upstart Germans of questionable breeding and manners.

The Aristocracy: The elite of British society in terms of wealth, prestige, and power. Political reform was beginning to undercut the traditional domination of government by the titled and privileged, while the decline in farm prices would slowly devalue the country estates upon which noble fortunes depended. If decline was in the wind, however, it was not obvious. The aristocrats were, in many ways, the least "Victorian" element of society. They came to enjoy the conveniences of the modern world, but their outlook remained Georgian, Rococo perhaps, in a time of grave and somber virtues. The nobles did not really care about "progress"; they were perfectly satisfied with the way things had always been: hunting, balls, and winters in France, and afternoon drives, and dinner at the Carlton or the Turf club. These were the pursuits of a leisured class, a class whose wealth, based in rolling acres of prime farmland, allowed them to live where and how they chose.

As rulers, they had little regard for trade or industry; their education consisted largely of Greek and Latin, with an increasing emphasis on games as the century wore on, for a gentleman needed little knowledge of mathematics or science. In turn there were few careers he could enter after his years at Eton, Harrow or Winchester, perhaps followed by a spell at Oxford or Cambridge. The eldest son would take over the family title and estate; the younger brothers would enter the more fashionable regiments of the army, or the Church, or enter politics. By the last quarter of the 19th century, it might be possible to go into law, or the more prestigious parts of the civil service. The real aristocracy—as opposed to the county squires of Berkshire and Kent—consisted only of some two hundred families, and those born to rule usually knew one another from childhood. A man was expected to be a leader,



but could comfortably be a "cad"—one of Lord Salisbury's sons is alleged to have died a drunk in Australia. Women were luxuriously cloistered, bargained away in marriages every bit as arranged as those of India; their educations limited to music, art, and conduct befitting a lady. The nobility was not ready for the 20th century, which was to bring almost total eclipse; indeed, its only concessions to the 19th were a slight tightening of the lax morality and raucous good living it had enjoyed since 1066 or thereabouts. Nevertheless, although young Lord Algie might appear something of a fool in his monocle and paisley cravat, he was certainly a fine horseman, probably an excellent shot, and knew very well indeed that he had been born to run things.

The Gentry: The poor relations of the aristocracy. They were not dukes or earls, though some might carry minor peerages or baronetcies, often of very ancient lineage indeed. These people would seldom admit inferiority to anyone, least of all a "Johnny-come-lately" whose title was granted by Charles XI, or any of that nouveau kind. In education and attitudes, they were much like the higher nobility, but with lesser expectations, assumptions, and of course, bank accounts. These were people who went hunting and shooting in their own shires rather than in Argyllshire or Central India, and whose traditional offices of government were those ancient county appointments—magistrates and sheriffs rather than ambassadors and ministers. Likewise, their career paths were the same, restricted avenues—estate management, the church, the armed and diplomatic services, and perhaps law; "trade" was, of course, almost taboo. In retrospect, the country gentry seem as anachronistic and pleasure-bent as their superiors, rather more stuffy and reactionary, yet more attractive; they had strong ties to the land, carried traditional responsibilities seriously, were stable and honest, and retained tremendous respect in their communities—far greater than any self-made man could ever expect. The country gentleman could be expected to be a model Englishman, courteous and dutiful, whether at home at the Manor or serving as a District Commissioner in Uganda or Avenel.

Below the "quality" of the shires was a group which has received little recognition as a class, but which would contribute its sons to the service of the Empire in large numbers. These were the country doctors, parsons, lawyers, and the better-off type of landholding or tenant farmer. Their traditional role was as supporters of the gentry and the old, rural-based order. Many would gravitate to the army and navy or the civil services of India or Syrtis Major, where they would enjoy a frugal prosperity and a sense of useful position.

The Urban Middle Classes: The Victorians par excellence. It was the values and virtues of the rising bourgeoisie—self-help, duty, competition, piety, thrift—that came to define the era. In their prosperous respectability, the tradesmen, lawyers, manufacturers, parsons, and clerks came to dominate the tone, and many of the institutions, of British life. It was a middle-class empire, and Victoria, in her attitudes and pronouncements, was a middle-class queen. The rise of the Victorian middle class was a consequence of a burgeoning economy, fueled by Britain's industrial and commercial dominance in world affairs. The traditional elites might scorn "trade" and "money-grubbing" business, but their social inferiors emphatically did not, and they rose dramatically in wealth, prestige, and influence as a result. Austere and prudish in their Methodist and Congregationalist forms of Christianity, judgmental and moralistic in their attitudes, dedicated to "progress," to Free Trade and to "improvement," the middle class dominated the town councils, charities, the Temperance Movement. The middle-class man tended to look down on the workers, so clearly morally inferior in their drunkenness, poverty, and savage amusements, and when he had contact with the poor, it was often with the plan of educating and improving them in his own likeness. The upper classes were another matter. The bourgeois world had scant regard for the idleness, frivolity, and scandalous morals of the nobility, but the urge for "gentility" was strong; if, as a Scots engineer or Lancashire mill-owner, he was a little rough for "Society," he would send his sons to the right schools to learn Latin and become a barrister or broker, and he would hope to marry his daughters to young aristocrats of ancient pedigree and empty pockets.

The middle class was not adventurous in spirit. Caution, planning, thrift, and profit were the watchwords. The daring frontiersman riding with the Rhodesia column or venturing into the Meroe Badlands was more likely to be an impoverished aristocrat or a grim-jawed millwright. The middle class provided traders, the professional men, the engineers, the senior clerks. These were respectable pioneers, concerned about steam turbines, liftwood prices, the appalling moral turpitude of the Canal Martians, and the rarity of a decent cup of tea. With wives, housemaids, and rosy-cheeked children, they epitomized Victorian civilization on Mars.

The Working Classes: In the cities, these fell into several categories, though this was only dimly understood by those better placed in society. At the top were the craftsmen, the "artisans," who, with careful budgeting, good health, and 12-hour shifts, could attain modest prosperity and adopt some of the comforts and values of the middle class. Often deeply religious, committed to self-help less through the entrepreneurial spirit than through trade unions and cooperative enterprises, this group might oppose the bourgeoisie as workers against employers, but shared with them a fear of the teeming masses of the poor. Literacy was high amongst the artisans; they were believers in the Empire, but also supported reform in the shape of a practical, populist socialism, which was to grow into the Labour Party and the Liberal radicalism of David Lloyd George.

These were not, usually, empire builders in the sense of administrators and soldiers. Their contribution would be later, as settlers, engine drivers, and skilled workmen, hired to oversee the efforts of local labourers.

Below this comfortable working class came the poor. They made up the largest group of urban Britons but were unrecognized in any form other than a narrow and unfair stereotype. The myth saw the poor as immoral, drunken, shiftless. In truth, since they were overcrowded in tiny, dark, cold rooms, and grossly underpaid for their labor, they had every reason to be angry, prone to fight outside pubs and riot in Trafalgar Square—that was the opinion of reform-minded observers. The harsh life of bad food, "cruel habitations," work seldom steady and back-breaking in effort, meant the city poor were stunted and malnourished; army statistics showed a serious decline in the size and health of recruits from 1800 to 1900, as the slums replaced the country villages as prime sources for young men. The London of Sherlock Holmes and Jack the Ripper—both at the height of their careers at this time—is one where the dim alleys of Whitechapel and the Dickensian scenes of workhouses and grim streets of "back-to-back" houses, without water or drainage, loom large. Yet amongst those who lived the life of the streets—the thieves and prostitutes who dominated the stereotype—were millions of honest working people deprived of the opportunity to change their situations, who would always be day-laborers and never skilled craftsmen. Their needs were not policemen to control them or charity workers to teach them thrift and temperance, but a decent place to live, a reasonable wage, and some chance for advancement. Many of them were to emigrate for that chance—to New Zealand, or Canada, or as politicians now suggested, the cool dry uplands of the Red Planet.

The Rural Laborers: These were the poorest of all. The green fields might not run rife with pickpockets and beggars, but there was little hope for the comfortable life of an established town artisan; many countrymen made their way to the towns in the hope that, since employers liked the "thick-set, red-faced men of enormous strength" from the shires, they might find success. Many, however, fell into the amorphous mass of the poor and dislocated. At home in the country, life was hard and unpredictable, and often brief. With a pig in the cottage yard and a vegetable garden, the laborer's family would not starve—though, as the tragic tale of the 1840s testified, the devastating poverty of Ireland could not guarantee any kind of support. At best, prospects were slender—domestic service for daughters, the fields for sons, and even when he had the chance of going to school, the country lad was likely to be pulled out for harvest time. Pay was bad, especially in the marginal areas—the heaths and moorlands of the north, the thin-soiled glens of the Scottish highlands—especially, in Ireland. The Irish tenant had fewer rights to his land than even the English cottager, and was despised for his Catholicism and "ignorance." He was probably the poorest, most badly treated, and angriest inhabitant of the "Sceptr'd Isles" which comprised Victorian Britain.

The urge to escape rural poverty was strong, and country-born people could be found at the ends of the Earth and beyond, as soldiers and sailors, domestics, stockmen, horse-handlers, blacksmiths and, indeed, any position that honest labor and a strong back could take on. If he was unsophisticated, gullible, a "yokel," he was exactly the man an empire-building gentleman would want at his side, and at his back, during a difficult moment.

THE ROYAL NAVY

Britain had a proud seafaring tradition extending back over the centuries, commonly traced to Alfred of Wessex a thousand years in the past. British dominion of the seas had been challenged, without success, by France in a long series of wars ending in 1815, and would be challenged by Germany in time. At the time of the Diamond Jubilee in 1897, that superiority was at its greatest extent. The "Two Power Standard," the doctrine according to which the fleet would be maintained at a strength "at least equal to the naval strength of any other two countries," had been officially adopted in 1889, but that ratio was far exceeded in practice. The 330 vessels, including 53 ironclad battleships, were manned by 92,000 sailors. The combined fleets of the next five naval powers barely surpassed this total, and the greatest of those, the 95 ships of the French Navy, was so patently overmatched that, when war loomed over the Fashoda incident of 1898, the men of the Third Republic backed down in humiliation. Other nations might worship columns of marching men, but Britons knew that the Royal Navy was the "Senior Service."

Yet it was a navy that had not been to war since the Crimean. Minor Imperial policing operations, fighting Arab slavers or "punishing" recalcitrant African villages, did not offer employment to more than a small portion of the fleet. Despite a comprehensive demolition of the defenses of Alexandria in 1882, which gave gunnery practice to Admiral Seymour's eight battleships and 11 gunboats, the navy's proud show of polished brass and scrubbed wood masked serious doubts as to what the future might hold. Technology was changing at a rate previously unthinkable. Ship design was in a state of flux as designers and tacticians pondered the type of armour and weapons that would triumph in a future war. The ponderous weight of the ironclad vessel had brought the ancient ram back into fashion; the sinking of the Italian flagship at Lissa in 1866 by ramming led to a blind alley of tactical thought. Others saw that heavy steel artillery was the response to heavy steel plate, while the enthusiasts of torpedoes, mines, and submarines filled the naval journals with their work. Every few years, from the French *Gloire* (1858) and HMS *Warrior* (1859) through the mastless *Devastation* (1871), the *Inflexible* (1876) and the *Royal Sovereign* (1891) to the legendary *Dreadnought* of 1905, changes appeared which made all previous models obsolete. For the power with the most ships, this was not comforting news. Thus, it was British engineers and shipbuilders who were at the forefront of the naval revolution, both on the oceans of Earth and above the plains of Mars. The rules had changed; in 1875 the *Iron Duke* rammed the *Vanguard* while following closely in heavy fog, and the captain of the *Vanguard* was cashiered for saving his crew rather than attempting to save the ship by using hand pumps—the mechanical pumps had been disabled in the collision— and stuffing the breach with sails. The officers of the sailing navy might not understand how steam and steel had made everything different, but they knew it had.

There were, indeed, two kinds of officers. On the bridge and upper decks served the executive officers, the "fighting" officers. These were the devotees of Nelson and tradition, often wealthy, always "smart," and prone to look down on their engineer colleagues with a haughty mixture of disdain and fear. These officers valued the show and swagger of outmoded sailing drills, seeing promotion in speedy shifting of top gallant sails—an approach roundly condemned as irrelevant by Captain C.C. Penrose at a lecture in 1887 when he concluded, "We are not ready for war, and thus we invite attack." Below decks, below the burnished guns, billowing pennants and shining black-and-yellow paint work, worked the "greasers," the "fats," the engineer officers, seen as "emphatically cads...neither fitted by manners, education, nor savoir faire to be given commissions as officers in HM Navy." It was these officers, often promoted from the "lower deck," and spending their careers "black in the face and with their clothes wet with oil and water," who pushed the navy towards the 20th century.

For the ordinary sailor, life was hard. It was not, however, nearly so bad as in Nelson's time, when the press gang, the cat, and the joys of scurvy had enlivened the life of the seaman. The new battleships, at least, were spacious in comparison with the wooden hulls, and there was good companionship in sharing a rum ration and playing a game of "Swing the Monkey."

The men who commanded this navy were iron-willed and often eccentric. The ability to make one's subordinates quake in their seaboots was widely regarded as the key to success. One captain asked to be brought a bucket, because the second in command made him sick! Colourful characters abounded. Captain Algernon Heneage insisted on calling all his chief engineers by the same name, dressed his hair with two eggs each morning, and always removed his coat before praying, since it would be unthinkable for a British officer in uniform to sink to his knees. He lived to be 81, opposing the reforms of Admiral "Jacky" Fisher all the way. The commander of the Channel squadron, known as "Old 'Ard 'Art," recorded in his diary for June 6, 1884: "Docked ship. Received the V.C." Perhaps the best expression of the mind of a Royal Naval officer in the face of difficulties was the comment of William Packenham to his Turkish interpreter, when surrounded by an angry mob of Asiatic brigands; "Tell these ugly bastards that I am not going to tolerate any more of their bestial habits."

It was not a modern navy. Gunnery practice was rare, since the explosions tended to chip the paint work, and until Sir Percy Scott's inventions to improve both accuracy and speed were adopted in 1903, shooting was far below par,as indeed it was in all other navies. The pageantry of the sailing navy was yet to be displaced by the grey-painted efficiency of Fisher's reformed fleets. Yet it had spirit; "naval brigades," often a few bare hundred strong, took pride of place in the dryland campaigns of Victoria's "Little Wars," and in the Commons, the usual response to mischief in the Gambia, or Mogadishu, or East South Omdibumbum remained the same: "Send a gunboat!"

ROGUES, ROTTERS AND NE'ER-DO-WELLS: THE SCOUNDRELS OF EMPIRE

"They bribed, they lied, they swindled. They lived at the best hotels and drank champagne at eleven o'clock in the morning. When not involved in some sordid financial intrigue, they spent their time making open and indecent love to the maids behind the bars set up at almost every corner." This description, by the jaundiced Mr. Vere Stent, is of the transient collection of British scavengers, shysters, and petty criminals who found their way to any part of the Empire, or beyond it, where an easy living might be made; here it was Johannesburg in the Transvaal gold belt, there it might be Ballarat, or the Klondyke, or the rough ruby diggings of Moeris Lacus. These were adventurers of another kind, to whom Victoria's Empire meant only a chance to play by their own rules and flout the laws of others, especially the Imperial proconsuls and their tiresome kind. Some were from the lowest classes—escaped convicts, children of transportees, thieves and tricksters from London, Glasgow, and Dublin. Others were aristocrats, disappointments to their families, like Lord Avonmore, or "Have-one-more," whose well appointed entourage conspicuously failed to reach the Yukon in time to make a fortune, or indeed at all. The low-born vagabond might be hustled, at government expense, out of Singapore or Syrtis Major before he could bring down the tone of things; he might be hired as an estate manager or overseer, abusing the native peoples at will. The public school "bounder" might parlay his breeding and charm into position and property. The astonishingly lax morals and brutal conduct towards indigenous peoples shown by numbers of British settlers was explained away as "tropic frenzy," a behavioral disorder brought on by a strenuous living in a hot climate. In fact, it was more a matter of bad character, bad whiskey, and a belief that a fox, provided that he be a British fox of proper ancestry, could be trusted in charge of a henhouse.

GOING NATIVE

Going Native was a phenomenon that the Victorian world regarded as eccentric, scandalous, and worst of all, un-British. In the 18th century, Englishmen abroad had been expected to conform to local styles, and an officer or administrator would set up a home with Hindu wives, adopt Indian clothing, and embed himself in the native culture. This was no longer tolerable. An Englishman was expected to dress and conduct himself as an Englishman at all times—in Bangalore or Syrtis Major as much as in Kew Gardens. Yet there remained some individuals, relishing their independence and reveling in their flouting of convention, who "went native" with a vengeance.

Wilfred Scaven Blunt: (1840-1922) Served for eleven years in the diplomatic service, but left to marry the granddaughter of the poet Byron and travel with her through North Africa and the Middle East. Blunt was enraptured by the Arab world, founding a stud farm in Sussex with brood mares given to him by an Emir. He bought an estate, "Sheikh Obeid," which he referred to as "my house in the desert," although it was actually in the suburbs of Cairo. His studied adoption of Bedouin ways, vocal anti-Imperialist agitation, and bad poetry made him something of a celebrity in British-occupied Egypt; if he was a poseur and a madman, he was good company, and his attempts to provoke the Consul-General, Lord Cromer, were always interesting. Blunt's amorous career led to a separation from his wife; she remained at Sheikh Obeid while he retired to Sussex with a "niece."

Franklin Jeroboam Peel: (1858-1965) A research geologist in the service of the Royal Moeris Lacus company, who took off into the wilderness of the Astusapes in 1884. The High Martians believed that Peel, with his pale complexion and unusual physique, was part Martian, and they welcomed him into their society. Peel adapted to the highland culture, transcribing their war-chants for the Spanish guitar, drinking the potent Yfgraag liqueurs in legendary quantities, and occasionally coming down from his mountain to deliver the drafts of his influential treatises on the geomorphology of the Astusapian uplands (Vol 1, 1893; vol. 2, 1898) and his neglected "Offal Recipes of the Martian."

Charles de Russet: Few went as far as Charles de Russet. The son of a British contractor resident in Simla, he gave up his faith and family to become a disciple of Fakir of Jakko; silent, saffron-robed, draped in a leopard-skin headdress, and surrounded by apes, de Russet spent two years alone at the Temple of Hanuman the "Monkey God." As late as the 1920s, he was still living in the jungles below Simla, having forgotten most of his native language.

REMARKABLE WOMEN

The traditional picture of Victorian womanhood presents us with an image of frailty, timidity, and of an oppressed group rigidly corsetted into a sternly respectable second place to the male. There were, however, women unwilling to bow to convention, and many more whose outward genteel graces concealed a spirit of strength, vision, and adventure.

Mary Kingsley: (1862-1900) A classic Victorian spinster who, at 30, went from caring for her elderly parents to paddling alone down the crocodile-infested rivers of West Africa. Two best-selling books showed her knowledge and authority, revealing a compassion and understanding for the African peoples, and opposing the extension of British Crown rule. Miss Kingsley died to enteric fever in South Africa, while tending Boer prisoners of war.

Beatrice Potter Webb: (1858-1943) Born into a class which "habitually gave orders," the daughter of a prosperous businessman, and was briefly courted by the rising politician, Joseph Chamberlain. Instead, drawn towards radical social reform through association with the Trades Union and Cooperative movements, Miss Potter married the Fabian socialist Sidney Webb in 1892, spending their honeymoon tracing Union records in Glasgow; together they became influential proponents of reform, founding the London School of Economics and *The New Statesman* magazine. In a stream of books and articles, the Webbs laid out their plans for a better world, Beatrice often referring to Britain's expansion into the solar system as "humbug" and "sheer tommyrot designed to divert the interest of the proletariat from its legitimate concerns."

Lizzie Hessel: (1870-1899) She began, in 1896, a 4000-mile journey up the Amazon by steamer, canoe, and mule. Thirteen months later, after being stranded amongst primitive Amerindian tribes, she reached the rubber plantation managed by her brother. Her letters home reveal a fascinating mixture of Victorian gentility and indomitable adventure. Sadly, Lizzie Hessel died of fever in Bolivia, at age 29.

Annie Besant: (1847-1933) She lived a most scandalous life, at least by the standards of her time. Raised in a devoutly Christian home, she married a clergyman at 17; at 23 she left him to become a militant atheist, advocate of birth control, Fabian socialist and, in 1893, a convert to Madame Blavatsky's doctrine of "theosophy," a mystical blend of Eastern religions. The mesmerizing and mysterious Madame Blavatsky passed over into the spirit world in 1895, entrusting her mission to Mrs. Besant, who immediately sailed for India and announced that she had, in a previous life, been a Brahmin. She founded the first college for Hindus, at Benares (1898), split the Theosophic Society by proclaiming her adopted son the Messiah (which claim he later denied), and, in 1916, initiated the Home Rule for India League. Interned briefly, she lost the leadership of the Independence movement to Gandhi, but continued to vocally decry British rule in India.

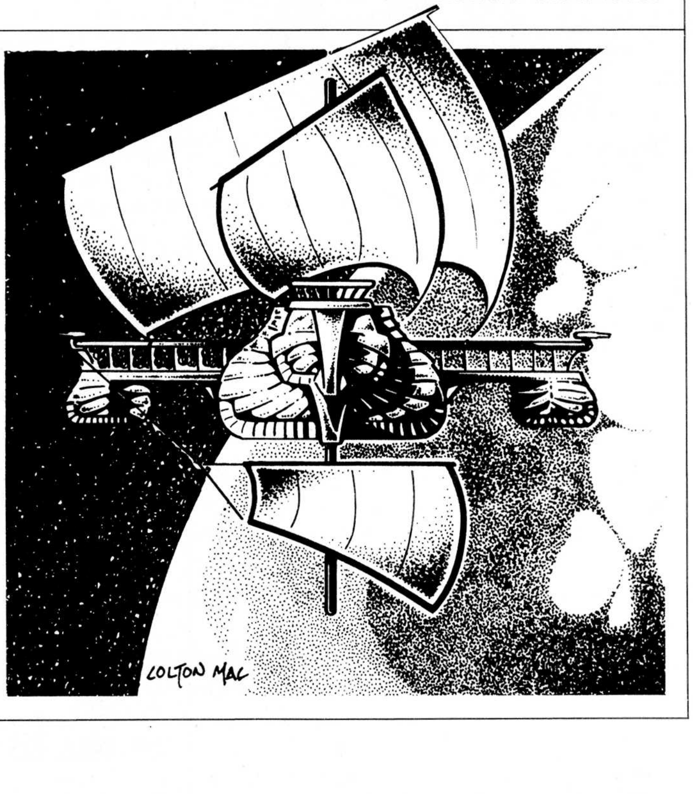
Frances "Fanny" Duberly: (1830-1903) The wife of a captain in the 8th Hussars. Vivacious and witty, she became the toast of the British army in the Crimea; indeed, she was the only officer's wife to stay there, riding Lord Cardigan's horse and being present—as an observer—at the Charge of the Light Brigade. In 1857 Mrs. Duberly accompanied the regiment to India and marched 1800 miles with the Rajputana column. She wrote to her sister, "There is plenty of fighting to be done, they say. I hear ladies are forbidden to go further than Deesa, in which case, I shall stain my face and hands and adopt the Hindu caftan and turban—I ain't going to stay behind." At Gwalior she rode with the Hussars in a charge against the mutineers. The remainder of her life was quiet; in 1896 she complained to a nephew, "I cannot stand dullness for long."

Elizabeth "Nellie Bly" Cochrane: By the age of 22, she was already an ace reporter for the *New York World,* and had a reputation for courage and determination. She had written an expose of New York's Blackwell Island insane asylum by successfully pretending madness. In 1889 she set out to beat the fictional record set by Jules Verne's novel *Around the World in Eighty Days,* and without resorting to liftwood fliers completed the journey in 72 adventure-filled days.

Ethel...led the Gurkhas through the steaming jungles and up the 3000-foot mountain climb....

Ethel St. Clair Grimmond: In 1891, she was the beautiful wife of the British political agent to the remote protectorate of Manipur. In March, the leaders of a revolt seized the senior British political and military officials, including Ethel's husband Frank, and murdered them. The surviving junior British officers proved incapable of exercising decisive leadership, so Ethel, "dressed in white silk blouse, black patent leather shoes, and a long blue skirt," led the small column of Gurkhas through the steaming jungles and up the 3000-foot mountain climb to safety. The officers with the column were later cashiered while Ethel, hailed by the *Illustrated London News* as "the heroine of Manipur," was awarded the order of the Royal Red Cross and granted a pension for life.

—Howard Whitehouse



SPACEGAMER
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IS BACK

Space Gamer / Fantasy Gamer magazine is returning well in time for Christmas, and with so much to herald, we want to make sure you get the right gift! Space Gamer magazine has been published for eleven years, and has served Science-Fiction and Fantasy gaming fans faithfully through the years. It is a magazine with a long history, an outstanding reputation, and now it's having a glorious rebirth.

The new Space Gamer / Fantasy Gamer magazine will be appearing in stores and mailboxes throughout the land by December. Issue number 77 will mark a new era of creativity for one of the longest-published magazines in the hobby.

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The new Art Director is Vince DeNardo, currently Art Director for both Fire & Movement and Computer Gaming World magazines. Vince is giving Space Gamer / Fantasy Gamer a new look, dynamically improved over previous issues, and an advance for all magazines of this genre.

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TRAVELLER NEWS SERVICE

CAPITAL/CORE (0508-A586A98-F) **Date: 063-1118**

¶Fleet command has issued sector-by-sector requisitions to reinforce the Vengeance Fleet in its campaign against Dulinor.

¶"We face severe curtailment in ship strength," said an unnamed spokesperson. "Unless we can restructure our priorities, getting good ships out of the backwater areas and into the front lines." When questioned about reports saying Dulinor's fleets are somewhat better organized and prepared for battle, the spokesperson declined comment.

CAPITAL/CORE (0508-A586A98-F) **Date: 114-1118**

¶Military atrocities on the part of Imperial forces were categorically denied by a fleet spokesperson today.

¶"The destruction of cities on three worlds in Gushemege sector has been investigated and has been attributed to enemy activity in the area. Several cities in that area were subjected to nuclear and chemical attack from orbiting ships during military cleanup operations. Though the cause of the catastrophe is still in question, the fact that a million plus individuals have been killed is 'an unfortunate accident of war.' "

DLAN/ILELISH (1021-A8D1ADE-G) **Date: 123-1118**

¶Emperor Dulinor today accepted pledges of allegiance and support from the fringe worlds in Gushemege sector.

¶"Seeing the vast superiority of our fleets in action, and the truth that Lucan is as much an imposter as the so-called Strephon, fully 23 worlds have recently aligned themselves with our cause. Their ships added to ours are quickly grinding the enemy away, and soon the ultimate end of resistance to my rule will be at hand."

WARINIR/DAIBEI **Date: 197-1118**

¶An emergency meeting was held today between Duke Craig and Moot of High Lords to discuss the demands from Emperor Lucan.

¶In a prepared statement, the Duke's press secretary said, "An unnaturally great strain is being placed on the sector to provide ships for fleets in distant wars. It is not the duty of loyal sectors to strip themselves bare in order to support Lucan, when other more pressing matters threaten our own borders.

¶"The Duke, with the blessing of the Moot, has appealed to the Emperor to lessen the ship quota at this time."

WARINIR/DAIBEI **Date: 214-1118**

¶Emissaries from Lucan arrived to begin a series of meetings with the Duke regarding the appeal of ship allocations from Daibei sector.

¶After several hours of negotiations, which have been described by inside sources as "heated," the parties emerged with a universal "no comment." It is clear that the appeal has not yet reached the Emperor's ears, but has been instead intercepted and is being handled by more immediate diplomats on his behalf.

WARINIR/DAIBEI **Date: 217-1118**

¶After two days of negotiations with the Imperial emissaries, talks have completely broken down. The ambassadors have been given seven days to leave Warinir.

¶In a video interview, the Duke said, "It is unlikely that we will be sending massive numbers of our own ships into the hinterlands any time soon.

¶"We shall instead be looking out for our own interests, despite Lucan's trepidation over fleet strengths."

WARINIR/DAIBEI **Date: 289-1118**

¶The Emperor's final denial of an appeal to retain ship strength in Daibei sector has sparked extreme sector patriotism and anti-Imperium sentiment.

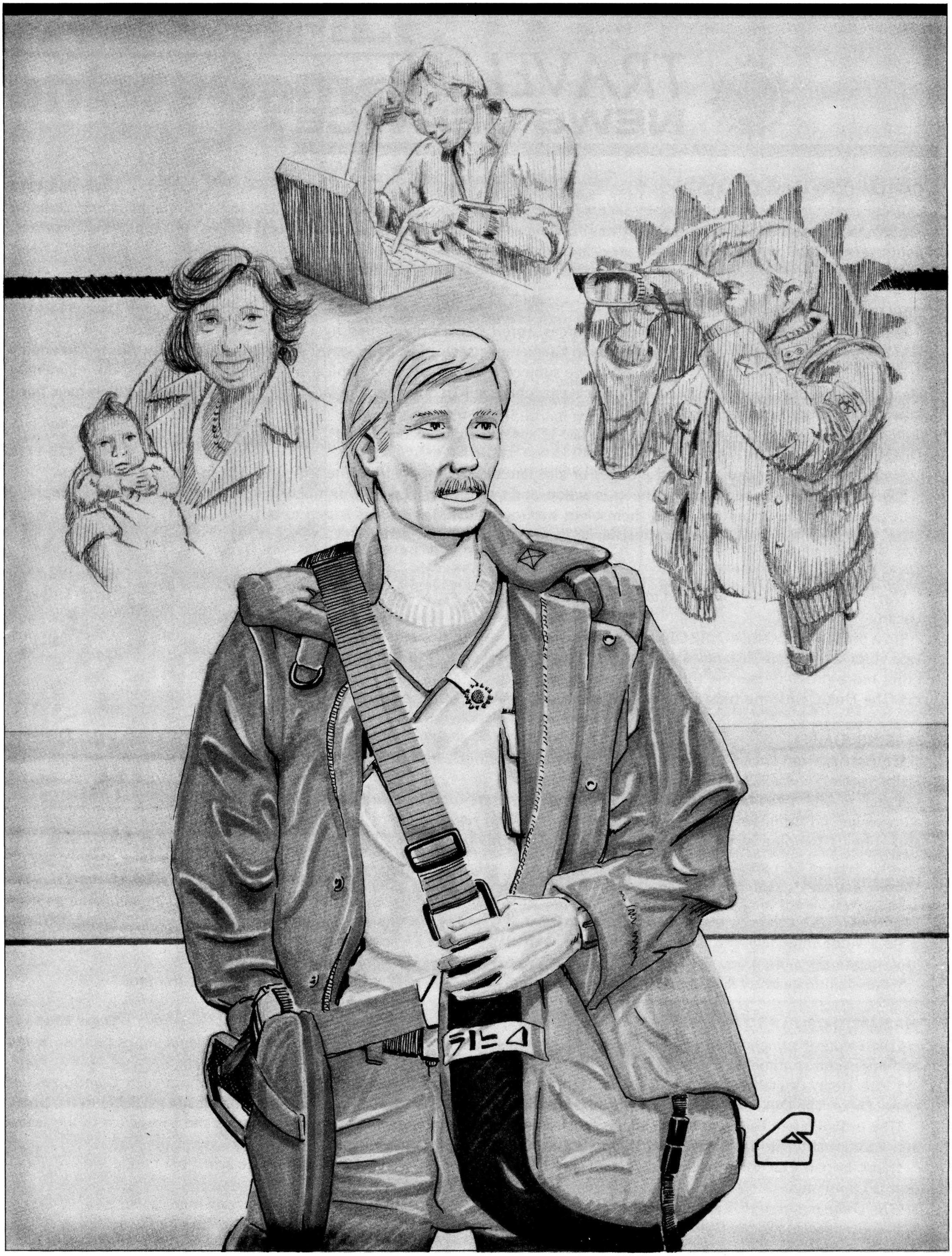
¶"The Treaty of Ftahalr guarantees us the right to maintain reasonable ship strengths," pointed out Lord Guinth, advisor to the Duke. The Duke has prepared a written response to Lucan, the essence of which has been made available to the press.

¶The Independent Federation of Daibei is officially formed as of this day, to incorporate worlds and subsectors of the sector and additional territories in Reaver's Deep sector.

¶A pro-Imperial faction in the Moot of High Lords has been isolated and subjected to house arrest until the period of transition is completed.

¶The Duke has assumed personal control over the new Federation until a more systematic government can be established.

¶Rallies organized by the Duke's household have begun and are expected to dominate the Three Cities for the next several days.



The Spice of Life

One of the most difficult and time-consuming tasks which confront any referee in the establishment of an ongoing **MegaTraveller** campaign is the creation of believable non-player characters (NPCs). While each player has only a single character whose personality and background he must develop, the referee often has a dozen or more in each game session. Over even a brief period of time, this task can easily overwhelm any referee's creativity and patience.

> *Sometimes the true mettle of **MegaTraveller** characters cannot be assumed upon their creation but should be gleaned from their past.*

To reduce the time required to craft each unique NPC, the following tables are presented. By following them, the referee is able to quickly (in less than half an hour) define much of the NPC's background and motivation.

This system can also be used for player characters. Often, no matter how good a role player someone is, his characters tend to become similar. By using random tables to generate some background and mental outlook, diversity is more certain.

FAMILY BACKGROUND

Once a character has been created through routine generation systems, use this section to determine the nature and background of the individual's family.

Number of Parents

Roll 2D6 on the table below for the number of parents. Many factors must be considered. For example, the Brinn (a minor race native to the Corridor sector) have three sexes (four if you count the sexless young), and so have three parents. A human whose parents have divorced and both remarried might have four parents.

TABLE 1A: NUMBER OF PARENTS

No.	*Number of Parents*
2	2D6
3	1D6+1
4	1D6
5	2
6	2
7	2
8	2
9	2
10	1D6
11	1D6+1
12	2D6

Siblings

It is quite possible that the character has (or had) brothers and/or sisters. In order to determine this, roll 1D6 on the following table and apply the die modifiers listed below it. Once the number of siblings is determined, roll 1D6 for each to determine their sex; even results indicate male and odd results indicate female. For some races, the referee may wish to alter this throw to reflect possible exceptions.

TABLE 1B: NUMBER OF SIBLINGS

No.	*Number of Siblings*
1	The character is an only child
2	The character has one sibling
3	The character has two siblings
4	The character has 1D6 siblings
5	The character has 2D6 siblings
6+	The character has 3D6 siblings

DMs: −1 if Population Code of homeworld is High Population; +1 if Population Code of homeworld is Low Population.

Sibling Rank

To determine if a specific sibling is older or younger than the character, roll 2D6. A roll of 7− indicates a younger brother or sister and an 8+ indicates an older one. A natural 2 indicates a twin (or triplet, etc.).

Parent/Sibling Status

Now that we know the number of parents and siblings a character has, we need to know how many are actually still alive. For each existing family member, roll 2D6 on the following table to determine if he is dead or alive.

TABLE 1D: PARENT/SIBLING STATUS

No.	*Status*
2−	Dead
3	Dead
4	Dead
5	Ill
6	Ill
7	Ill
8	Alive
9	Alive
10	Alive
11	Alive
12+	Alive

DMs: −4 if homeworld tech code is Pre-Industrial; −2 if homeworld tech code is Industrial; −1 if homeworld tech code is Pre-Stellar; +1 if homeworld tech code is Early Stellar; +2 if homeworld tech code is Average Stellar; +4 if homeworld tech code is High Stellar; subtract a character's terms of service when rolling for parents (not siblings).

Dead: Results indicate that the person is no longer alive.

Ill: Results represent an individual who is currently in very poor health. This could range from someone in a coma following a Speeder crash to an individual suffering from a seemingly incurable disease.

Alive: Results indicate the person is not yet dead and is in fairly good health.

If the person is dead, roll 2D6 on the following table to determine how they died. The cause of death may be a seed for future adventures or could provide background information for the character's actions. For instance, a character whose mother died from homicide might be on a quest to find the killer and bring him to justice.

TABLE 1E: CAUSE OF DEATH

No.	*Cause of Death*
2	Suicide
3	Executed
4	Homicide
5	War/Battle
6	Natural Causes
7	Natural Causes
8	Natural Causes
9	Accident
10	Unusual Illness
11	Natural Disaster
12	Vanished

Suicide: Indicates that the person being generated took his own life for some reason. In some cultures, this brings shame to a family and is a sign of weakness. In others, if the circumstances are altered, it may have been a very honorable thing to do. In some cases, it is possible to include political or religious martyrs in this category.

Executed: Signals that the individual was convicted as a criminal (rightly or wrongly) and sentenced to death by his government. The character being generated may or may not believe that the person was truly guilty, regardless of the actual facts. Religious or political martyrs may fall in this category.

Homicide: Results indicate that the person was slain intentionally by another individual or group. It may be that he or she was singled out for death (i.e., a political assassination) or the victim may have fallen afoul of a random criminal event (such as walking in on a hold-up).

War/Battle: Indicates that the individual lost his life during a military conflict of some sort. In a volume of space as great as that dealt with in **MegaTraveller**, there are any number of possible struggles to claim lives. Possibilities include the Fifth Frontier War or the rapidly developing Second Civil War.

Natural Causes: Account for the vast majority of deaths in the **MegaTraveller** universe. Despite outstanding advances in the medical sciences, people die from either old age or fairly common (but untreatable) illnesses every day.

Accident: Results show that the individual was caught in some sort of man-made tragedy (for instance, the crash of an air raft, the misjump of a starship, or the occasional meltdown of a low tech level nuclear fission reactor).

Unusual Illness: Indicates that the character in question died from a rare, perhaps even unique, medical problem, which baffled the doctors who treated him. To draw an analogy to 20th century Terra, AIDS is an unusual illness while dying from cancer might well be considered to be a natural cause.

Natural Disasters: Come in all shapes and sizes. They range from the truly impressive supernovae (which don't happen all that often, knock on wood) to the comparatively mundane tornadoes or volcanic eruptions which reign on some worlds.

Vanished: Relations hold the utmost promise for future adventures. In short, the person in question is missing and presumed to be dead. What actually happened may or may not be known to the players, but the referee should certainly work it out for future reference. It is even possible that the individual is still alive but unable (or unwilling) to contact his loved ones.

ACQUAINTANCES

During the course of the average person's life and career, he will come to make friends (and enemies). For purposes of this generation system, all of these fall into the category of Acquaintances.

Number of Acquaintances

Each character begins the game with a number of acquaintances equal to 2D-7 plus his Social Standing. Obviously, a person may know far more people than indicated by this throw, but these are the most important ones.

Time Known

Another aspect that should be taken into account when considering the role which each character's acquaintances will play in his life is the amount of time that the character and his acquaintances have known each other. To determine this amount of time, roll 2D6 on the table below. Results which exceed the age of one or both of the characters should be reduced to "since childhood" or should be otherwise altered to correct this paradox.

TABLE 2B: TIME KNOWN

No.	*Time Known*
2	Since Childhood
3	5D6 Years
4	4D6 Years
5	3D6 Years
6	2D6 Years
7	1D6 Years
8	4D6 Months
9	3D6 Months
10	2D Months
11	1D Months
12	Less than 1 month

RELATIONSHIPS

Although we might wish it to be otherwise, not all of our characters will be loved by everyone they meet. After all, somebody has to shoot at the player characters every so often, just to keep things moving in the campaign, and your friends don't usually do that. In order to determine how a specific acquaintance or family member feels about your character, roll 2D6 on the following table.

TABLE 3: RELATIONSHIPS

No.	*Relationship*
2	Absolute Devotion
3	Great Devotion
4	Close Friendship
5	Friendship
6	Well Inclined
7	Neutral
8	Poorly Inclined
9	Dislike
10	Hatred
11	Very Hostile
12	Overwhelmingly Hostile

Absolute Devotion: Indicates that the relative or acquaintance feels nothing but admiration for the character and would gladly lay down his life for the betterment of his idol. An example of this might be a feeling similar to the extreme dedication which a martyr feels for his religious or political leaders.

Great Devotion: Results show that the person in question is willing to do everything in his power to make the character's life better. These people are certainly willing to face great dangers to save or assist their friend in any way. Possible examples include a spouse or a very close sibling.

Close Friendship: Indicates that the character and his acquaintance are on excellent terms and will undergo hardships to aid each other. An example might be a childhood best friend or a very loyal employee.

Friendship: Results show that the characters often see each other socially and will take steps to help each other out in times of crisis. For instance, the two might be working together toward a common goal at their place of employment, or they may be members of the same social club.

Well Inclined: Acquaintances are fairly common and have no special interest in the character. They will be polite and helpful to some extent, but will not go out of their way to aid the character in any special way. Typical examples include co-workers or neighbors.

Neutral: Acquaintances are the most common type of all. They don't care one way or another about the character and will take no special actions to help the character. The most typical example might be a store clerk.

Poorly Inclined: Persons have a slight dislike for the character, but will not go out of their way to harm or hinder them. Examples might include a co-worker who feels a small amount of competition with the character or a class rival.

Dislike: Results indicate that the individual will take some steps to hinder the character and may, in unusual circumstances, resort to limited physical violence. Possibilities include a bully or rival suitor.

Hatred: Indicates that the individual will go well out of his way to harm, or perhaps even kill, the character. Such individuals can be sources of great excitement and peril in a campaign. One possible example might be a rival pirate captain or a criminal leader who works the same territory as the player.

Very Hostile: Individuals will take great steps to secure the death of the character by some means. It is quite possible that they blame him or her for some mishap which has befallen them in the past. For instance, a character might be blamed (wrongly or rightly) for the death of a lover or family member.

Overwhelmingly Hostile: Acquaintances will devote their every effort and resource to causing the death of the character, and, perhaps, his friends and family as well. There is nothing that can be done to persuade them to act otherwise. Every erg of energy which they can muster will be directed at harming the character. Having an Overwhelmingly Hostile acquaintance can certainly spice up a campaign for the player. Examples of such persons might be disgraced political or business figures who believe the player has been the cause of all their problems.

PERSONALITY GENERATION

Once the character's family history is determined, generate his psychological profile. With this data, you can discover what motivates an individual and how he relates to others.

Allegiance

The first aspect of a character's personality which we will address is his Allegiance. Low scores indicate that the individual is loyal only to himself or perhaps to a small circle of friends. High results show a person who feels a loyalty to large numbers of people, maybe even to all life in the cosmos. Such individuals are often seen as idealists by those who are more closed-minded. To determine the character's Allegiance score, throw 2D6-7, add his Social Standing, and consult the table below.

TABLE 4A: ALLEGIANCE

Roll 2D-7 + Social Standing	
0	No loyalty to anyone other than self
1	A single other person (a spouse, brother, or friend)
2	A few other people (a few friends or shipmates)
3	A small group of people (family, etc.)
4	A medium-sized group (a small company or club)
5	A large group (a large company, political party)
6	A city or town
7	A region or nation (includes megacorporations)
8	A world
9	A system
A	A subsector
B	A sector
C	A domain (such as The Julian Protectorate)
D	A single race
E	A group of races (for example, the major races)
F	All life everywhere

Devotion

The next area to be rated is Devotion. Devotion serves as a measure of the individual character's degree of support for those to whom he feels a sense of loyalty. It is possible that, although the character claims to be loyal to a specific group, he is really quite apathetic in his support of the cause. This condition is the case when, for example, someone is registered as a member of a certain political party (and often loudly proclaims his support for its policies) but then fails to vote when elections come around. In order to generate a person's Devotion score, roll 2D6-7 and add his Allegiance to the die roll result.

TABLE 4B: DEVOTION

Roll 2D6-7 + Allegiance

0	Nonexistent (claims to care, but it's wholly superficial)
1-2	Minimal (pays lip service to the group but little more)
3-5	Low (makes minimal efforts to support the group)
6-9	Average (makes some efforts to support the group)
A-C	Devoted (makes major efforts to support the group)
D-E	Fanatic (dedicates much time and money to the group)
F	Obsessed (uses all of their resources for "the cause")

Stability

This area is perhaps the most important for judging the character's actions during times of great stress. An individual's Stability score will indicate to the referee how that character will act when the going gets tough. It can be used to determine the chance of panic overwhelming cool thought. To generate this attribute, roll 2D6-7 and add the character's Devotion score.

TABLE 4C: STABILITY

Roll 2D6-7 + Devotion

0	Very Unstable (severe mood swings and personality shifts)
1-2	Very Weak (almost always freaks out when things get hot)
3-5	Weak (often loses his cool in rough spots)
6-9	Average (may cave in if things get too crazy)
A-C	Stable (performs well under pressure)
D-E	Very Stable (withstands trauma well, very cool under fire)
F	Absolute (never cracks, even during disasters)

Leadership

The next attribute that needs to be rated is Leadership, a characteristic which governs the individual's ability to command respect from those around him. Some people will be seen as naturally charismatic and so will inspire great devotion from their followers, while others may only be seen as weak or spineless. In order to generate a character's Leadership rating, throw 2D6-7 and add his Stability score to the die roll result.

TABLE 4D: LEADERSHIP

Roll 2D6-7 + Stability

0	Worthless (inspires no devotion at all in others)
1-2	Almost Worthless (virtually ignored by others)
3-5	Not Respected (inspires only minor confidence from others)
6-9	Average (can lead very small groups with success)
A-C	Respected (can lead large groups with success)
D-E	Highly Respected (a good leader for very large groups)
F	Natural Leader (instantly commands the respect of all)

Respect for Authority

This attribute is used as a gauge for the character's belief in governments and his support for them. It is important to consider when an individual is called upon to violate local or planetary laws, since characters with very high scores in this category will refuse to do so under any circumstances, while those with very low ratings will often be wanted by the authorities for previous violations. To determine this, throw 2D6-7 and add the character's Social Standing.

TABLE 4E: RESPECT FOR AUTHORITY

Roll 2D6-7 + Social Standing

0	Anarchist (absolutely no respect, freely ignores laws)
1-2	Very Disrespectful (does not care about law breaking)
3-5	Disrespectful (feels some guilt over laws broken)
6-9	Average (obeys laws with only minor exceptions)
A-C	Respectful (obeys all laws and regulations)
D-E	Very Respectful (never even considers law breaking)
F	Absolute Respect (may turn in friends for any violations)

Intolerance

The last of the six psychological factors which we will consider in this article, Intolerance rates an individual's closed-mindedness and unwillingness to consider the beliefs and values of others. Characters with low scores in this area are prone to be very open to persuasion in any matter. High scores indicate people who have absolute faith in their own infallibility and will never acknowledge the possibility that they might be wrong. Generate the Intolerance score by rolling 2D6-7 and adding the Devotion score.

TABLE 4F: INTOLERANCE

Roll 2D6-7 + Devotion

0	Very Open (embraces diversity and all opinions)
1-2	Open (easily persuaded to other viewpoints)
3-5	Liberal (always willing to consider other viewpoints)
6-9	Average (may be persuaded by convincing evidence)
A-C	Conservative (seldom considers other viewpoints)
D-E	Closed (almost never changes an opinion)
F	Very Closed (feels that other opinions don't exist)

EXAMPLE OF USE

In order to demonstrate the use of these tables, we will consider how they apply to Dur Telemon, one of the regular characters from *The Traveller's Digest* magazine. Those who are familiar with the Digest will find the following data informative and helpful in running Dur as a character. Those who are not familiar with the Digest group products should definitely become so, as they are all very useful for any **MegaTraveller** campaign.

DUR'S FAMILY

Our first step will be the generation of Dur's family background. First, we roll 2D6 and check table 1A to determine how many parents Dur has. The throw is 9, indicating that Dur has only two parents.

We move on to siblings now, and roll 1D6 on table 1B to determine how many children Dur's parents had. Dur's homeworld, Mora, has a High Population, and thus we apply a −1 to this die roll. The throw comes up a 4, which is reduced to a 3 when we apply the die modifier. Dur has two siblings.

The sex of the siblings is determined by a simple odds-or-evens die roll, which indicates that one is male and one is female. Further, by following the instructions in section 1C, we roll for each, and find that his brother is older while his sister is younger.

We move on to section 1D now, and roll to determine each parent's and sibling's status. Before doing so, we take into account Dur's homeworld, Mora, which receives die modifiers. It has High Stellar technology, which allows a +4 to be added to the die roll. An additional die modifier is indicated by Dur's career (three terms in the Scouts), which adds a further −3 to the roll for his parents.

Rolling for his mother, we get a 12. After applying the two die modifiers, this becomes a 13. She is alive and well. For his father, we roll a 7 (which becomes an 8 with the modifiers). His father is also alive.

Moving on to roll for his brother and sister, we check the die modifiers and find that only the +4 for Mora's tech level applies. For his sister, we roll a 5 (+4=9) and for his brother a 7 (+4 =11). Both of his siblings are still alive and in good health.

DUR'S ACQUAINTANCES

We begin the generation of those persons who are important in Dur's life by rolling 2D6−7 and adding his Social Standing. Throwing the dice, we get a 2 (−7+11=6).

In Dur's life, there are six persons who are of special importance to him.

In the interest of brevity, we will roll for Dur's relationship with only one of these individuals in detail. For further information, readers should consult the character's ongoing adventures in *The Traveller's Digest*.

Let us consider Whocco Tehn, one of Dur's six acquaintances. The next step in determining the details of Dur's relations with Tehn is the discovery of how long they have known each other. For this, we roll 2D6 on table 2B and get a 7. Dur and Tehn have known each other for 1D6 years (we toss the die and get a 3).

Next, we roll for their relationship by throwing 2D6 and checking table 3A. The dice roll comes up as a 10, indicating that Tehn hates Dur and will take some pretty drastic measures to injure or kill him, if the chance arises.

DUR'S PERSONALITY

The last step in this process is the generation of Dur's psychological profile. To begin with, we roll for his Allegiance on table 4A. The roll is 2D6 (an 8) −7+11 (Dur's Social Standing) for a total of 12, which indicates that Dur feels loyalty to a domain (in this case, the Third Imperium).

How deeply committed is Dur to the Imperium? To answer this, we must determine his Devotion by rolling on table 4B. The dice roll comes up as a 4, −7 and +12 (his Allegiance score), for a total of 9. Dur is solid in his support of the Imperium and is willing to go slightly out of his way for its service, if called upon to do so.

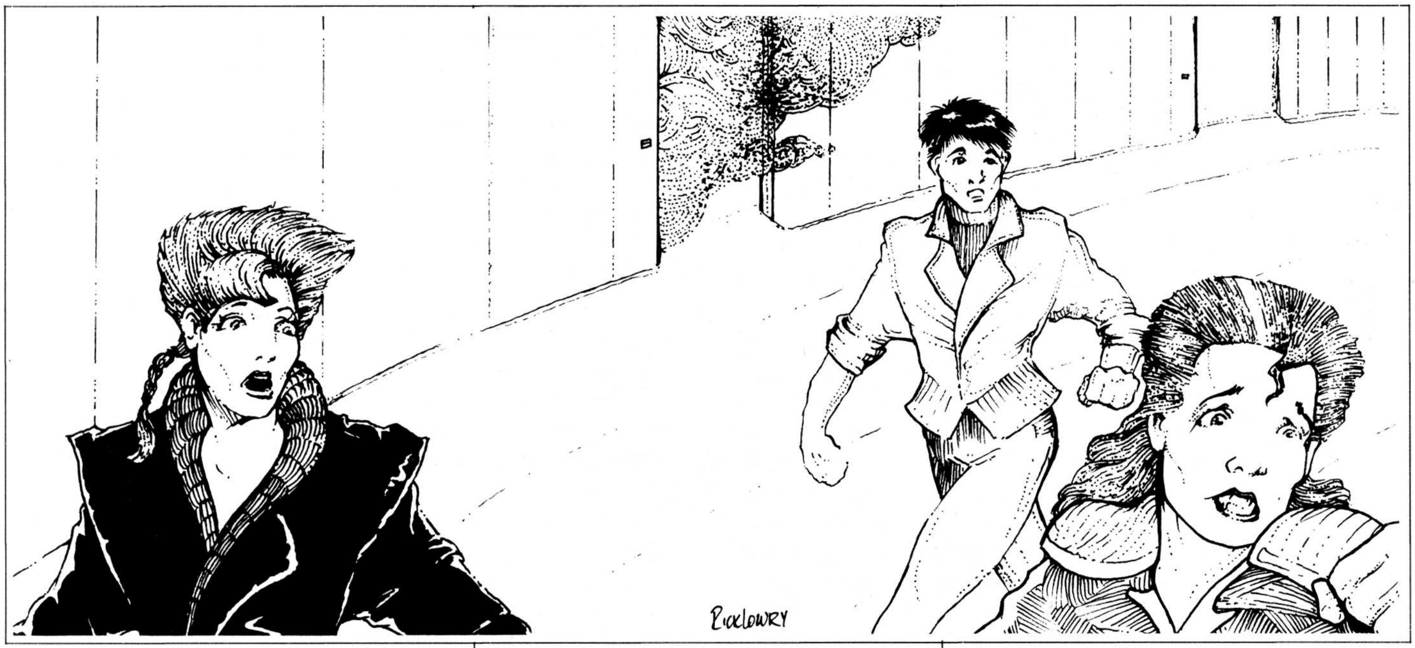
Next, we come to his Emotional Stability. The dice are thrown, coming up as an 11. This is modified by −7 and +9 (his Devotion score), for a total of 13. Dur is very stable; even under great stress he won't crack. This score indicates that he is a good man to have at your side in a fight.

The fourth rating to be generated is his Leadership ability. Rolling the dice, we get a 6. This is modified by a −7 and a +11 (for his Social Standing score) to obtain the final score of 10. Dur is well respected and can assume the role of a leader with ease, when called upon to do so. Others often look to him for advice in times of crisis.

The fifth score which must be generated for Dur is his Respect for Authority. Roll 2D6 and receive a base of 4. Modifications of −7 and +11 (Social Standing again) give us 8 for a final value. Dur has as much respect for law as the next

Continued on page 52

Fire Aboard Ship



Isolated in a spacecraft, at least hours, perhaps days, maybe even a jump away from help, fire is one of the last problems any traveller wishes to confront. Not only are the resources which are available to fight a fire limited, but the fire can be destroying those very resources, as well as limiting access to them, with every passing moment.

The highly diverse areas on spaceships have a variety of possible ignition sources. In the engineering section, there are high-voltage power lines, machinery with high operating temperatures, and volatile fluids. Proper design is very effective in the prevention of fire due to these causes. However, improper use of equipment (such as pushing it past its design limits), poor maintenance, combat, or even a simple accident can negate any safety feature. In living spaces, plastics and other synthetics used in floor covers/carpeting, internal walls and wall coverings, furniture, etc., all burn very readily. Transportation regulations require a minimum burn-resistance for materials used on all vessels licensed for commercial carrier purposes (as well as for military vessels). (See Figure 1 for the price for fireproofing).

The need for comfort and aesthetic quality in a ship's interior fittings and decorations prevents the use of only fireproof and fire-resistant materials. The most that is usually achieved is the use of sufficient quantities to delay a fire's spread. Aboard private vessels may be no intentional use of fire-resistant materials. (See Figure 2 to determine the amount for any randomly encountered vessel.) Those individuals who purchase a vessel may replace its fittings with fire-resistant ones (see Figure 1 for prices).

> *A spacefarer's greatest fears sometimes concern not the vacuum around him but instead the deadly consequences of a spacecraft fire.*

In order of decreasing frequency, the main causes of fire are negligence (including lack of preventive maintenance and passenger use of open flame), electrical equipment malfunction, and improper cargo storage. Others are due to miscellaneous or undetermined causes.

DISCOVERY OF A FIRE HAZARD

The main factor determining whether a shipboard fire is merely an "incident" or a major catastrophe is the time it takes to discover and combat the fire. Since most areas onboard a spacecraft frequently have people in them, this may not seem to be much of a problem; but consider an even moderately sized passenger vessel. Despite warnings to the contrary, passengers commonly leave personal items connected to power outlets, for recharging purposes, when leaving their cabins. Furthermore, storerooms are notorious for the jumbled conditions they can attain without frequent cleaning, and may not be visited for days. (Which explains why many captains are known for their attention to cleanliness in all areas.)

Fires, in the above situations, can generally be discovered early on because of the large number of passengers and crew in the area to smell the smoke. If a fire breaks out in a luggage or cargo compartment, on the other hand, discovery by "human means" is much less likely. There may also be a long delay in discovery if the ship is keeping to a single standard time and a fire starts while most of the passengers are asleep. This is one reason for a "night" steward, who walks rounds to ensure that all is well—a practice frequently found on larger vessels. Another problem is intra-hull and intra-deck spaces and conduits (those spaces between the hull and interior spaces, and between decks). All ships are designed with fire partitions, which do limit a fire from spreading in these areas, but severe damage can still result easily because of the important data trunks, etc., which run through them. (Having the best maneuver program available doesn't mean a thing if the computer can't communicate with the drives.)

Since rapid detection is of paramount importance, and discovery by crew or passenger is only partially effective, there are a number of detection and reporting systems available on the market. The detection system consists of sensors, which are either a simple bimetal device which completes an electric circuit upon heating up, a slightly more expensive electronic thermometer, or an electro-optical device for smoke detection. With the bimetal type, a choice must be made between a slight time delay before the device triggers from a real fire, or more frequent false alarms. Thermometers, on the other hand, being more complex, are slightly more subject to failure. Smoke detectors are useful in detecting fires which produce a large amount of smoke, but are of limited use in other cases. For this reason, they are always used in conjunction with the other sensor types. All types need to be inspected and tested regularly to ensure that they are functioning properly (e.g., calibrated to the proper triggering temperature). On commercial and military vessels, one temperature sensor is required every 50 square meters for intra-hull space (see Figure 3 for approximation), one for every 35 square meters in intra-floor spaces, and one for every 10 tons of cargo or luggage hold. One smoke detector is required for every 50 tons of living space. Smoke detectors are usually placed in common areas (such as halls) to provide better coverage.

The reporting, or "alerting," systems range widely in complexity. The simplest type is just an alarm board wired to all the sensors, with lights to show which are indicating. This type is only used in vessels where someone will always be present to be alerted by the alarm, and it is only effective in smaller vessels. The remaining types are all computer-controlled and tie into the ship's main computer. The most basic types broadcast an alarm throughout the ship; some send the alarm to a predetermined location, or locations, such as the bridge and engineering; some can forward the alarm to the captain (or duty officer), provided his portable mini-comp is tied onto the ship's computer with the required interface devices.

On large vessels, there are usually several computerized "substations," each receiving input from between 20 and 50 sensors. These substations report any abnormal status (and its location) to the main computer. Reporting is often divided into "warnings" and "alarms." A warning results from either a temperature increase reported by a single thermometer, or the sound of a single bimetal or electro-optical sensor. An alarm results from a single thermometer rising to a pre-set temperature level, two thermometers simultaneously reporting any temperature increase, or two of either bimetal or electro-optical sensors sounding.

METHODS OF CONTROL

The first actions taken to combat a fire aboardship are to shut off electricity to the area and to slow down ventilation by cutting the oxygen supply. Ventilation for a fire is supplied not only by the blowers of the life support system, but also by a gravity field ("hot air rises"). Gravity may be artificial or induced through ship acceleration/deceleration. In the case of small fires, these actions alone may be enough to smother a fire in its own waste gases. For larger or rapidly spreading fires, direct action with a firefighting agent is required. Water is an unsuitable agent for use against shipboard fires. Most vessels do not have enough water aboard to fight even a moderately sized fire; besides, all that water sloshing around could wreak havoc with gravitics and other electrical systems below the deck. Hish Expansion Foam is suitable for non-electrical fires (turn power off, and it's non-electrical). The foam is made by passing compressed air through a screen wetted with a special aqueous solution. The foam acts by smothering the fire, and by using it, it is possible to keep water damage to a minimum. Foam cannot be used in an area where electricity must remain on, and any electrically powered equipment which gets foam in it must dry out for at least several hours before being used. In cases where foam cannot be used, a fire-smothering gas is used instead. One of the gases most commonly used for firefighting is CO_2. It can be stored as a compressed gas, or as a liquid if cryogenically cooled. Another type of gas used is Halon (halogenated hydrocarbons). These gases are available in hand-held extinguishers; they can be used in equipment dump systems (in which a cylinder, which is fixed in place, has lines which dump the gas directly into a specific piece of equipment, such as the main computer), and both can be used in area dump systems (in which the gas is discharged into a closed room). Discharged control can be either manual, directed through the computer, or automatically controlled by the computer in highly advanced systems. (See Figure 4 for equipment prices.)

Depressurization: The most effective way to extinguish a fire would be to just open the affected area(s) to space. However, there are several things which need to be considered before taking such drastic action; most important is the amount of air that will be lost. The majority of a vessel's air supply is always in the gaseous state, being used for breathing and for maintaining a comfortable pressure. Life support systems consist primarily of purificaton scrubbers and ventilation fans, with only a minimal replacement capability. (The number and placement of airtight bulkheads and doors has a strong influence upon how much of the ship's atmosphere will be lost if the airlock is opened to space.) Military vessels, and others which expect to encounter combat situations, have systems which enable them to pump all or part of their air into holding tanks, preventing any loss if the hull is breached. Pumping the air into these tanks will, of course, also put out a fire. The problem with these systems is that they require time, generally 15 to 30 minutes, which is not always available when fighting a fire. Also, most vessels larger than about 5000 tons only pump out the areas closest to the outer hull. They usually have airtight bulkheads, forming a second hull inside the main, outer hull; only the air between this "hull within a hull" and the outer hull can be pumped into tanks.

Besides the potential loss of the ship's atmosphere, there are other things which must be considered before venting. First, are there enough spacesuits, rescue balls, emergency pods, etc., for everyone who is in an affected area? Regulations require rescue devices for all aboard, and commercial vessels are inspected periodically for compliance to safety standards, but the fire may have already destroyed some of this equipment. If there is not enough for everyone, then is there someplace where they can take refuge, and will they be rescued before a lack of air, water, or food overcomes them? If the cargo has to be exposed to vacuum, will it be damaged or destroyed? In any case, venting won't always help if the fire has another oxidizer available. With all the above in mind, it's easy to see that opening the airlock is only considered as a last resort. As a last worry, if fire prevents access to the airlock, the ship's systems control program must be sophisticated enough to remotely open the lock. The control lines to the lock must still be intact, and the lock itself must still be functioning.

A fire, especially a fire involving synthetic materials, produces a large amount of toxic gases. Adding CO_2 or Halon to the mixture doesn't help. If the atmosphere is only contaminated (there is still enough pressure), a filter mask can be used until the life support scrubbers clean the air—that is, *if* the ratio of oxygen to other gases is still high enough to sustain life. If too much fire suppressant gas is used, it won't be. If crewmembers have to open the entire ship to vacuum, they can easily find themselves spending the time getting to a port in their suits; that is, provided they have extra oxygen tanks and don't have any problem refilling and changing the tanks. Higher quality suits often have connections for two bottles to make changing easier. They may have a connection for an umbilical, but many ships, certainly most liners and privateers, don't have the supporting equipment with which to connect. "Gladbags" (a basic suit, with nothing extra) don't have any of these special features, and nobody can live more that five to 10 minutes in this suit once the oxygen supply is depleted. All of this merely reinforces the absolute need to discover and put out any fire as quickly as possible.

REFEREEING SHIPBOARD FIRES

When refereeing fires aboard ships there are four general steps to be followed. First, determine where the fire started, its cause, and its fuel. Second, determine how the fire is discovered, how long it has gone undetected, how large the fire has grown before discovery, and what ship's systems (if any) are already affected. The type of detection system the vessel has, and the starting location, have a large influence on this step. Next, the crew is involved in actually combating the fire. Several talk descriptions are given in the example scenarios below, which relate to fighting fire. Keep in mind that damage to a ship's systems can continue to occur (if the fire destroys a power line, it causes the lights to go out, and power to the air compressor keeping the foam running may be cut off). Another concern is possible panic among passengers, maybe even some members of the crew. A panic may seriously hamper firefighting efforts. Just evacuating passengers from threatened areas can tie up some of the crew. The final step (if the fire is successfully put out) is assessing the post-fire situation. At this point, the crew needs to determine the extent of the damage, how quickly repairs can be made, and whether a major "dry-docking" is necessary. If the fire was large, then presumably the crewmembers have been considering the entire time whether or not a distress signal, or even an abandonment, is called for in this particular fire situation.

BRING AN EXTINGUISHER

Knowing that there is a fire is only half the problem—you also have to find it before you can begin to assess its nature and your reaction to it.

Players' Information: The characters are crew or owners of a moderately sized vessel. A warning is received from a sensor in an area next to the cargo deck. Upon investigation, no fire is found, but the room is abnormally warm.

G.M. Information: The reporting sub-control station for some (or all) of the sensors in the cargo hold has malfunctioned, so there has not been a report of the fire in the hold. The fire will grow by 10 percent every five minutes that it goes undetected. Roll 1D6.

1-3: Moderate fire; next to the cargo hold wall, adjacent to the room with the heat warning.

Since a single extinguisher only lasts for about 90 seconds, this fire could easily require the use of two to three extinguishers. If put out promptly and not allowed to spread, it will only destroy a single crate (approximately one meter by one meter).

To put out a moderate fire with an extinguisher:
Routine, Int, 20 sec.
Referee: Cooperation with several extinguishers reduces the difficulty to Simple.

To put out a moderate fire with a portable expansive foam system:
Simple, Int, 10 sec.

4-5: Blazing fire; an area about one meter by four to five meters is ablaze. The hold is filled with noxious smoke from the ceiling to at least waist level. It will require the use of a foam or gas dump system. If the gas dump system operates correctly, it has automatic success.

Any involved personnel without a filter mask, or other protective device, will be overcome by smoke inhalation within five minutes. The amount of cargo destroyed depends upon how large the fire grows.

To put out five square meters of blazing fire with a portable expansive foam system:
Routine, Int, 30 sec.
Referee: A minor mishap results in the fire remaining the same size; a major mishap in the fire growing another square meter; a "destroyed" result indicating the fire doubling in size (possibly by explosion—consider the fuel).

6: Conflagration; virtually the entire cargo hold is on fire. Either a gas dump system, or opening the cargo hold to vacuum, are the safest methods to use. If the characters open the door, flames will almost certainly shoot out into the corridor two to four feet.

To determine if a fire directly behind a door will pose a threat if the door is opened:
Routine, Int, 1 sec. (uncertain, safe).
Referee: If the task is repeated, the fire has a 20-percent chance of growing larger because of delay.

To avoid being burned when opening a door to a conflagration:
Routine, Agility, Instant (hazardous).

FALSE ALARM

Even false alarms present their own form of danger. Sometimes an automatic response to fire may cause trouble of its own.

Players' Information: The ship's computer reports a fire in a room in the ship's main compartment. Upon investigation, no fire is found, but the room is a little warm.

G.M. Information: It's a false alarm; the severity is determined by a die roll.

1-2: The sensor needs adjusting.

3-4: The sensor needs replacing.

5-6: The sensor was wired incorrectly; its input is being interpreted by the sub-system, or main computer, as two different sensors. With the warm room, it is indicating as two sensors reporting a rise in temperature, interpreted as a fire. If the ship has an automatic gas dump system, it may have already dumped into the area, displacing the air. CO_2 has no odor, but can cause minor irritation to the eyes, nose, and throat in this high concentration. Halon is odorless and undetectable. If there were loose papers in the room, they will have been blown around, creating a mess. The characters can check the computer or pressure gauges on the gas holding tanks to determine if the dump has occurred. If the ship's computer is "too smart," it may conclude that the initial dump was not sufficient, and continue to dump as long as the bad reading persists, resulting in total contamination of the ship's air and overcoming everyone who doesn't don a spacesuit within four minutes of the last dump. In a large vessel, it would have overcome others sooner as the gas spread. Even a filter mask won't help—the ratio of oxygen to other gases won't be high enough to sustain life. Death occurs within 10 minutes of losing consciousness.

> *If the ship's computer is "too smart," it may conclude that the initial dump was not sufficient, and continue to dump as long as the bad reading persists, resulting in total contamination of the ship's air and overcoming everyone who doesn't don a spacesuit within four minutes of the last dump.*

To shut off an automatic gas dump sequence: Simple, Computer, 10 sec (safe).

Referee: Task must be done from the main computer (by just stopping the control program), or sub-system involved (by removing the bad sensor from the reporting loop; this requires knowing which sensor is indicating).

To identify an indicating fire-detection sensor: Simple, Computer, 10 sec (safe).

Referee: Task must be done at main computer terminal or sub-system involved.

To physically locate a specific fire-detection sensor: Simple, Int, 20 sec (safe).

Referee: Must have ship's plans, or sensor installation plans, to perform the task (or retrieve plans from the computer); if not, the task becomes Difficult and Uncertain (since it may not be known how many sensors are in the area). If character has not first consulted the computer for the sensor's identity, the task becomes Uncertain (since it is not known exactly which sensor is indicating).

FIGURE 1—PRICE FOR FIREPROOFING

Area	*Cr Per Ton*
Hull Size	100
Bunk	200
Small Stateroom	400
Stateroom	1000

Prices listed are for 10-percent fire-resistance (maximum 100 percent). For every 10-percent fire-resistance, the spreading of a fire is reduced by 5 percent. Minimum fire-resistance for commercial and military vessels is 30 percent.

Optional: Prices given and both stateroom sizes are for basic accommodations. Multiply by two for first class, and by three for luxury class.

FIGURE 2—TABLE A

Die Roll (2D6)	*Percentage*
2-5	0
6	Roll on Table B
7	30
8	40
9	50
10-12	100

These figures may be used for determining fireproofing of randomly encountered vessels.

FIGURE 2—TABLE B

Die Roll (1D6)	Percentage
1	10
2	20
3	60
4	70
5	80
6	90

These figures may be used in situations when the fire-resistance of a particular vessel needs to be determined.

FIGURE 3—TABLE A

Hull Size	Sensors	Hull Size
100	12	8000
200	19	9000
300	25	10,000
400	30	20,000
500	35	30,000
600	39	40,000
700	43	50,000
800	47	75,000
900	51	100,000
1000	55	200,000
2000	87	300,000
3000	114	400,000
4000	138	500,000
5000	161	700,000
6000	181	900,000
7000	201	1,000,000

FIGURE 3—TABLE B

Sensors	Config.	Modifier
220	Sphere	1.0
238	Needle/Wedge	1.9
255	Cone	1.4
404	Cylinder	1.1
530	Cube	1.3
642	Dome	1.2
744	Dish	1.7
974	Planetoid	0.9
1182	Buffered	0.6
1876	Irregular—depends upon shape	
2458		
2977	(Multiply the basic number from	
3455	Table A by the modifier from	
4325	Table B)	
5112		
5484		

FIGURE 4—PRICE LIST

Figure 4 is a basic list of prices.

A. Basic Wiring, etc.

Cr125 per 100 tons hull size

B. Computer Modifications

Cr75 per detector directly wired to computer.
Cr200 per substation wired to computer.
Cr550 per every dump system controllable from computer.
Cr1150 per every dump system which can be automatically dumped by the computer.

Note: The above charges represent computer connections, programming, and such. The ship's entire fire detection and reporting system runs as one task under the direction of the ship's monitoring program.

C. Reporting Panels

Cr3 per tons hull size. (Maximum hull size is 1000 tons.)

D. Substations

Cr150, plus Cr25 for every 10 reporting lines accepted. (Maximum input: 50 lines.)

E. Detectors

Cr10 per bimetal temperature sensor.
Cr25 per electronic thermometer.
Cr20 per smoke detector.

F. Hand Extinguishers

Cr65 for CO_2.
Cr125 for Halon.
Cr85 for portable foam blower (requires power source).

G. Equipment Dump Systems (1)

Cr1500 for CO_2, refill Cr250.
Cr1100 for Halon, refill Cr800. (Price is for 1/4 ton equipment size, adjust as needed.)

H. Area Dump Systems

Cr3500 for cryogenic CO_2, (requires .001mw power source for refrigeration).
Cr4200 for compressed CO_2, refill Cr1100.
Cr4000 for Halon, refill Cr3800. (Prices are for an area of one ton, adjust as needed.)

Note: All equipment and area dump systems have manual dump controls included in the price of the system.

—Dale Hanych

Continued from page 2.

round of gaming, or to avenge last year's defeat.

Above all, gaming conventions give gamers a sense of community. Nothing is quite as much fun as descending upon some unsuspecting campus or convention center, loaded for bear with games, pencils and dice, ready to indulge in some serious gaming and knowing the whole time you are a part of a fraternity which accepts you for what you are—a gaming fanatic!

By the time this editorial sees print, the summer convention season for 1988 will be winding to a close. The convention centers will be sweeping up and folding the chairs, and the convention organizers will be wiping their brows after a job well done. The manufacturers will be on their way home filled with new ideas and enthusiasm. The attendees will no doubt be poring over their new games, excited about their upcoming gaming sessions, and already looking forward to the next season's fun. Convention preregistration starts pretty early, you know.

—Timothy B. Brown

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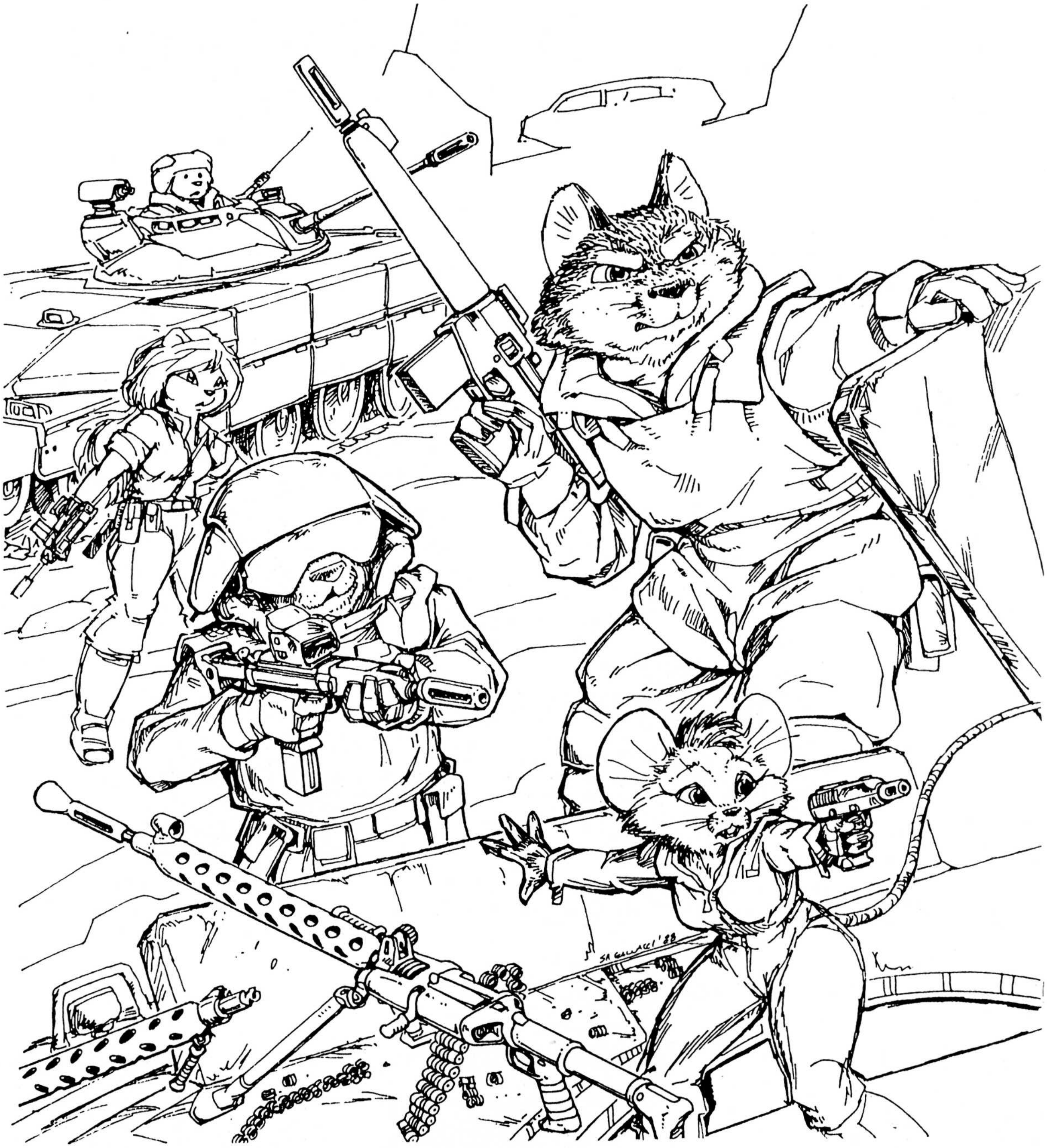

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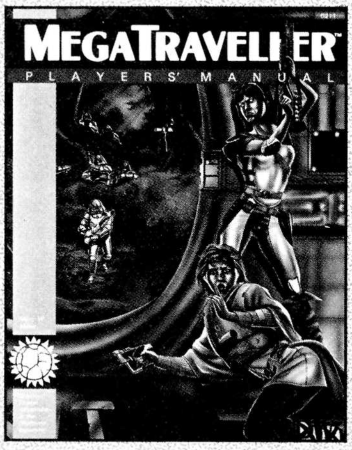

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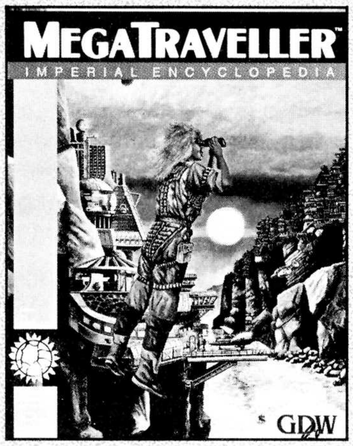

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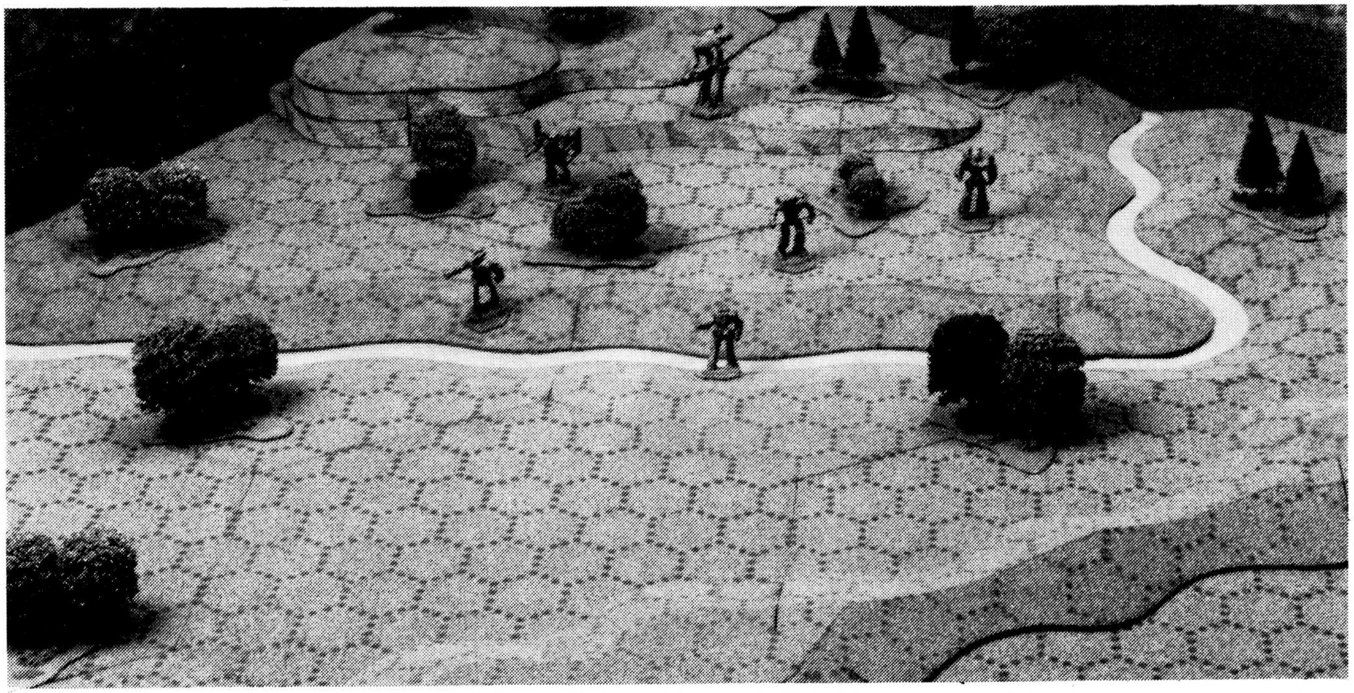

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A World Invaded

"A World Invaded" is a **2300 AD** adventure designed for a group of players who are attempting to join the local resistance forces following the Kafer Invasion of Dunkelheim in 2301. To play this adventure, the referee should have a copy of the **2300 AD** role-playing game, as well as information about Kafers. Access to copies of **Colonial Atlas** and **Invasion** are strongly recommended. **Colonial Atlas** contains a chapter describing the Dunkelheim colony prior to the invasion, while **Invasion** has a small section describing the events leading up to the arrival of the Kafers.

REFEREE'S SYNOPSIS

The players begin the game at Windsberg, a small isolated village which was recently the target of a Kafer hunt. The players are the only survivors of the attack. Taking what little they have, the platers agree to fight the Kafers. Following rumors of a local resistance unit based at Braunstadt, the players begin their 285-mile journey.

Their first stop is Kleinfeld, where the players join up with two others who are looking to join the resistance. Together they travel to the Crossroads Inn, where they meet a few people who will divert the players' attention for a little while, after which the players will continue on their way.

Things heat up as the group reaches the town of Zweibrucken, an old industrial town marking the halfway point of the trip. Here, they get involved in the local struggle with a group of bandits who control the town and its people. With the group's help, the bandits can be defeated. Without it, the people have no hope for freedom from the bandits or the Kafers.

Eventually, the players reach their final destination, Braunstadt, where they begin searching for information on the resistance fighters only to find nothing. Then one evening, they receive a mysterious note requesting that the players appear at an old abandoned building. When the players arrive, they are taken and questioned at length. Finally, they are released and welcomed to the resistance.

In an unexpected turn of events, the two people who joined the players early in the adventure reveal their true identities as agents working for the Kafers. They lock the players up and hold the resistance fighters until Kafer forces arrive.

A Kafer occupation can ruin your whole day.

In the end, the players work against time, the Kafers, and their agents as they try to break out and rescue the resistance fighters before they have to deal with the Kafers.

DEATH OF WINDSBERG

The game begins in the small village of Windsberg, roughly 300 miles southeast of Braunstadt. The village consists of about a dozen dwellings whose inhabitants survive on their agricultural capacity and their small amount of livestock. Windsberg was originally the base of a mineral surveying operation which was shut down shortly before the arrival of the Kafers. Most of the inhabitants were the target of a Kafer hunt, a senseless killing spree by Kafer soldiers. Few survived the attack, which left their crops ruined, livestock stolen, and buildings burned to the ground.

With little left to keep them at Windsberg, the survivors gathered the remaining supplies and equipment and vowed to fight the Kafers and help rid the world of the alien menace. The group leaves to join a rumored resistance unit located at the city of Braunstadt.

Director's Note: The director may wish to develop the personality of the village and its inhabitants. This could give the adventure more of a sense of drama and tragedy when the attack occurs. During the attack, the players could be out scouting the area, or simply looking for some stray livestock (livestock are critical to the survival of the village). Perhaps they will encounter the Kafer unit as it approaches or leaves the village.

EQUIPMENT

After the Kafers have come and gone, the players search through the charred rubble looking for any salvageable equipment. As a result, besides standard personal gear, the players will each have a utility belt, knife, canteen, and a day's rations.

Each individual character will receive other items in addition to the personal gear and salvageable equipment which are described above. These additional items are listed in the following table. Each character will receive one item from each column in the table. Some results may call for additional rolls.

Die Roll	Item A	Item B	Weapon	No. of Clips
1	1 extra canteen	6 days of rations	OS-9 Pistol	None
2	compass	1 extra weapon and clip roll	OS-9 Pistol	None
3	backpack	1D10/2 extra clips	OS-9 Pistol	1
4	backpack	battery recharger, solar	P-11mm Pistol	1
5	25′ nylon cord	5-liter can of water	HR-10 Rifle	1
6	fire starter	1D10 road flares	HR-10 Rifle	1
7	first aid kit	binoculars	HR-10 Rifle	2
8	folding shovel	communicator, short range	HR-10 Rifle	2
9	harmonica/flute	camp stove	SS-7 Rifle	2
0	bow + 12 arrows	electric lantern	SS-7 Rifle	1 + 1D10/2

NEW WEAPONS

The following section describes new weapons.

Osterfeld OS-9

A very popular auto-pistol built by Osterfeld, the OS-9 uses the same ammunition as the American Traylor Model 57 but is slightly more accurate due to its longer barrel.

Type: 9mm Automatic *Country:* Germany *Weight (empty):* 0.8kg *Length:* 23 cm (Bulk = 0) *Action:* Single shot *Ammunition:* 9 × 24mm fixed cartridge ball *Muzzle Velocity:* 480 mps *Magazine:* 12-round box *Magazine Weight:* 0.1 kg *ROF:* 3 *Aimed Fire Range:* 70 m *Area Fire Burst:* 3 rounds (AFV = 0.25) *Area Fire Range:* 35 m *DP Value:* 0.4 *Price:* Lv180 (Lv2 for box of 100 rounds)

Breckner HR-10

A heavy caliber hunting rifle, the HR-10 is renowned for its reliability and durability. The HR-10 was one of the most popular sporting rifles of its time, but has since been replaced by lighter rifles with better range.

Type: 10mm hunting rifle *Country:* Germany *Weight (empty):* 4 kg *Length:* 117 cm (Bulk = 4) *Action:* Single shot *Ammunition:* 10x30mm fixed cartridge ball *Muzzle Velocity:* 700 mps *Magazine:* 7-round box *Magazine Weight:* 0.3 kg *ROF:* 2 *Aimed Fire Range:* 600 m *Area Fire Burst:* 3 rounds (AFB = 0.25) *Area Fire Range:* 500 m *DP Value:* 1 *Price:* Lv250 (Lv3 for box of 100 rounds)

PLAYERS' INFORMATION

Braunstadt: This is the nearest large city to Windsberg and lies roughly 450 kilometers west of the players' starting point. The city was never attacked by the Kafers, though it has suffered somewhat from a prolonged lack of authority. It is generally believed that resistance fighters under Governor Schmidt have an entry point here for persons seeking to join.

Windsberg: This tiny village is a former center for a survey operation which performed mineral explorations along the planet's northern outback. Windsberg is the target of a Kafer hunt and the starting point of the adventure.

Kleinfeld: This small village is located 57 kilometers west of Windsberg. The town is a small agricultural community which has made most of its living by producing food for the miners in neighboring villages. The village still produces food, but only small quantities are traded to other people.

Zweibrucken: This town is one of the larger in the region. Prior to its invasion, the town was the center of mining operations for the region east of Braunstadt. The community, which is home to large ore processing facilities, is presently controlled by a group of well armed bandits whose strongholds include the old Beta mine south of town.

Beta: This is a small mining site located east of Zweibrucken. The main product of this facility was gold. Today it is the stronghold for a group of bandits who control Zweibrucken.

Crossroads: This is a rest stop run by an Azanian-born colonist. Few travellers pass through here anymore, but they are still welcome to stay at the inn.

DM + 36 2393

The following section includes data on DM + 36 2393.

System Data

The DM + 36 2393 star system lies on one of the outer frontier segments of the French Arm, close to Kafer space. The system consists of three small, rocky worlds orbiting a red M2 V star. With a surface temperature of only 3000 degrees Kelvin, the star has a very close, very narrow life zone. Dunkelheim is the closest planet to the star, orbiting at the outer fringe of the life zone. The remaining planets are too far away to support life. *Coordinates:* X −23.5, Y −10.4, Z 8.5 DM + 36 2393 *Type:* M2 V *Mass:* 0.42 Sol *Luminosity:* .268 Sol *Radius:* .464 Sol.

Planetary Data

Dunkelheim is a relatively small, rocky core world with a diameter of only 7100 km. The planet is dense, roughly 10 percent more so than Earth. This has the effect of giving Dunkelheim a surface gravity of .6G. Its atmosphere is somewhat thin, but its composition is fairly close to that of Earth's with 81% N_2, 17% O_2, and 2% other trace elements. The climate is mild, though cool with an average temperature at northern latitudes of five degrees centigrade. Seasons are moderate, but the planet's year has only 54.24 days, or 72.32 local days, causing seasons to change rather quickly. In winter, which lasts for about 20 local days, temperatures drop an average of five degrees, while summer temperatures are about five degrees higher than normal.

LOCAL FAUNA

Dunkelheim is home to a series of native species, fitting all ecological niches with unique animals worthy of examination.

Plains Wolf

This native chaser is found in the northern latitudes of Dunkelheim. Operating in packs, the large, agile creature runs down its prey. The animals are easy to wound due to their thin but strong limbs and poorly protected internal organs. However, plains wolves are extremely resilient and tough to kill.

Plains Wolf: Chaser *Number Appearing:* 2D6 *Initiative:* 6 *Size:* 8 *Speed:* 90 *Armor:* 0 *DPV:* .3 *Wound:* −4 *Signature:* 0 *Hit:* Routine *Consciousness/Life Level:* 14/24

Runner

Runners are gatherers which exist in many varieties across much of Dunkelheim. The northern variety are brown in color and possess long scraggly fur. These animals are small, fast, and hide well among the low vegetation that characterizes the northern latitudes. Runners live in dens which they burrow out using their short but tough claws.

Runner: Gatherer *Number Appearing:* 1D6-2 *Initiative:* 3 *Size:* 5 *Speed:* 80 *Armor:* 0 *DPV:* .1 *Wound:* −2 *Signature:* −3 *Hit:* Difficult *Consciousness/Life Level:* 1/5

Braunbeast

This intermittent is practically an endangered species, found only in the Braunstadt plains area. Travelling in small family herds, Braunbeasts are territorial and often fight each other over grazing land. The animals commonly mass several hundred pounds and possess thick, shaggy fur which varies in color from light tan to medium brown. They are very slow to react, but can inflict great injury by butting with their thickly armored heads.

Braunbeast: Intermittent *Number Appearing:* 1D6 *Initiative:* 1 *Size:* 9 *Speed:* 70 *Armor:* .1 *DPV:* .4 *Wound:* 0 *Signature:* 0 *Hit:* Difficult *Consciousness/Life Level:* 5/12

ENCOUNTERS ON DUNKELHEIM

Encounters are broken up into specific regions: Kleinfeld, Crossroads, Zweibrucken, Beta, and Braunstadt. Encounters within a region are governed by the materials given for each of these areas. In between towns, the standard encounter rules apply. For every four hours of travel, make one animal encounter roll: As the area between Braunstadt and Windsberg is considered sparse, a 1, 2, or 3 on 1D10 indicates a specific animal encounter. This is given under the Animal Encounters column on the table below. Additionally, if a 4 is rolled, a nonanimal encounter may take place. In this case, roll 1D10 a second time and consult the Other Encounters column of the table below.

ANIMAL ENCOUNTERS TABLE

Die Roll	*Animal Encounters*	*Other Encounters*
1	Runner	Windstorm
2	Braunbeast	Earth Tremor
3	Plains Wolf	—
4	Other	—
5-9	—	—
10	—	Bandits

Results: Animals encountered are described in the Local Fauna section. Other encounters are described below.

Windstorm: A windstorm rises, making travel difficult. The storm lasts for 2D6 hours.

Earth Tremor: A sudden tremor shakes the ground. It is not enough to cause any real damage, but can shake loose small rocks from cliffs and so on.

Bandits: A group of 2D6 lightly armed hoods on horseback ambush and attempt to rob the players' group. They want food and weapons, but aren't looking to kill anyone. They should be equipped with pistols and rifles. The director must make a decision concerning the equipment and personalities of these thugs.

PLANETARY LOCATIONS

The following section details information concerning a number of interesting planetary locations.

Kleinfeld

Kleinfeld is a small agricultural community of about one square mile of farmland dotted with small houses. Several short towers are lined up along the perimeter, occasionally manned by locals watching for bandits and animals.

At the center of the village is a small collection of buildings: houses, the local tavern, and a small trade shop. The village is in decent shape, and several people can be seen around town conducting business as usual. The locals are friendly here, but a bit suspicious of strangers. Most will give a guarded "Guten Tag," but will say little else unless questioned.

Steiner's Tavern

When the players reach Kleinfeld, the director should guide them to the local tavern, which is a good source of rest, refreshment, and information. Further details on the tavern can be found in the Fixed Encounter Locations section. In the tavern, the players will notice a pair of gentlemen sitting in the far corner of the establishment. They appear quite different from other locals, primarily in that they are obviously armed.

If the strangers hear the players mention the anti-Kafer resistance among themselves or to others, one of the strangers will approach and introduce himself. If the players make no mention of the resistance, then they should overhear the strangers talking about it. If all else fails, someone will introduce the two groups to each other. The strangers are described in the NPCs section.

Running Kleinfeld

Kleinfeld is the first major encounter location for the players and may be their first experience with local life on post-invasion Dunkelheim. The director should emphasize how lack of normal transportation and supplies has affected the people here. The encounter with the "Strangers" should be played up, along with the players' need for supplies and trade goods.

Random Encounters

For every hour the players spend in Kleinfeld is the possibility of a random encounter. Once per hour, roll 1D10 and consult the Random Encounter Table. Encounters do not have to occur immediately—they may be detained until a good opportunity presents itself. This is left up to the director's discretion.

RANDOM ENCOUNTERS TABLE

Die Roll	*Random Encounters*	*Special Encounters*
1	Kids	The Trader
2	Beggar	The Strangers
3	Special	—
4-0	—	—

Results: Following are results from the table above.

Kids: A group of 1D6 kids appear. They will simply follow the players around wherever they go, being little more than a nuisance. They will go away if properly convinced to do so, after 1D6 hours pass or as soon as it gets dark.

Beggar: A scraggly old man begs the group for food or goods.

Special: A special result means an encounter with a major

2300AD

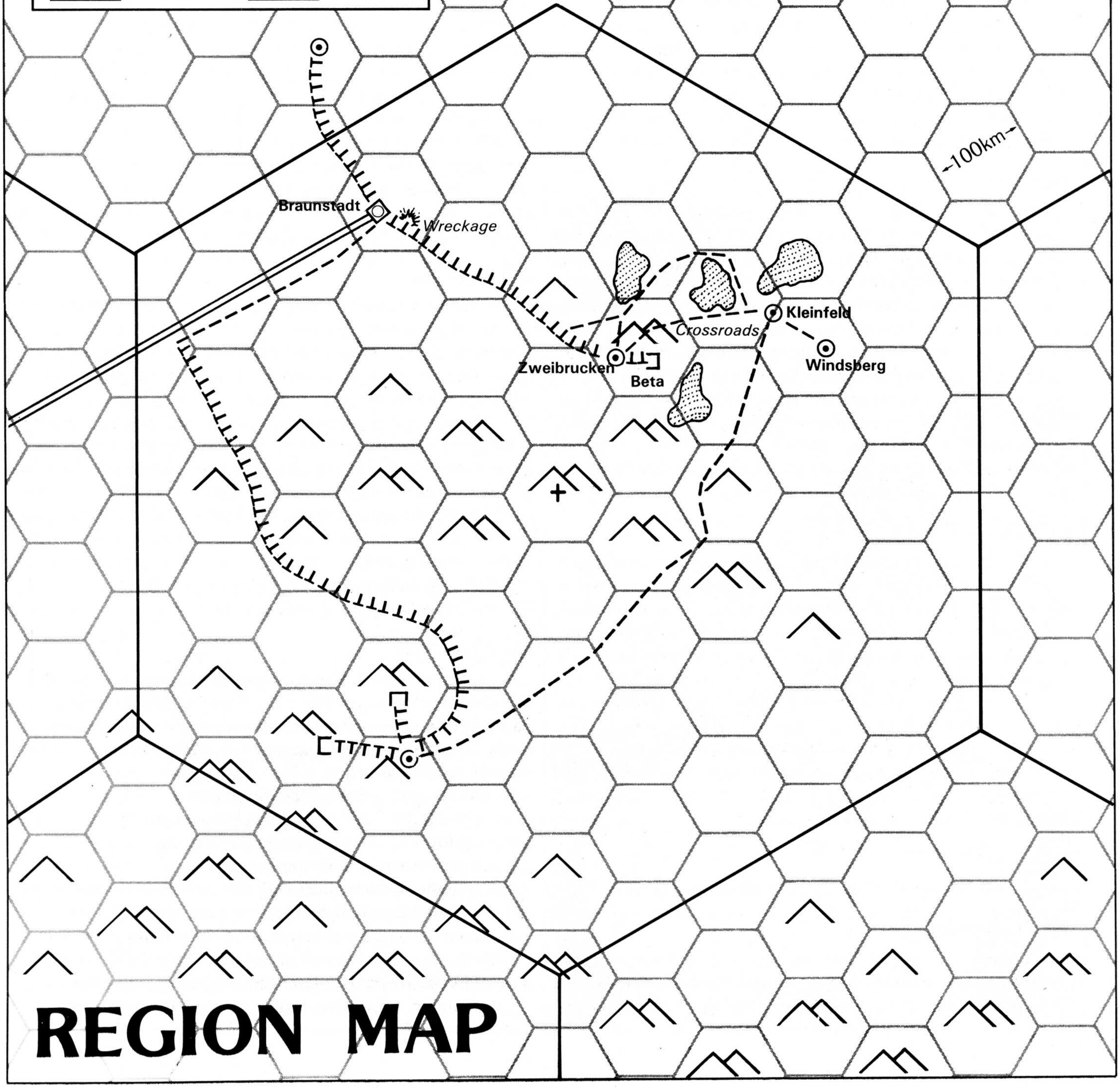
World Name **Dunkelheim**

Geodesic Map Triangle No. **8**

Triangle Hex No. **A1 - B2**

TERRAIN KEY

Symbol	Terrain	Symbol	Terrain
	Plain, Flat	⊥⊥⊥⊥	Road & Rail, Parallel
∧	Hilly	═	Rail Line
∧∧	Mountains		
⊙	Village		
▣	City		
▨	Kamelinsect Colony		
– – –	Road		


Braunstadt
Wreckage
Kleinfeld
Crossroads
Zweibrucken
Beta
Windsberg
~100km~

REGION MAP

local NPC. To determine which NPC is encountered, choose the one at the top of the special encounter list. If the character has been encountered before, cross him off and choose the next one on the list.

VILLAGE LOCATIONS

The following section describes locations throughout the village.

The Farms

The local farms are commonly one large field centered near the town. At one side is the owner's house, and a low metal tower is located at one of the opposite corners. Most towers are not normally manned, but occasionally, a family member will come out to check on the crops from there. The houses are rather simple-looking, single-story dwellings constructed in a style reminiscent of an old German village house.

There are eight farms in all, each supported by a family of 1D6 members. Farming families usually possess 1D6/2 weapons. If it becomes necessary to determine the type of weapons and amount of ammo available, use the Players' Starting Weapons Table. For each weapon, make a roll in the type column and two rolls in the ammo availability column.

Trade Shop

A two-story building at the center of town is the village's only trade shop. The shop is generally locked, but the owner will come down from his home over the shop to open up for customers. The shop is filled with a large number of small items of little use, such as brushes, sewing needles, polished rocks, picture frames, and such. On one wall of the store hang basic tools and farm implements. At the opposite wall are books and such. More valuable items are locked up in a storeroom behind the shopkeeper's counter. The price for general supplies is doubled; weapons are quadrupled; ammo is 10 times normal price if available at all. Other items vary at the director's discretion. Purchases should be made by bartering, due to the present uselessness of standard currency.

Steiner's Tavern

This tiny establishment is frequented by several locals each evening. During the day, the tavern is also open, but has fewer customers. This place serves liquor, but it is expensive, especially for out-of-towners. The barkeep accepts Livre, but prefers goods. Low-quality meals are also available, but again at a high price.

Director's Notes: The tavern serves as a good place for the players to gather information. The director should use this location to give the players clues as to where they can get equipment, who might put them up for the night, where they can get a decent meal, and so on. Also, this is where the "Strangers" should be introduced into the game.

LOCAL NPCS

Local NPCs are described in the following section.

The Chief Farmer

Inge Pauken is the most successful farmer in town and carries the respect of many. She works very hard and spends occasional evenings at the tavern. Inge has three children, but her husband was killed two years ago by plains wolves. She is very helpful to strangers, and has an extra room in her home that she usually lends to travellers. The woman, in her 30s, is somewhat short and stocky and is no beauty, but she has a very friendly personality and is liked by all.

NPC Motivation Results: *Heart 7:* Her maternal instincts are strong, and she is protective of her children. She is also the same way about her friends and worries for strangers. *Diamond 2:* Her responsibilities make her very cost-conscious, and she will try to make money by selling food and shelter, but this is not as important to her as the well-being of others.

The Strangers

These two gentlemen are first encountered in the tavern, as described above. The two claim to be looking to join the anti-Kafer resistance fighters. They have worked up the following story to serve as the cover to their real motives:

Both Genschow and Hoffman have decided to join the resistance; unfortunately, rumors say that the only active resistance unit in the area is based at Braunstadt. The two are from a city far to the south and they are not familiar with the local territory. They have been looking for others to travel with, but few travel the roads these days.

In reality, the two are working for the Kafers, trying to locate the local resistance headquarters. Upon successful completion of the mission, each will receive Lv50,000 and will be allowed to leave the planet using a captured civilian courier.

Karl Genschow

Genschow is a small, balding man who has an easy smile and a pleasant personality. Karl is very easy to talk to, which makes people tend to trust him. Unfortunately, despite his pleasant demeanor, Karl is quite a mercenary. Money has always ruled his life, and now he sees a chance to make a bundle off the Kafer invasion. Karl Genschow is an Experienced colonist.

NPC Motivation Results: *Diamond 5:* Personal wealth is very important to Karl—so important, in fact, that he is willing to sell out his own people for monetary gain. *Heart 3:* Karl is very easygoing and very cooperative as long as it doesn't interfere with the chance to make a good profit. Karl uses his easy manner to get close to his victims and gain their trust before he rips them off with whatever scheme he's cooked up recently. Karl is a true con man at heart.

Gustav Hoffman

A young, well-built man with rough features, Gustav Hoffman is quite the opposite of his partner. Generally quiet in nature, Hoffman won't say much unless something needs to be said. As he has little to say anyway, he is content to let his partner do all the talking.

Hoffman is going through an internal struggle, trying to convince himself that what he is doing is necessary to be with his one true love. He and his fiance were to be wed, but those plans were smashed with the invasion.

Fortunately, she was able to get aboard one of the few ships that escaped the system. Hoffman is slaved to his passions for the woman he loves and can think only of joining her again. He will do anything to get off-planet, even help the Kafers. Hoffman vents his frustration with himself by going into a berserker rage in combat. Genschow explains that Hoffman's actions are due to the fact that his fiancee was killed during the early days of the Kafer invasion.

Hoffman is a Green NPC in the Ground military and a colonist.

NPC Motivation Results: *Heart Queen:* Hoffman is obsessed with joining his fiancee off-world and will stop at nothing to join her. *Club Jack:* When in combat or when someone tries to stop him from accomplishing his mission, Hoffman will go into a berserker-like rage until the threat is gone.

Equipment

Both Genschow and Hoffman are well-equipped for their trip to Braunstadt. Besides general personal items, each carries one week's ration of food, a backpack, canteen, and a short-range communicator. Additionally, Genschow carries a pair of binoculars, a medikit, a P-11mm pistol with four clips, and a broken flashlight. Hoffman carries a compass, a flashlight, a Stracher SG-77 with five clips, and a knife.

Director's Note: Genschow's flashlight is actually a homing beacon which he will activate once he is inside the resistance headquarters.

CROSSROADS

This town is actually no more than an inn and a single farm and farmhouse. The street is normally empty, though one or two people are often working in the fields. The inn is run by an Azanian-born colonist who moved here as a young boy when the Azanian colony on Dunkelheim was abandoned.

Running Crossroads

This is the second stop out of Windsberg. Encounters with major local personalities should occur here. The locals spend most of their free time at the tavern in the local inn. The "resistance fighters" are offered as a way to push the players off-track for a bit. Following this they should naturally become more determined to reach their goal, which is Braunstadt. The rich patron should join the players and keep their lives complicated.

The Inn

This is the only significant location where encounters occur. The inn is a two-story building with a tavern located on the first floor. Up a set of stairs at the back of the tavern are the guest rooms. There are six rooms in all. Three of these are occupied—by the local drunk, the the rich patron, and the two "resistance fighters."

The tavern itself is the main encounter area. The guests spend most of their time here playing cards, drinking, playing darts, or watching videos of past sporting events and some old films. When the players arrive, they will be greeted enthusiastically. A local will note that this has been a busy week, noting the arrival of the two "resistance fighters" yesterday.

Director's Note: The flow of the encounters is up to the director. All of the guests would probably be encountered at the tavern. The players' arrival is the big event of the day, and they will likely be the center of attention for a while.

LOCAL NPCS

The following section details characteristics of some local NPCs.

The Innkeeper

This man is a descendant from the failed Azanian colony. He is very tall, black, and in his late 30s. He dresses unusually well for a colonist living in the middle of nowhere. He is very friendly and acts very responsibly toward his guests. He is the sort who would protect his customers from harm to the best of his ability. While he runs the inn, he lives in the farmhouse next door where his family tends the crops. The Innkeeper is a Veteran colonist.

NPC Motivation Results: *Heart 8:* He believes in fairness and justice and will take action when these are violated. *Spade 5:* He takes responsibility very well and would like to become an important person someday.

The Rich Patron

Herman Friedman, more commonly referred to as Herr Friedman at his own request, is looking for a way off-planet. He will, however, settle for anything closer to civilization. The man is a former administrator who found himself stuck in the area. He has lived at Crossroads ever since with his hired bodyguard, now the local drunk. He will offer the players Lv20,000 to take him to Braunstadt. In his large sums of baggage, he carries

about Lv10,000 and claims to have tens of thousands in local and off-world banks.

The man is in his mid-50s and rather plain in appearance except for his clothing. He seems to wear a different suit every day, and all look like they were from the early 2200s. He is a Green NPC in administration.

NPC Motivation Results: *Diamond Jack:* The man is a total coward and will run away at every chance, even if he may be able to help others by staying. *Diamond 7:* Money is always the first thing on his mind. He is a cheapskate.

"The Resistance Fighters"

Gerhard and Wulfgang Schmidt are brothers who live up in the foothills of the nearby mountain range. Their "secret hideout" is a shallow cave where they keep their radio, weapons, and supplies. The two have many stories about how they have fought Kafer patrols and foiled Kafer hunts. They even carry a Kafer knife as a souvenir of their battles. They also claim to be cousins of the planet's governor-turned-fighter, Karl Schmidt.

The two are dressed like fighters, wearing old fatigues and surplus military gear that they used to collect before the invasion. Wulfgang carries an SG-77 while his brother carries an M-2. Also, each carries an Osterfeld OS-9 pistol, and they have 2D6 ammo clips for each weapon. Gerhard carries their one and only hand grenade.

The two are originally from Braunstadt and moved out here to hide from the Kafers and to become "resistance fighters." They are both in their 20s and seem rather friendly to anyone who listens to their stories. They regularly visit both Kleinfeld and Crossroads on food-gathering missions. Claiming to be fighting the Kafers, they get free supplies from sympathizers.

At their hideout, the two have several pieces of equipment stashed away including an HR-10 and an SS-7 with 2D6 clips for each. The grenade they found among some wreckage one day, where they also found the Kafer knife. They also have a medium range radio complete with a solar charger. They claim to use the unit to keep in touch with the main fighters. In reality, the radio will receive, but the transmitter doesn't work. This they keep very secret.

Gerhard is the older of the two brothers. He is a calm, nice fellow, who is very generous and cooperative. Wulfgang tends to brag and occasionally mixes up his facts. He distrusts his older brother's generosity and tries to keep him from overdoing it.

NPC Motivation Results: The two enjoy pretending to be resistance fighters, and they will do what they can to keep up the charade. They might even fight some Kafers to keep up their image.

PLANETARY LOCATIONS: BETA

Beta is one of the oldest mines in the area and has become the base of operations for the bandits who terrorize Zweibrucken. The mine's location and layout serve as a near-perfect stronghold for the bandits. The single road which leads from Zweibrucken to Beta is a rough dirt affair that makes for some rugged travel. Paralleling the road is an old freight rail, which used to support the ore trains that once operated here. The last kilometer of the road is plainly visible from the mine, making it extremely difficult to continue without being detected by the bandits.

The entrance to the mine is fortified and well guarded. A chain link fence, topped with barbed wire, surrounds a small compound at the mine's entrance. One or two bandits guard the perimeter at all times. One stands watch from a small scaffolding tower, which stands next to the compound's main gate, while the other bandit walks the compound's perimeter inside the fence.

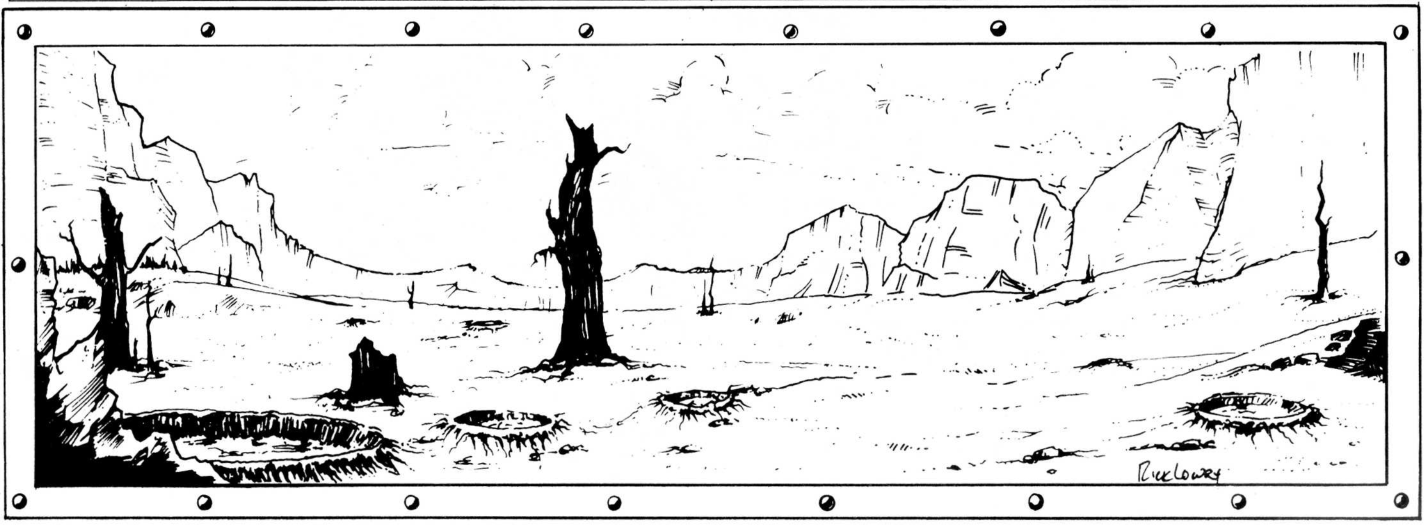
Located near the mine's entrance are three vehicles: an old sedan, a range truck, and a Songbird hovercraft. All are partially fueled and in operating condition, although none can maintain more than 60 percent of their maximum speed.

Running Beta

If the players approach, they will be warned off. If they refuse to leave, the bandits will attempt to take them prisoner. Failing that, they will just try to shoot the group. If the players are here to rescue the kidnapped victim(s), their best bet is to get to the back entrance described later in the Beta description. An approach from the front will be very risky and will likely result in lots of shooting action. If the players can enter the mine undetected, they should be able to sneak around with only an occasional confrontation with a bandit.

The Back Entrance

Passage from the back entrance can only be accomplished



by following an old hiking path which is overgrown with thick underbrush and moss, making travel difficult. Passage must be made single-file for about two kilometers. As the edge of the mountains are reached, the path slopes sharply upward for the next kilometer. Here, the vegetation clears revealing a rocky ledge, which twists and turns up the side of the mountain. Following another three kilometers of travel, the path leads through the edge of a Kamelinsect habitat. At this point, visibility drops to about two meters due to the swarming bugs and the steam caused by water vapor rising from the Kamelinsect habitats and hitting the cold air. A breathing apparatus is a necessity to keep from inhaling huge numbers of insects. The footing from this point becomes very slick due to the steam and the narrowness of the ledge.

After about 500 meters, the bugs begin to clear, but all of the water vapor will have iced up due to the colder temperatures here. This makes travel extremely hazardous, and characters will have to roll to avoid slipping.

Task: To avoid slipping (Hazardous): Difficult. Dexterity. Instant.

Once the group reaches the entrance, they will find the ventilation shaft, which is an opening roughly one meter in diameter, extending down into the darkness. The shaft reaches down about five meters, which is far enough to be a difficult descent. At the bottom is an alcove, containing a rusty evacuation fan, old tools, mining suits, and such. An access corridor leads out of the room and runs off, sloping at a downward angle directly into the ore train loading chamber.

The Bandits

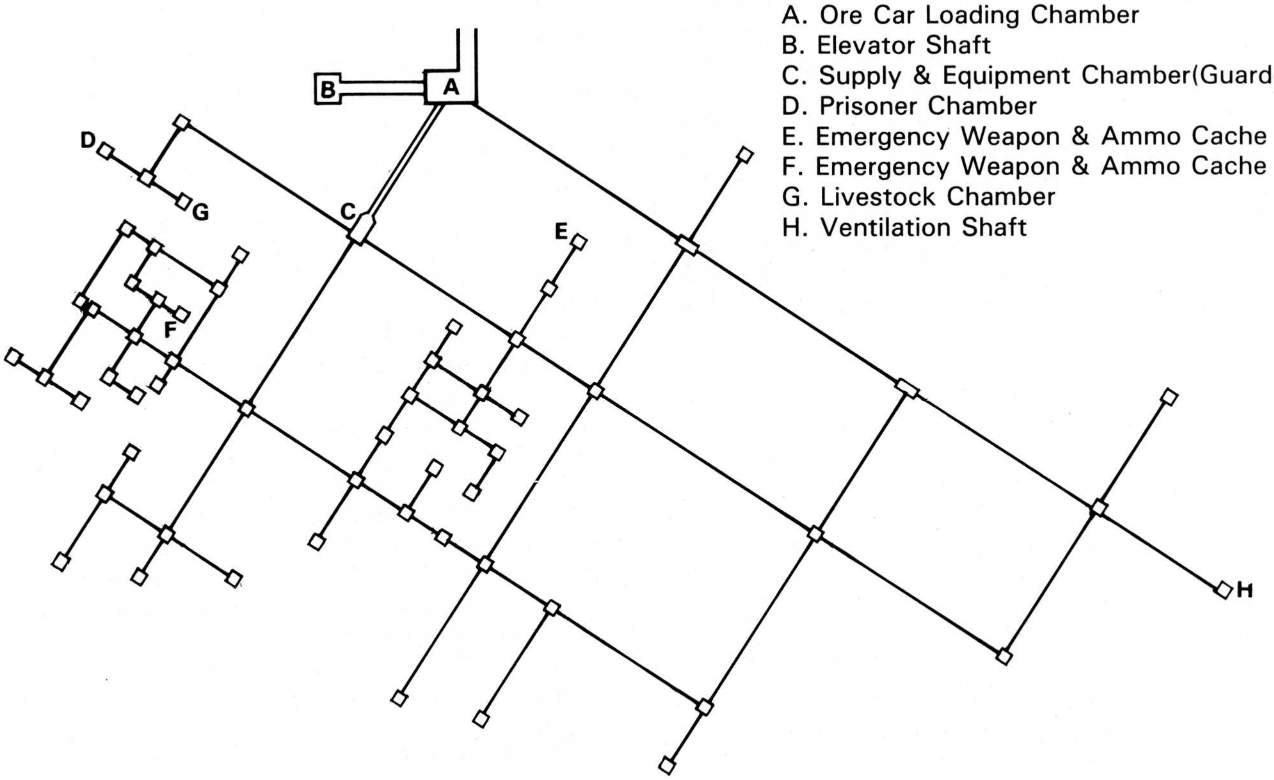
The bandits are a group of former miners who decided that their survival was most important. Early during the Kafer occupation, the group took to the mine as a place of safety. With supplies running low and other colonists hesitant to give up any of theirs, the group resorted to piracy. Today, piracy is their way of life, and the group, led by Herman Kleinholtz, completely controls the town of Zweibrucken. Bandits make regular visits to the town to check up on people and to obtain food from local farmers. The bandits now do little terrorizing, relying instead on "trustees" to police the town and carry out most tasks.

There are 12 bandits in all, each equipped with a knife and either a P-11mm or an OS-9. Additionally, half of the bandits carry SG-77s, while the remainder are equipped with either HR-10s or SS-7s. The military surplus weapons were taken from mining security offices, which were equipped with the weapons during the War of German Reunification.

Herman Kleinholtz

Kleinholtz is the leader of the bandit group. He is a natural leader, very loyal to his followers. At 6'6", he is impressively tall. Kleinholtz is very friendly among his followers, but treats others with great suspicion. The man can always be seen wearing his nonrigid vest and miner's helmet. He carries an M-2 and an OS-9 pistol, and has three spare clips for each. As he carries the only ammo available for his M-2, he seldom ever

BETA MINE



Beta Mine Legend

A. Ore Car Loading Chamber
B. Elevator Shaft
C. Supply & Equipment Chamber(Guarded)
D. Prisoner Chamber
E. Emergency Weapon & Ammo Cache
F. Emergency Weapon & Ammo Cache
G. Livestock Chamber
H. Ventilation Shaft

fires it. Kleinholtz is a Veteran NPC colonist.

NPC Motivation Results: *Spade Ace:* Kleinholtz was born to lead. His stature and charismatic personality make him a natural. *Heart 7:* He returns the loyalty of his group with his own loyalty toward them. He would die for his comrades.

Lutz

Lutz, second in charge of the bandit group, is a man in his 30s, of average height, and extremely burly. He is a leader only because he is strong and wants to be a leader. He is not exactly unfriendly, but has a subtle way of putting others down. Most people are too scared of Lutz to cross him.

Lutz carries an SG-77, a P-11mm, and six clips for each. He likes to shoot—at people, into the air, wherever. Lutz wears a nonrigid vest at all times. He is an Experienced NPC colonist.

NPC Motivation Results: *Club Jack:* Lutz has a bad temper, which usually results in his firing off his SG-77 at something. *Spade 6:* He likes responsibility because it makes him feel important, and he would like to lead the group someday.

PLANETARY LOCATIONS: ZWEIBRUCKEN

This is the largest town in the region, and lies about 140 kilometers southeast of Braunstadt. Once the center of all local mining operations, Zweibrucken now struggles to keep from falling apart. The town is centered around the railroad station, which served as a loading point for ore, processed in town, to be shipped to Braunstadt. While the railroad no longer operates, it still serves as a reminder of what was once a prosperous and happier life.

Several businesses are still conducted in town, including a farmer's market, a butcher shop, a bakery, a couple of general stores, a couple of restaurants, two taverns, and an inn. Other shops exist, but most went out of business some time ago.

People here are extremely nervous and will not talk to strangers. Some may even seem rather unfriendly, but they have cause. The town is completely controlled by a well-armed group of bandits who live at the Beta mine, several kilometers south. Through use of force, threats of violence, kidnapping, and such, they have taken complete control of Zweibrucken.

The bandits have a deal with the town: The citizens provide food and equipment, and otherwise cooperate, or lose everything they have. Several townspeople are "trustees" and do much of the bandits' bidding, in return for food, supplies, recognition, or power, or simply because the bandits will it.

Running Zweibrucken

At this town, the players have come a long way and will need to do two things: rest, and find a way to make the final, long journey to Braunstadt. While the players gather supplies and info about the trip, the director should use the fire and kidnapping encounters, and the local guards, to play up the bandit situation. If the players become involved, they should be rewarded with supplies, weapons, and transportation. This works best if done indirectly, through the discovery of bandit caches and such.

Random Encounters

Encounters are very important in Zweibrucken; they are the basis for adventure in and around the town. There are several which may occur at random. The players should roll once every four hours. The events may occur at any time during the following four-hour period. The director should adjust the timing so as to enhance the flow of the game. Three columns of the table below are for determining encounters: the first for daytime, the second for evening, and a third when the players are in the tavern. If a "Special" encounter results, take the next unused entry on the list of special encounters.

RANDOM ENCOUNTERS TABLE

Die Roll	*Day*	*Night*	*Tavern*	*Special*
1	Kids	Guard	Drunk	Fire
2	Beggars	Thugs	Guard	Kidnapping
3	Guard	Thugs	Thugs	
4	Thugs	—	—	
5-9	—	—	—	
0	Special	Special	Special	

Encounter Results: The following are encounter results.

Kids: 2D6 kids appear and will watch the players with interest or bother them by throwing rocks and calling them names. They will hang around until nightfall or until they get bored.

Beggars: The players are approached by 1D6 beggars, who ask for some money, food, or trade goods.

Guard: A pair of town guards, trustees of the bandits, appear and harass the group. They will try to get the players to give up some money or trade goods. If in trouble, they will blow a whistle and 1D6 more guards will appear within 2D6 combat rounds. Use the Players' Weapons Table to determine the guards' weapons and ammo.

Thugs: A gang of 2D6 people appear, giving the group a hard time. They all carry knives and have 1D6 weapons among them. Use the Players' Weapons Table to determine type and ammo.

Drunk: The drunk is actually an old miner familiar with both the Alpha and Beta mines. He knows about the bandits' hideout at Beta and about the mine's back entrance. He will share this for some food and a drink, but he may have to sober up first.

Special Encounters

The following are special encounters.

Fire

A fire breaks out in a house down the street. A woman screams for someone to save her husband, who is trapped inside. No one will help because this is the work of the bandits, who have punished these people for conspiring against them.

The players may attempt to help by rescuing the husband and putting out the fire. The fire will be out of control in 2D6 minutes. Then, it is lost, and the husband cannot be saved.

Task: To put out the fire (Unskilled, Hazardous, Teamwork): Formidable. Intelligence. Endurance. 1 minute.

Referee: Mishap will result in severe burns and the loss of the house. No minimum number of people required, but difficulty is reduced by one per two people attempting the task.

Task: To rescue the husband (Unskilled, Hazardous): Difficult. Intelligence. Strength. 1 combat turn.

Referee: Mishap will result in severe burns and husband's death.

If the players help, other locals will shy away for fear of being associated with them. Someone will tell the guards or the bandits, and there will be some trouble. However, in return for their help, the woman will provide each character an SG-77, and three clips, and she will ask the players to help bring down the bandits' rule.

Kidnapping

The players are visited by Zweibrucken's only doctor, Janice Holtz. She is desperate for help, as the bandits have abducted her 14-year-old daughter, Katrina. The bandits have taken the girl to help ensure that the locals will stay in line. Seeing the players as her only hope, she asks them to rescue her daughter from the "tyrants of the mountain." The doctor is willing to give the players some weapons and medical supplies which she has hidden away. She knows very little of the mine itself, but knows of an old miner who may be willing to provide some information.

Director's Note: The person who Doctor Holtz mentions is the same old miner found in the NPC section.

Janice Holtz's Cache

The doctor has gathered a small supply of weapons and equipment as a result of dealing with people injured by the Kafers and bandits. She keeps the location of this equipment secret, but will give it all to the players if they will help her.

The equipment includes: two weeks of rations (one person), one basic tool kit, two Breckner HR-10s with three clips each, one Stracher P-11mm with one clip, one axe, two hand communicators, one large-lifeform detector, two machetes, one mul-t-tool, one bayonet, two medikits, one concealment grenade.

Fixed Encounter Locations

The following are fixed encounter locations.

The Warehouse

The warehouse is a large building containing crates of old mining equipment and such. The building is claimed by the bandits, who post guards there at all times. There is a small two-liter tank of hydrogen fuel stored here along with a dozen sets of miner's uniforms, like those the bandits wear. Also, there are 12 helmets, coils of nylon cable, three sets of mechanical tools, 24 medikits, goggles, respirators, and six protective mining suits. The building is guarded by two people, day and night. One stands at the front entrance, while the other walks a loop around the building. Guards are equipped just as are the guards in the Random Encounter section. Their orders are to keep locals out of the warehouse.

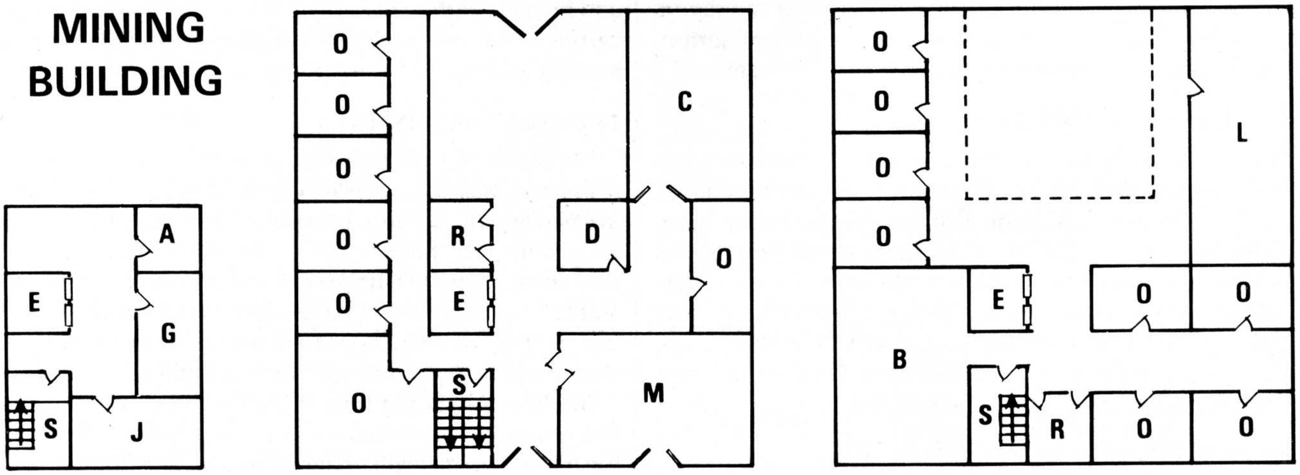
The Train Station

Located near the center of town is the old railroad station, which provided rail access for the mining of Beta and Braunstadt. In the railroad yard are eight ore hopper cars, a pair of flatbed cars, a caboose, and two engines. One of the engines is now partially dismantled and in need of major repair. The other needs some minor repairs and hydrogen fuel to allow it to run.

Kelso Building Legend

A. Air Conditioning
B. Employee Breakroom
C. Conference Room
D. Reception Desk
E. Elevators
G. Generator
J. Janitor's Closet
L. Library
M. Mailroom
O. Offices
R. Restrooms
S. Stairwell

KELSO MINING BUILDING



Basement 1st Floor 2nd Floor

Task: To repair railroad engine: Difficult. Mechanical. 1 hour.
Referee: This task requires a basic tool set and vehicle maintenance tools.

If the engine is repaired, it will have a top speed of 40 kilometers per hour, but is slow at accelerating. Fuel consumption is 10 liters per hour. Armor on the engine is .1 all faces.

NPCS

The following are NPCs.

Old Miner

Hans Wagner spends most of his time drunk, but has a lot of knowledge about the mines. He can generally describe mine Beta, where he used to work. Wagner knows about the old back entrance, of which few others are aware. He also knows that protective mining suits may be needed to get past some of the obstacles, and that these can be found at Alpha and in the well-guarded warehouse in town. The miner himself is an Elite colonist.

NPC Motivation Results: *Spade Ace:* Wagner is a natural leader, when he's not drunk. He has a determination which makes others follow him. *Heart 5:* He is very loyal to his friends, and he will risk much for those who trust him.

Wreckage

Twenty kilometers outside of Braunstadt, the road from Zweibrucken, as well as the railroad, ends at the edge of a 30-meter-deep ravine. At the bottom is a tangle of rubble and twisted rail where lies the wreckage of a Kafer "Bugbus." Climbing down from the top of the ravine is hazardous and will require a rope. The ravine may be bypassed by travelling roughly two kilometers north or south.

The "Bugbus" itself lies upside down. An access hatch on the vehicle's belly is jammed shut and cannot be opened without use of a blow torch or explosives, but the access ramp is partially open. Inside the "Bugbus" is a mess of twisted metal and wiring and a pack of plains wolves, who will immediately attack any intruder and should have surprise. The exact number of animals should be adjusted by the director to balance with the size of the players' group. The wolves are described in the Fauna section. They will run off after half of their number is killed or when they are outnumbered by the players' group. There is nothing of significant value inside the "Bugbus."

PLANETARY LOCATIONS: BRAUNSTADT

This city is Dunkelheim's northernmost industrial center. The city is still active, although lack of adequate supplies has caused super-inflation and has made living conditions very hard. Without an effective police force, the city's crime rate has skyrocketed. Ironically, one major underworld figure, Gretta Lang, has been a major stabilizing force. After taking control of the city, her onetime thugs are now uniformed police, assigned to weed out major troublemakers. Burglary and theft are still high, but violent crime is minimal.

Running Braunstadt

This is the final destination of the players. The director should play up the degeneration of the once-productive city. The players should walk around and run into minor encounters, just to set the mood. They won't find resistance fighters, but if they ask around, the fighters will come forward. The first encounter with the fighters should be mysterious enough to make the players wonder if they are doing the right thing. Afterwards, things will be fine until the Kafer agents reveal their identities. Once this happens, the burden is on the players to survive and rescue the resistance leader. Play up this finale and stress the urgency of completing these tasks before the Kafers arrive.

Random Encounters

Random encounters are used to set the mood in Braunstadt. The players should make one roll each hour that they spend in the city, except when they are just staying in a room.

RANDOM ENCOUNTERS TABLE

Die Roll	*Day*	*Night*
1	Thugs	Thugs
2	Street People	Street People
3	Beggars	Street People (Sleeping)
4	Kids	Police
5	Police	—
6-10	—	—

Encounter Results: The following are encounter results.

Thugs: A group of 2D6 thugs harass the players for money or other goods. Each person carries a knife, and half carry a weapon and ammo from the Players' Weapons Table.

Street People: 1D6 street people approach the players with curiosity. They are unarmed and harmless, and will just talk a lot. At night, the street people may just be asleep; this is indicated on the encounter table.

Beggars: 1D6 ragged-looking people approach the players and ask for food, money, or whatever they can get.

Kids: 2D6 kids will appear and throw rocks at the players. The kids can be scared away, but will return. They will continue with pranks and rock throwing for 1D6 hours or until nightfall. They are hungry and may be bribed with money, food, or other gifts, but will then be back for more in 1D6 hours.

Police: Two police appear. They are not out to harass anyone, but rather just to keep down violence. They wear inertial vests and helmets and carry M-2s or SG-77s and six clips. Each also carries a P-11mm or an OS-9 with three clips. Police are mean-looking and big. Treat each one as an Experienced NPC.

THE FINAL ENCOUNTER

The players should travel around the city and ask about the resistance. Most people will know very little about it. Eventually, the players will run into someone involved in the resistance, who will tell them "Don't worry about finding the resistance....They will find you." The person will leave quickly and cannot be followed successfully. No local will recognize this person. The NPC is not important, except that he looks mysterious and will then quickly leave and can't be followed.

The director should time this encounter so it occurs after the group has searched all over, but before they get too frustrated. On the night of the encounter, after the players have settled in for the night, an anonymous note will be quietly passed to them. The note reads, "Front entrance of the Kelso Mining building, tomorrow midnight."

Rendezvous

The Kelso Mining building is a two-story structure in the city's industrial sector. The building is locked, and there is nothing special about its interior. The resistance fighters are only using it for the night of the rendezvous. The fighters wait until the players' group is inside. They quickly turn on the lights and order the group to drop their weapons. A total of six fighters are here, two on the second-floor balcony and the rest below. The group is taken into the second-floor library for questioning. There, they are guarded by four resistance fighters. The players are questioned at length, much as if they were criminals or prisoners of war. This goes on for about 20 minutes. After the questioning, the resistance leader will tell the players about he resistance and how they operate. They discuss the invasion and the resistance, and offer the players whatever food and first aid they need.

The Kafers Are Coming!

Once things begin to quiet down, someone will rush into the room and inform the others that a group of about a dozen Kafer troops is approaching the city from the south—about 20 minutes away. Someone will offer the suggestion that it may be a hunt.

At that point, Genschow, after moving into a position of advantage, will grab someone's weapon and say, "No, not a hunt." Everyone turns to him as he raises the weapon. "The hunt is over. Now, it's more of a cleanup detail." Hoffman grabs another's weapon and joins him. One of the resistance fighters tries to jump one of the gunmen, only to be cut down by Genschow's rifle burst.

The two explain that they are forced to cooperate with the Kafers. Hoffman explains that shortly after the entered the building, he activated a beacon hidden inside his broken flashlight. This was the signal to tell the Kafers to come and obtain the resistance fighters.

Genschow lets the players know that they will be locked up for a while, and that the Kafers' real interest is in the resistance fighters. If everyone cooperates, he says, everyone will live. He then instructs Hoffman to take the players and lock them in a closet somewhere. Hoffman obeys, taking the players down to the basement. Meanwhile, Genschow watches over the resistance fighters in the library. Someone will mention that the Kafers should arrive within about 15 minutes.

Break-out and Rescue

The basement closet is a medium-sized room filled with a lot of junk, mostly cleaning equipment. The players may break out in a number of ways. They may try to find a way through the main door by breaking it down, pulling the hinges, prying it open, and so on. Another possible exit is through an access panel which leads into a generator room and to a door beyond that. The director should decide what can be found that can be of use to the players. The closet door is unguarded, although the group won't know this unless they have been listening for movement.

At this point, the adventure is once again free-form. The players have roughly 15 minutes, minus the time in the closet, to rescue the fighters and get out before the Kafers arrive. Alternatively, they may elect to fight the Kafers. In any case, the director is encouraged to build up the tension for a climactic ending. If the players decide to escape, it should occur just in time. If they fight, they should find that the Kafers have had a chance to get "smart."

Aftermath

When the action is finished, there are several possibilities for the players. If some of the resistance fighters survive and the group defeats the Kafers, the players will no doubt become valued members of the resistance. If at the same time the Kafer agents, Genschow, and Hoffman, are alive, they may try to track down the players or vice versa.

> *If everyone cooperates,*
> *he says, everyone*
> *will live.*

If the resistance fighters are all killed or captured, the players may be blamed for the incident and will probably be hunted by other resistance fighters and/or bounty hunters. If Genschow and Hoffman are also dead, and the Kafers have not captured any resistance fighters, they might come after the players.

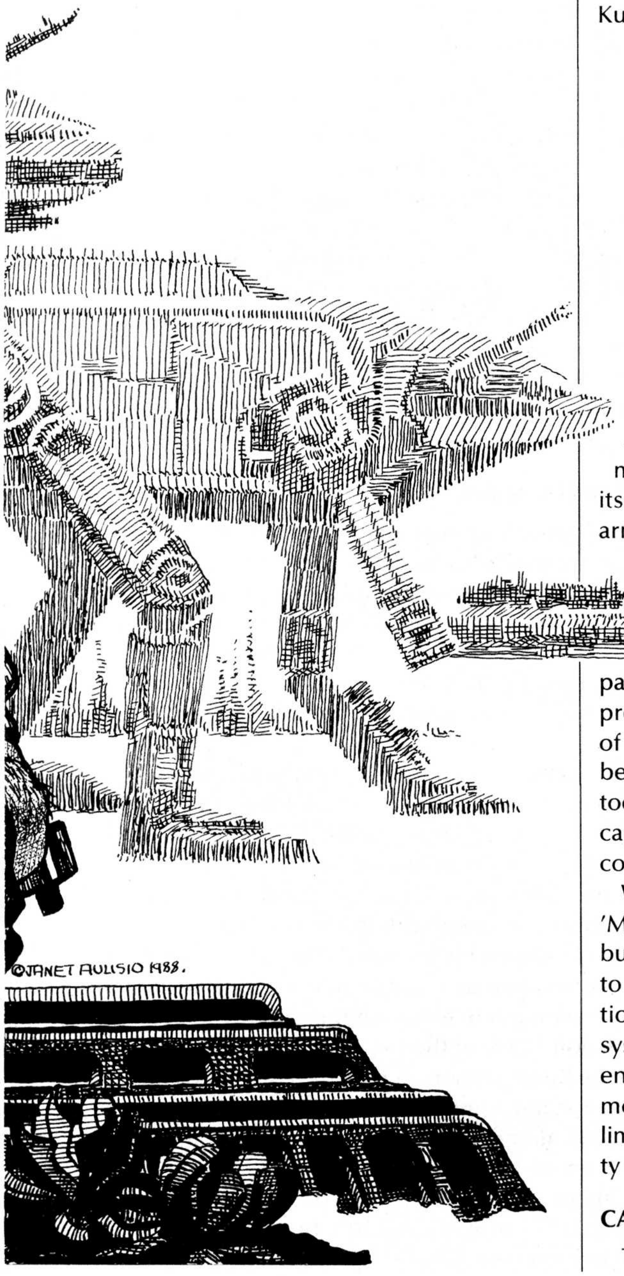
Eventually, the players should become active resistance fighters, even if they have to clear their records first. They may then take part in adventures leading to attacks on Kafer patrols, and such. Eventually, perhaps they will meet the top leader of the resistance, Governor Karl Schmidt, himself. Dunkelheim adventure ideas may be developed using information in the **Colonial Atlas** and **Invasion** books.

—C.W. Hess and Mike A. Bozulich

AFT 1B "Afterburner"

The Afterburner is a lightweight BattleMech designed for long-range scouting and infiltration missions. The 'Mech was designed and developed by Lyran Commonwealth engineers during the middle of the First Succession War in 2799. A raid in 2850 by House Kurita forces left in ruins the only construction complex capable of building the 'Mech. Roughly 110 of these 'Mechs were produced by the time production was abruptly halted. Many Afterburners near completion were captured by the raiding forces and have since been completed as a variant within the arsenals of House Kurita.

C. W. Hess takes a look at a new 'Mech for the BattleTech universe.


©JANET AULISIO 1988.

The usefulness of the AFT-1B remains somewhat controversial among 'Mechwarriors and unit commanders alike. Many pilots appreciate its jump capability, as well as its heavier armor and greater mass compared to most light 'Mechs. Others view the vehicle's jump capability as next to useless, considering the limitations of its jump pack. As for 'Mech unit commanders, problems which are caused by the use of the 'Mechs often can outweigh their benefits. Battle-hungry 'Mech pilots all too often begin to unwisely rely on the capabilities of their light 'Mechs in direct combat.

When properly utilized, however, the 'Mech performs very well. The Afterburner's heavier armor allows the 'Mech to get fairly close to enemy-held positions, while the long-range missile system does well to suppress fire from enemy infantry and weapon emplacements. In an emergency, the 'Mech's limited-capacity jump jets give it the ability to break contact quickly.

CAPABILITIES

The AFT-1B is of an unusual design, based loosely on prototype designs for a light BattleMech of the now-abandoned Marauder series; thus, it may be considered a very distant relative of the MAD-3R Marauder. The Afterburner, sometimes referred to as the Mongrel by other 'Mech pilots, possesses a variable configuration structure. In its normal configuration, the 'Mech has the appearance of being hunched over, with a silhouette which has been likened to that of a dog, hence the nickname. The 'Mech is also capable of walking upright, like most other 'Mechs.

In the upright mode, the pilot and the vehicle's sensor gear are elevated, allowing greater visibility and detection ranges. In this configuration, the 'Mech is capable of running at maximum speed and can make jet-assisted jumps easily and efficiently. The biggest drawback of this configuration is that it puts the 'Mech in its most vulnerable position, as its front torso armor is relatively weak, and a hit in the chest area can cause extreme damage. Also, because of the positioning of the Strena LRM-5 missile rack, the 'Mech cannot use it to engage ground targets.

The crouched mode is the Afterburner's primary operating configuration. In this position, the 'Mech can bring its full complement of weaponry to bear on front targets. The 'Mech's armor also provides the greatest amount of protection when in this mode. Most incoming fire from the front is actually taken by the 'Mech's heavier rear armor. The more lightly covered chest and side torso armor is shielded by the 'Mech's body.

Internally, the AFT-1B is again of unusual design. The cockpit, as on most BattleMechs, is located in the head. In normal crouched configuration, the head is located at the very front of the 'Mech. When the vehicle shifts to standing mode, the head actually extends slightly outward and then rotates to keep the pilot oriented properly. The interior of the cockpit is rather spacious by normal standards, with ample room for a crew of two. The pilot sits at a console at the front of the compartment, while a back-seater, usually a specially trained scout, sensor operator, or other important passenger, sits to the rear behind the floor-mounted entry hatch. The back seat is shifted to the left side of the cockpit to allow passage to restroom facilities and a fold-down bunk, located in the very back of the compartment.

The large, well-equipped cockpit allows two persons to live without too much discomfort over an extended period of time. This situation is especially useful on those planets without a breathable atmosphere, where pilots must remain in their cockpits or wear special breathing equipment to go outside.

The 'Mech itself masses 30 tons and is equipped with a single Hesperus-B3M medium laser, a pair of Hughes HCP-60G small lasers, and a single Alarion armaments Strena LRM-5 rack. These weapons are arranged with the LRM rack in the 'Mech's torso, the medium laser and a single light laser in the left arm, and the remaining light laser on the back of the right arm. This weapons configuration gives the Afterburner only a single manipulative hand, which is located on its right arm.

A Netlink/80 communications system allows the Afterburner pilot or his passenger to maintain satellite link, line-of-sight microwave communications, or short-wave broadcast communications with other distant stations. This ability, combined with the special extended crew accommodations and internal cargo carrying capacity, is what gives the 'Mech its long-range operating capability and makes the Afterburner an ideal vehicle for long-range missions.

BATTLE HISTORY

The AFT-1B Afterburner saw extensive action in many battles along the border between the Lyran Commonwealth and the Craconis Combine. In a well-known incident during the middle of the First Succession War, House Kurita BattleMechs had made a drop from space onto the surface of the Lyran world of Tamar. House Steiner forces had grouped and attempted to break out from the force of Combine 'Mechs but were held down due to heavy enemy fire.

A lance composed solely of Afterburners was organized to drive out the opposite end of the quickly shrinking ring of steel. At the time, these 'Mechs were new and had not been encountered by Kuritan forces. The Afterburners engaged the enemy forces from long range with their LRMs. As the enemy commanders were not sure of what they were encountering, their approach slowed. More forces were committed to this front, and the sides of the ring began to stretch and weaken slightly. The Kuritans attempted to let the new 'Mechs wear themselves down and use up their ammo. However, the 'Mechs were loaded to capacity and even carried extra ammo in their cargo bays. They did not run low quickly. Also, the Afterburner pilots, with their extended cockpit facilities, could stay in the combat zone for longer periods of time without tiring.

The Kuritan commanders were baffled by this encounter, believing the enemy forces to be concentrated more heavily than at first thought. Further forces were pulled in from adjoining sectors, and the assault pushed on. The Afterburner pilots pushed back, while their comrades drove their way through the thinned flanking enemy lines. During the battle, the Afterburners scored well, though they were no match for the heavier 'Mechs which were advancing against them. Three Afterburners were lost in the encounter, while the remaining two lit up their jump jets, disengaged from the enemy, and proceeded to follow the Steiner breakout force. Although they only destroyed one enemy medium 'Mech in return, they did an extensive amount of damage to the other assaulting 'Mechs and to the egos of the Combine commanders.

House Steiner does not have a monopoly on success using this BattleMech. House Kurita has used its own limited quantity of variant Afterburners to some success, as well. One incident occurred during a recent battle on the Steiner world of Corridan IV. An assault by House Kurita was organized to slow the regrouping of Steiner forces while Kurita's main forces were preparing to undertake a major attack. A lance, composed of two AFT-2Ks, an SHD-2K Shadowhawk, and an STG-3R Stinger, was sent in to engage the Commonwealth forces.

While en route, the lance encountered a Steiner heavy lance on patrol. The Steiner force consisted of a single MAD-3R, a pair of WSP-1A Wasps, and a RFL-3N Rifleman. The Kurita Stinger was deployed to the front, encountering the enemy forces first. The pilot immediately took action by drawing off the two enemy Wasps from the fighting zone. In the meantime, the Kuritan Shadowhawk moved in to open fire on the enemy Rifleman, while keeping itself out of sight from the Steiner Marauder. The two Afterburners then maneuvered around and jumped in close to where the Marauder could not easily engage the targets with its long-range PPCs or autocannon.

While defending itself with its two medium lasers, the Afterburners began to pepper the heavy 'Mech with SRMs and medium laser fire. A few well placed, or possibly lucky, shots put the BattleMech pilot out of commission, with the light Combine 'Mechs taking only moderate damage. While finishing off the fallen 'Mech, the Steiner Rifleman was able to move into a better position, where it could engage and destroy one of the Afterburners. However, the pilot managed to escape, and the three remaining 'Mechs were able to continue their mission, eventually destroying one of the enemy Wasps and severely damaging the Rifleman.

VARIANT: THE KURITA AFT-2K

House Kurita has the only known variant of the Afterburner 'Mech. This version is similar to the House Steiner version in that it retains the same level of mobility, including jump capacity. However, aside from the basic structure, this mobility level is about the only similarity between the two. The Kurita 'Mech has had the underslung cargo hold removed to allow the additional mass of a second medium laser mounted in the left torso of the 'Mech.

The basic weaponry has been modified also, with the arm-mounted weapons removed, effectively leaving the arms free to be used for punching during close combat. The original arm-mounted medium laser has been moved into the right torso, opposite the added laser weapon. The two small lasers have been removed completely, along with the long-range missile system. The five tons released by the removal of this armament makes room for the addition of a pair of SRM-4 launchers fed by a single bay containing one ton of ammunition. The additional accommodation space of the House Steiner 'Mech has been removed in the Kurita version and has been replaced with one ton of extra armor and a small cargo compartment capable of holding up to 200 kilograms of supplies and equipment.

The Kurita version of the Afterburner retains the mode-changing capability of the Steiner 'Mech. The upright mode still allows the 'Mech to travel at a full run, but is even more vulnerable than before, as all weapons have been moved into the torso. The 'Mech is primarily used as a light combat 'Mech for fighting other light 'Mechs. In this capacity, the 'Mech is almost unequaled due to the 'Mech's relatively large amount of firepower and heavy armor.

There are believed to be only about a dozen of these 'Mechs in service with the Kurita Army, and they are primarily assigned to front-line units along the border with House Steiner.

NOTABLE 'MECHS AND MECHWARRIORS

The following section includes information on notable 'Mechs and Mechwarriors:

Kurt "The Wolfman" Heinz

One of the most well-known Afterburner pilots is Kurt Heinz, a Mechwarrior under House Steiner. Heinz pilots a Kurita version of the Afterburner, which was one captured by House Kurita during the original raid which destroyed the 'Mech's construction complex. This particular 'Mech was recaptured during the "Battle at Exodus" on the Commonwealth world of Menkent. Heinz has had his 'Mech painted so that when the 'Mech is in the "crouch" mode, it resembles the werewolf of ancient Terran legend. He has been known to howl at the full moon and when his 'Mech changes from upright to crouched configuration.

Heinz has chalked up a rather impressive combat record, with one of the highest number of kills for a 'Mech of the Afterburner's weight class. The "Wolfman" is currently assigned to a medium lance of the 4th Lyran Regulars.

Brian "Giant Killer" Peede

Peede is an Afterburner pilot with the recon lance of the 7th Regiment of the 12th Star Guards. He is the only Afterburner pilot to have the distinction of having single-handedly taken out a Kurita Atlas Class BattleMech. It is this feat that earned Peede the nickname of "Giant Killer," though some refer to him as "David." However, an equally common nickname for him is "Captain Luck."

During the famed encounter, Peede ran across the Atlas in the middle of a contested city. The enemy 'Mech was facing away and could not get off more than a couple of medium laser shots, while the Steiner Mechwarrior fired off everything he had available. Though Peede's 'Mech was hit in the right torso, his salvo of LRM shots peppered the Atlas across the head and torso. A shot from his medium laser then scored a direct hit in the chest, incapacitating the Atlas in the middle of the street. The hit on the 'Mech's chest apparently cut through a weak point in the armor and struck its engine—the Atlas must have suffered engine shielding damage prior to the encounter. However, Peede credits his kill to his own skill as a pilot.

Mass: 30 tons
Chassis: Sherman X11
Power Plant: GM180
Cruising Speed: 64.8 kph
Maximum Speed: 97.2 kph
Jump Jets: Pegasus 1400 expendable jump pack
Jump Capacity: 180 m
Armor: Aegis-7
Armament: One Hesperus-B3M medium laser, two Hughs HCP-60G small lasers, and one Alarion armaments Strena LRM-5 Rack
Manufacturer: Ward-Spectal Industries
Communications System: Morlan Netlink/80
Targeting and Tracking System: Morlan TigerLock Series-111/D

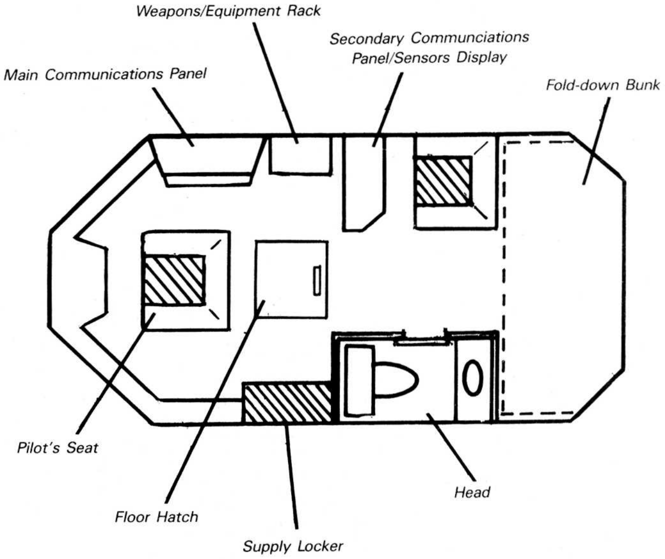
AFT-1B AFTERBURNER

Components	*Statistics*	*Tons*
Tonnage	30 tons	30
Internal Structure		3
Engine	GM 180	7
Walking MPs		6
Running MPs		9
Jumping MPs		6 (limited)
Heat Sinks		10
Gyro		2
Cockpit		3
Armor Factor	80	5

Components	*Internal Structure*	*Armor Value*
Head	3	8
Center Torso	10	7/11
Rt/Lt Torso	7	5/10
Rt/Lt Arm	5	5
Rt/Lt Leg	7	7

WEAPONS AND AMMO

Type	*Loc*	*Critical*	*Tons*
Medium Laser	LA	1	1
LRM-5	LT	1	2
Ammo (LRM) 48	RT	2	2
Small Laser	LA	1	0.5
Small Laser	RA	1	0.5
Jump Jets	RT	3	0.9
Jump Jets	LT	3	0.9
Additional Accomm.	H	1	1
Cargo	CT	1	1.2



AFT-1K AFTERBURNER

Components	*Statistics*	*Tons*
Tonnage	30 tons	30
Internal Structure		3
Engine	GM 180	7
Walking MPs		6
Running MPs		9
Jumping MPs		6 (limited)
Heat Sinks		10
Gyro		2
Cockpit		3
Armor Factor	96	6

Components	*Internal Structure*	*Armor Value*
Head	3	9
Center Torso	10	8/13
Rt/Lt Torso	7	6/13
Rt/Lt Arm	5	5
Rt/Lt Leg	7	9

WEAPONS AND AMMO

Type	*Loc*	*Critical*	*Tons*
Medium Laser	LT	1	1
Medium Laser	RT	1	1
SRM-4	LT	1	2
SRM-4	RT	1	2
Ammo (SRM) 25	CT	1	1
Jump Jets	RT	3	.9
Jump Jets	LT	3	.9
Cargo	H	1	.2

SPECIAL GAME RULES

The following are special game rules.

Hitting the AFT-1B

Because of BattleMech's structure, when it is hit by weapons fire in the crouched mode, different hit charts should be used; when the 'Mech is in standing mode, the normal charts are used. The charts below include normal weapon attacks and kicking attacks against a crouching Afterburner. Because of the Kick Location Table size, it has been divided into two parts. A punch table is not provided because the AFT-1B is too low for punch attacks in crouch mode.

HIT LOCATION TABLE

Die Roll	*Crouched 'Mech Front*	*Crouched 'Mech Back*
2	Center Torso (critical)	Center Torso—Rear (critical)
3	Right Arm	Right Leg
4	Right Leg	Right Arm
5	Right Arm	Right Leg
6	Right Torso—Rear	Right Torso
7	Center Torso—Rear	Center Torso
8	Left Torso—Rear	Left Torso
9	Left Arm	Left Leg
10	Left Leg	Left Arm
11	Left Arm	Left Leg
12	Head	Center Torso—Rear

KICK LOCATION TABLE (FRONT/BACK)

Die Roll	*Crouched 'Mech Front*	*Crouched 'Mech Back*
1	Center Torso	Center Torso
2	Left Torso	Left Torso
3	Right Torso	Right Torso
4	Left Arm	Left Leg
5	Right Arm	Right Leg
6	Head	Center Torso—Rear

KICK LOCATION TABLE (SIDES)

Die Roll	*Crouched 'Mech Right*	*Crouched 'Mech Left*
1	Right Leg	Left Leg
2	Right Leg	Left Leg
3	Right Arm	Left Arm
4	Right Torso	Left Torso
5	Right Torso	Left Torso
6	Head	Head

Because the crouching Afterburner is much shorter than the normal 'Mech, it is completely covered by blocking level-one terrain, which includes all level-one hills and buildings. For this reason, crouched Afterburners are never partially concealed. Also, when in crouch mode in depth-one water hexes, the 'Mech is completely submerged and may not fire or be fired upon.

Hits on the Jump Pack

The jump pack is treated exactly like a 'Mech's jump jets. Each critical hit on the jump packs will reduce the Afterburner's jump range by one hex. This damage may be repaired according to the information given in the Tech Notes section at the end of this article.

Combat by the AFT-1B

As mentioned above, the 'Mech cannot be punched while in crouch mode due to its greatly reduced height. An Afterburner in crouched mode may not make a pushing attack, but may punch with its single hand-equipped arm. However, due to its positioning, this must be treated as a kick to determine hit location. Also, when crouched, the AFT-1B cannot kick using the standard procedures. Instead, the 'Mech can only kick targets located within the hex immediately to its rear. Normal damage and hit location procedures apply to this attack.

Charging is allowed by crouching Afterburners. However, it must be remembered that the 'Mech can only move at walking speed, unless it is standing.

Fire combat by the Afterburner is treated normally, except that its LRM-5 launcher can only fire when the 'Mech is in the crouching mode. When standing, the LRM-5 cannot be aimed properly. All other weapons fire normally in either mode. An Afterburner which has fallen or is lying prone is considered to be in the crouch mode for all weapons firing purposes. However, as one arm needs to prop the 'Mech's body up, only the weapons from the other arm and the torso-mounted LRMs can fire.

The Afterburner operating in the crouched mode is incapable of performing torso twists; therefore, it may fire only on targets which are located within its forward arc.

Movement and Mode Changes

In the standing mode, the Afterburner may move normally just as any other BattleMech in the game. While in the crouched mode, however, the 'Mech may move no faster than walking speed.

The Afterburner may change modes at the beginning of any movement phase. Doing this costs nothing. The different modes have different effects on combat, as well. Further information on these effects may be found throughout this text.

Because the 'Mech's center of gravity is much lower when it operates in the crouched mode, it is much easier to keep balanced; therefore, all piloting skill rolls made in this mode receive a −1 target modifier.

Jumps and Jump Limitations

The Afterburner is equipped with a limited-use jump jet system, which means that the 'Mech may make jumps of up to six hexes in distance, with a total jump usage of no more than 18 hexes. For example, a fully fueled Afterburner may make one six-hex jump, two three-hex jumps, a two-hex jump, and a one-hex jump. The 'Mech may make any combination of jumps, as long as the total number of hexes jumped does not exceed 18. Jumps should be recorded somewhere on the BattleMech record sheet.

When jumps are made, the Afterburner automatically shifts to the standing mode immediately upon jumping and remains in the standing mode even after landing, which means that the 'Mech is particularly susceptible to frontal attacks when jumping, exposing the Afterburner's front armor to enemy fire.

Just like with any other jump-capable 'Mech, the AFT-1B can make attacks from above, which are done just as for any other jump jet-equipped 'Mech following the standard BattleTech rules.

TECH NOTES

The following are Afterburner technical notes.

Crew/Pilot Accommodations

The Afterburner's crew compartment is very large. It can comfortably fit two people in a tandem arrangement, with room remaining for sleeping accommodations, extra supplies and equipment, or an additional person. The normal internal arrangement allows for the two people, a fold-down bunk, and 30 man-days of food and water supplies. Additionally, there are ample storage racks for personal weapons and extra gear.

Cargo Hold

The cargo hold is a special compartment located within the protective shielding of the Afterburner's center torso armor. This compartment contains a total of four cubic meters of space, with a total tonnage capacity of 1200 kilograms. Numerous internal configurations can be arranged for the hold.

Some Afterburners have had their cargo holds modified so that additional missile ammo can be carried there. Ammo which is kept in this modified hold is linked into the ammunition feeding system in such a way as to allow quick reloading of the main ammo bay. In this system, one missile salvo takes a full 10 seconds to load into the main ammo bay, which means that if the main bay is empty, the 'Mech can fire but at only half the normal rate. When out of combat, the 'Mech can completely reload from the cargo bay in about four minutes.

In any case, a critical hit on the cargo hold will result in much damage to equipment located within. As a general rule, for each hit on the center torso, no matter how many points of damage are actually taken, a saving roll of 5+ should be made for each item inside the hold. Failure indicates that the item in question has been damaged by the hit. The exact damage taken is 2D hit points. A damage roll is generally necessary in only a few cases. Most of the time, a piece of equipment is either functional or not.

When the cargo hold is critically hit, there are two possible results. If the hold is used to carry ammunition, then the ammunition detonates with the same results as a normal ammo detonation. If other cargo is carried, then each item will be completely destroyed unless a saving roll of 10+ is made. The exact damage in this case should be 6D +6 points. Even if the saving roll is made for a particular item, it will still be damaged unless a second saving roll of 5+ is made. Failure will result in damage equal to 2D hit points. Success means that the item in question receives no damage from the hit. If the gamemaster wishes, it can be assumed that a critical hit to the

Continued on page 52

e&c

The following errata and clarifications apply to **2300 AD**.

In the *Optional Wound Rules* box of the *Target Hits* diagram (**Forms Book**, page 9, and **Director's Guide**, page 59), *Arm* was not listed. An *Arm* hit should give a die modifier of +0.

In the *Combat Examples* (**Director's Guide**, pages 60-61), Frank has an FAM-90, not an SK-19. Next, notice that characters with Combat Rifleman-3 need a 3 to hit at close range (Routine task =6, −skill-3), not a 4. Later, when Angela performs a diving blow toward Georgette, Angela rolls 1D6 and adds it to her size times 2, but Georgette (the receiver) should just add her own strength and size together. As long as Georgette's size plus strength equals Angela's size doubled plus 1D6, both characters will suffer damage. The potential light wound which results for Angela should say, "a 4 is rolled for its effect," not a 9. Lastly, Angela's final strike attack occurs in turn five, initiative point 1 (half of her adjusted initiative of 3). Turn six never occurs, and even if it did, Angela would not act until initiative point 3.

Under *Fire Combat*, (**Director's Guide**, page 50), notice that weapon rate of fire is the number of aimed shots or area fire bursts which a weapon can fire in a combat *round* (initiative point), not combat *turn*.

The first column of the *Life Zones* table (**Director's Guide**, page 87) should read "Luminosity," not "Distance."

The sidebar not concerning Manchuria on page 81 of the **Adventurer's Guide** mentions DM+4 123 as the Eber home system; it is, instead, the Sung home system.

Continued from page 51

cargo hold will destroy all of its contents.

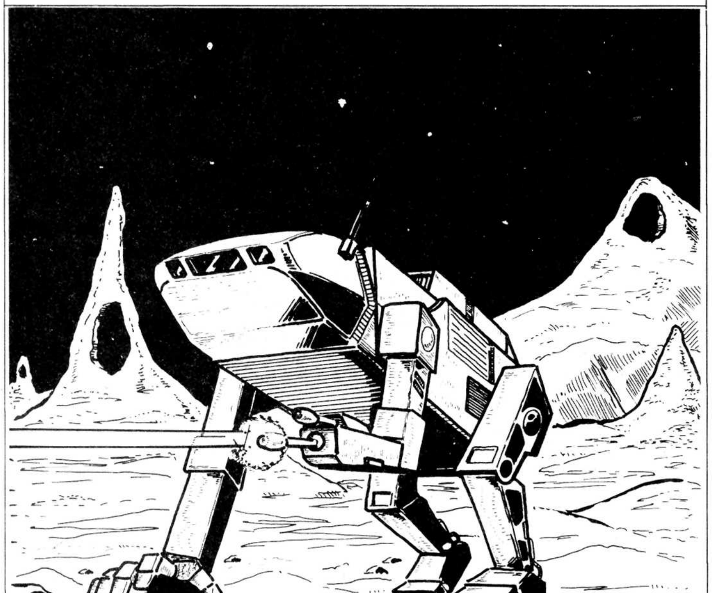
Jump Jets

The Afterburner's jump jets are external to the 'Mech's main systems. The unit is attached to the back of the 'Mech by four heavy bolts, which are connected to hard points in the 'Mech's rear torso and in the jump pack's structural frame. Jump packs may be refueled after each use. Refueling can take place while a jump pack is attached to the 'Mech, so the jump pack is often left attached except when damaged. In that case, it is often removed and replaced with a new one. Removal and attachment of a jump pack requires the use of either a standard repair platform or a gantry unit. Standard hydrogen fuel powers the jump pack with a refueling cost of 500 C-bills. Replacement jump packs are rare (R) medium tech items (Tech Level 2). Replacement jump packs will cost 120,000 C-bills, when they are available.

The following lines can be added to the Repair Difficulty table on page 92 of the Mechwarrior book:

Damage	*Completely Repaired*	*Partially Repaired*	*Effect of Partial Repair*	*Time Required*
Jump Pack Damaged	5+	3-4	−1D hex limit −1 hex jump range	120
Jump Pack Replace	4+			20
Jump Pack Refuel	3+			10

Note: The partial repair of jump pack damage will result in 1D being subtracted from the total capacity of the jump pack. It will also result in a permanent reduction in jump range by one hex.



MERCENARY'S HANDBOOK NOTES

Initial Cost	1,327,300 C-bills
Multiplier	1.3
Total Cost	1,725,490 C-bills without ammo
Availability	10+

—*C. W. Hess and Mike A. Bozulich*

Continued from page 25

guy but has been known to ignore regulations when he must.

Last, we generate a value for his Intolerance rating. Again, 2D6 are thrown to get a total of 7. The modifiers are −7 and +9 (his Devotion score), for a final result of 9. Dur is somewhat stubborn, but more than willing to listen to logical arguments and examine other viewpoints.

PSYCHOLOGICAL PROFILES

The values generated above can be listed in order in a manner similar to that used for the Universal Physical Profile (UPP). In the example, Dur has a Psych Profile of C9DA89.

Once placed in this format, the Psych Profile can be added to the already existing UPP scores for characters by simply "tacking" it on after the character's Social Standing. In this format, Dur's UPP would be listed as B7A85B-C9DA89.

This method makes it simple for referees and players to incorporate it into an already-existing campaign without the addition of extensive notes to current character record sheets.

—*William W. Connors and Rob Caswell*

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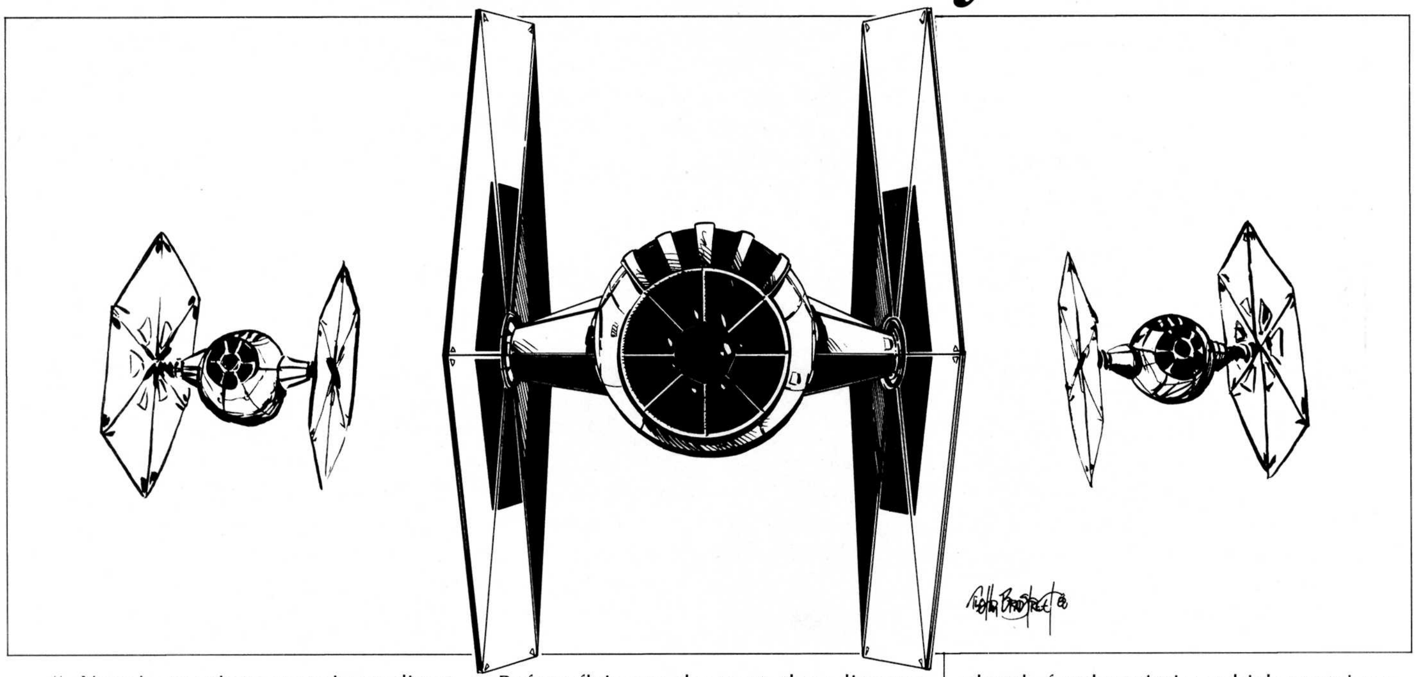
Team Recovery



"...Your instructions are to jump directly to the Radra system. Once in-system you will proceed to Radra IV, where you will discharge your cargo at the planet's only port facility. From there you will go to a secret Alliance surveillance post which is concealed in a mountainous, unpopulated part of the planet. We believe the post is threatened by Imperial forces. You are to land in the post's shuttle bay and remove the team and its sensor equipment. It is possible that your approach to the post will be monitored by Imperials or other authorities, so you must get in and get out fast. But remember, the post contains valuable and difficult-to-get military passive sensor gear. You must bring it out if you can. The team is expecting you and has begun dismantling the equipment. An interstellar shuttle that is commonly used in the Radra system has been provided. It contains a legitimate cargo of medical supplies, so you should have no problems going in. You have the post's coordinates and identifying codelines. May the Force be with you coming out. Are there any questions before you embark?"

GAMEMASTER'S SUMMARY

The players will jump to Radra IV, be searched by an Imperial Customs frigate, and discharge their cargo at the port. While there, they will tangle with an ISB agent and practice their Perception skills. Before flying to the post, they discover that Imperials have killed two rebels, and only minutes after their arrival at the post, it is attacked by snowtroopers. After some fancy blasting, they take off and are pursued by two TIE fighters. The shuttle is damaged by laser fire and unable to jump. The players repair the ship, probably while hiding on the rugged surface of one of Radra IV's moons. When they take off again they spar with two more TIEs before making the jump to hyperspace.

The empire can reach out its many fingers to squash tiny rebel activities. Ultimately it will be their success on the smaller level that will make or break their evil plans.

AND THEY'RE OFF

The group, currently at a rebel outpost (exactly which outpost is up to you), has been entrusted by the outpost commander with a mission of recovering a threatened team of rebels and their equipment. They have been provided a shuttle for the mission which contains a medical cargo on order by a mining consortium on Radra IV—the delivery arranged by rebel supporters inside a shipping company. Even if the group has its own ship, it must still use the shuttle. Not only is this particular class of vessels common in the Radra system, but the "shuttle bay" at the sensor post will not hold a larger vessel.

The exact coordinates for the sensor post have been supplied, as well as recognition codes, which are as follows: A shuttle crewmember will say, "Ears can get hot even in cold mountain air," to which the sensor post commander will respond, "Our ears need to be cooled off." These recognition codes are prearranged and are used simply to protect all who are involved from ambush or trap.

A CUSTOMARY CUSTOMS SEARCH

After a few days in hyperspace, the shuttle returns to normal space and begins an approach to Radra IV. While en route, the shuttle is hailed by a Customs frigate and is ordered to stand by for boarding. Unless the players choose to do something foolish, this situation will just be your regular Customs search and seizure (well, have the agents seize something, a portion of the cargo, a conspicuous weapon—just to keep the Imperials in their typical bad-guy roles).

DELIVERY AND FLIGHT

The player characters land at the port and unload their cargo without difficulty. They observe that, though incoming traffic is closely scrutinized, port security and planetary traffic control are somewhat lax, although there are random stormtrooper patrols. However, a successful Perception roll (10+) will reveal that they are under observation by a single individual. After a minute, the man approaches and flashes a magnetically imprinted plastic card which identifies him as an agent of the Imperial Security Bureau (ISB). The man is young, arrogant, and dominating, even for an Imperial, and asks a lot of insinuating questions: "You don't look like the usual dregs that come through here. Something about you just isn't right. What's wrong? You appear uneasy, like you're hiding something. Perhaps you're smugglers. Is that it? Or even worse, rebel scum. Hmmm..."

This will give the players a chance to use their Con skills, with, say, 12+ required to convince the ISB agent that they aren't some kind of threat to Imperial security.

While they're doing this, a gloating lieutenant shows up and interrupts: "Excuse me, sir. Our troops encountered two rebels in the suspect area. Unfortunately, both were killed in the exchange of blaster fire. We have escalated our search for their base." Gleefully the ISB agent goes off to immerse himself in these latest developments. If the players' Con efforts failed, he directs the lieutenant to detain the group until he returns his attention to them.

The players will surely be aware that they need to hurry to the post. But first, they must get out of the current dilemma, either by incarcerating the lieutenant in a maintenance closet or just by making a run for it. But remember, be careful with this incident—don't let it turn into an anticlimax that causes the group to fail in its mission. After all, this is a manufactured incident not brought about by the players' actions, so hold back the four squads of stormtroopers.

GOING IN

During the flight to the post, the players encounter several vessels: cargo lighters, ore shuttles, personnel shuttles, airspeeders, and several flights of TIE fighters, all on differing, random courses. But when they begin flying over the rugged, mountainous target area, air traffic thins to almost nothing, except for a few flights of low-flying TIEs.

When the proper coordinates are reached, all that the players see is a rugged outcropping partially buried in snow and enshrouded with a light fog. After hovering for a minute, they spot a figure waving a long, red glow rod. As they descend to the figure, they see the mouth of a cave, into which the figure disappears.

As the pilot guides the shuttle into the cave, have him roll to avoid scraping along the cave wall (15+). Failure will result in little more than scraping off paint (unless the shields are up; in any case, it can be particularly damaging to a pilot's ego!).

The "bay" turns out to be no more than the cave itself, of which the floor has been leveled enough to land a shuttle. At the end of the cave is a concealed door leading to the sensor post. As the rebels disembark from the shuttle into the crisp, frosty air, they are challenged by a Mon Calamari (the post commander) and a rebel guard. One of the players must give the codeline, to which the commander will properly respond. With that done, Commander Darnak will invite them inside with urgency and instruct his subordinates to begin loading up. He then informs the group of the situation. "Two of my troops went out on a routine perimeter patrol and didn't return. They are now several hours overdue. In that time we have spotted six low-level flights of TIE fighters flying an apparent search pattern. One flight came unnervingly close to this post. I'm afraid the Empire will be upon us at any moment."

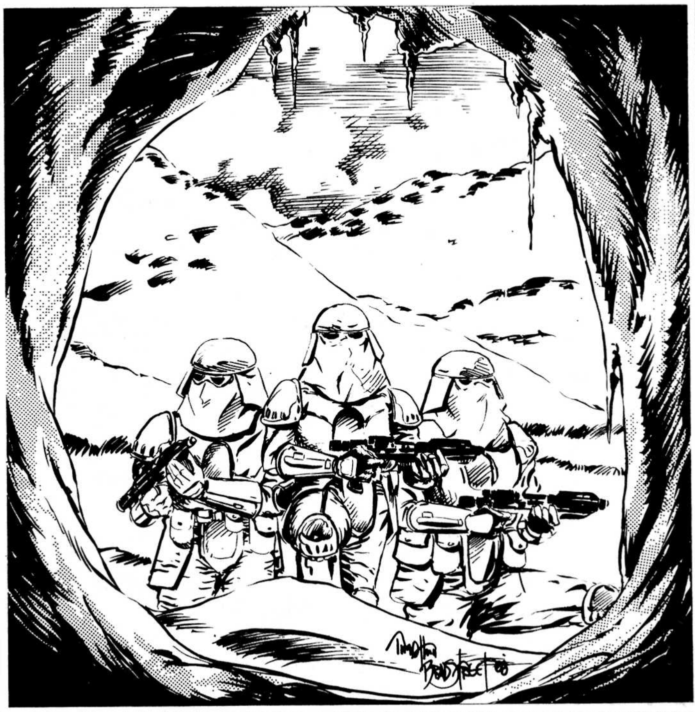
Of course, the players know very well what became of the missing rebels.

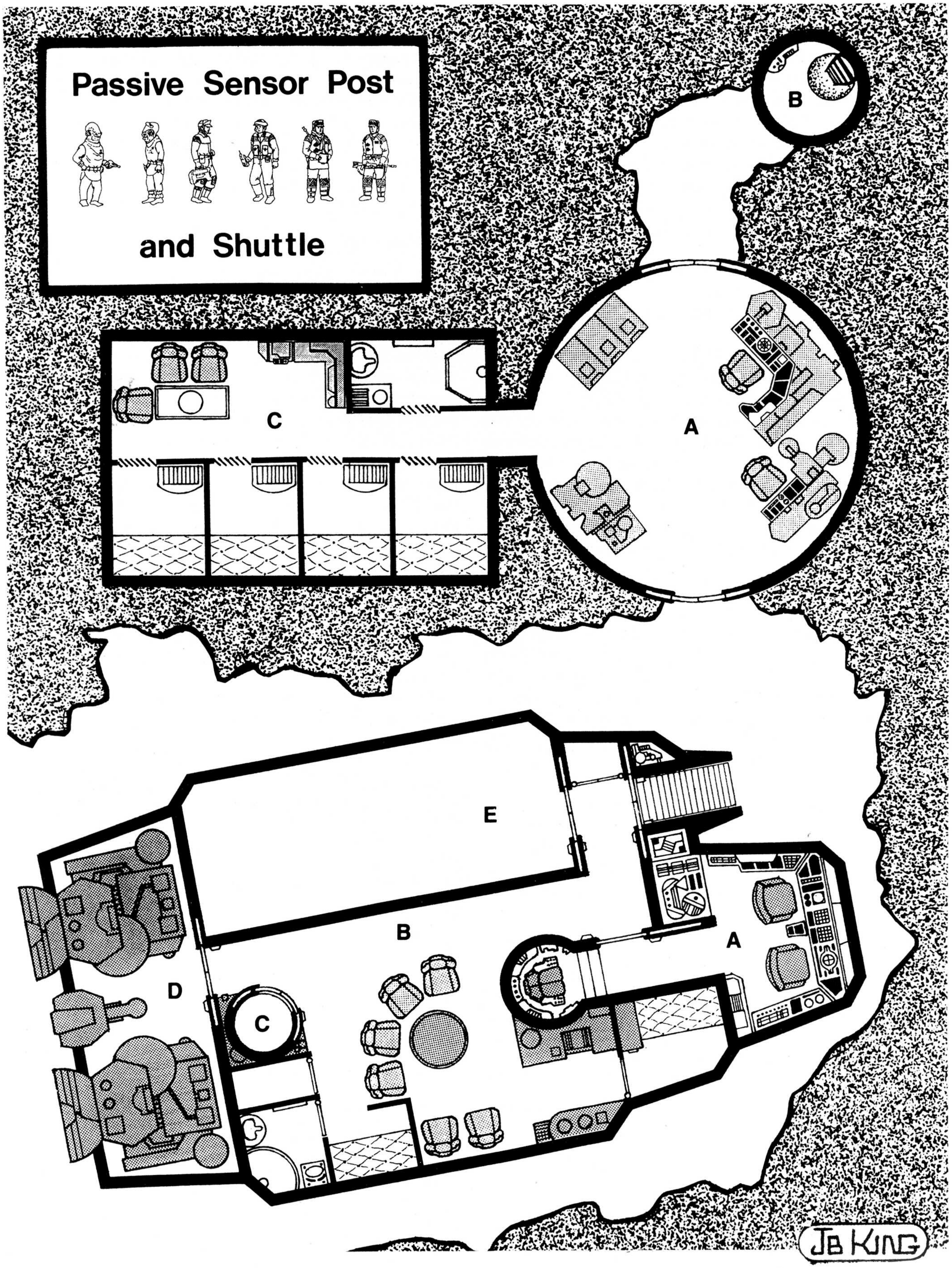
GETTING OUT FAST

As the player characters and post personnel are hurriedly loading crated gear onto the shuttle, the post intercom suddenly blares with a report from the topside sentry position. "Commander, I think I see—wait, yes! Snowtroopers!" Through the com the group below hears the destructive impact of blaster bolts. "I am under attack! Repeat—I am under attack! I'm coming down—ahh! I'm hit! I need help!" At this point the com goes dead. If the players don't take action to help their rebel comrade, Commander Darnak will turn his large, glassy eyes on them and urge them to, and if they refuse, he and the other rebel sentry will do it. If the players go, they will find that the rebel sentry has half-climbed, half-fallen down the ladder. At this point two snowtroopers enter the sentry position above and immediately initiate a firefight. The rebel sentry will have to be rescued under fire.

When everyone returns to the operations room, Darnak quickly orders everyone onto the shuttle, abandoning the remaining gear. As the rebels rush to the shuttle ramp, they hear the clatter of armor-clad snowtroopers fast approaching from the cave entrance (you decide how many). A running blaster battle ensues as the rebels clamor to get aboard.

Once moving, the pilot must again roll to avoid the cave walls (20+; I'll bet he's being hasty this time!). A little late, the





Passive Sensor Post and Shuttle

A
B
C
E
B
A
D
C
JB KING

snowtroopers in the cave realize they are in danger of becoming white, black, and red paste along the cave walls. Roll for each to avoid (Dodge) being smashed, creamed, or smeared by the exiting shuttle (11+). If the ship collides with any snowtroopers, it does D8 damage.

OUT OF THE FIRE...

The shuttle hardly gets out of the atmosphere before it picks up a tail. Two TIE fighters bear down on it, blasting away. In the ensuing space combat, the fighters are destroyed, outrun, or driven off, but the shuttle is damaged as well (manipulate if necessary). The hyperdrive will not respond, and sensors detect ships closing in. One of Radra's two moons is quite close. If the players don't think of it, have Darnak suggest that the shuttle could be hidden on its broken surface while repairs are made. Technically skilled players will discover that the hyperdrive inertial stability inducer is damaged (12+ to repair), and one of the drive's external harmonic conduction assemblies is smashed—fortunately a spare is on board (14+ to replace).

While repairs are being made, searching TIE fighters are spotted a couple of times. When repairs are complete, the players can make a second attempt to get away. As the shuttle rises from the moon's surface, it is spotted by two TIEs. Sensors locate more approaching fast, and a larger vessel is also moving in. Several shots are traded with the fighters before the shuttle and its occupants escape into hyperspace.

Now point out that the players' number is greater than the shuttle's intended capacity. It will probably be a somewhat cramped and uncomfortable jump, but a rotational use of all seats and bunks should keep everyone satisfied.

USING THE FORCE

While Force points can be used at any time, certain moments are more appropriate than others. Heroically helping the wounded sentry while under fire should definitely be rewarded by returning the Force point. Using Force points to hold the snowtroopers in the cave at bay while the others scramble aboard the shuttle is doing so at a dramatically appropriate moment and should be rewarded with additional Force points. (Players often forget they have Force points to use until they have done so a few times. You might consider offering subtle hints at the appropriate moments to remind them.)

ADDITIONAL INFORMATION

The following section includes additional information.

Radra IV

The Radra system lies close to the Imperial frontier and is some distance off the primary shipping routes. Because of this, few people reside on Radra permanently, and little in the way of trade exists. However, Radra IV boasts large deposits of valuable ores and other elements, and several mining operations have been established, one of which has included the construction of a port facility used by all.

Lately, the Empire has discovered that Radra IV also harbors sizable deposits of rare elements necessary in the production of certain military goods, and it has established mining operations of its own. (Rumors say that the Empire is mining extremely rare metals for construction of its hyperspace radio transmitters.) Imperial fleet elements are always in the system, although a garrison base has not yet been constructed. The Empire has forcibly claimed the responsibility of overseeing the port facility, and it has begun choking out the mining companies. The Empire may soon declare the system to be restricted.

Radra IV is an average-size world, with various climatic zones. Its atmospheric density and gravity are slightly more than the human norm.

Radra Surveillance Post

This spartan post houses an eight-person team: four mechanical specialists and four troops who serve as sentries. It was placed on Radra IV to monitor the Imperial presence.

The post can be entered by way of the cave or through a camouflaged sentry position on the rocky, snow-covered surface above. In normal operations, infrared and movement sensors are placed in both locations to alert the post of intrusion.

The operations room (A) is the heart of the post, containing the passive sensor and a small power plant. Hatches on opposite sides lead to the cave and to the access tunnel for the sentry position (B), which is reached by ladder. A tunnel between the hatches leads to the common area (C), comprised of four double staterooms, a lounge area, and a fresher.

JS-77B *Starhound*

This interstellar shuttle is a product of the Subpro Corporation. Its versatility has made it a popular craft. Although it has hyperspace capability, it has no nav computers. Instead, its onboard computers store nav calculations for 10 to 20 jumps, which must be continually upgraded by actual nav computers. The craft primarily serves corporate needs and can carry up to six passengers on short-duration jumps, though this number is usually reduced to four on longer jumps (those lasting more than 24 hours).

The shuttle is boarded by a forward ramp. The command section (A) is separated from the passenger section and includes the gun well. The passenger section (B) includes a double bunk crew stateroom forward and an adjacent galley/utility area. Aft are two more bunks with a partial privacy screen. Behind these is a fresher, a vacuum suit closet, and an air lock (C). Astern is the engineering section (D). Directly across from the ramp hatch is the cargo bay hatch (E).

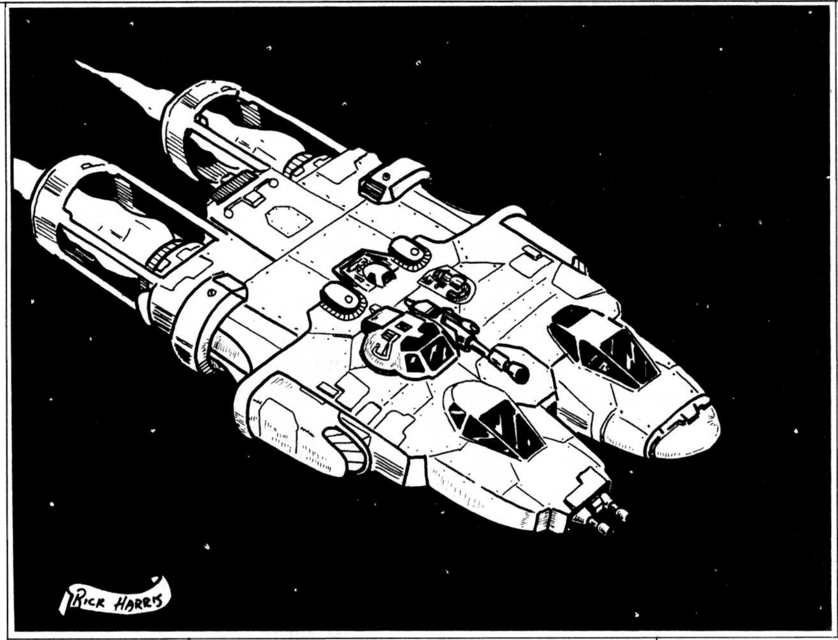
JS-77B *Starhound*

Following is information describing the JS-77B *Starhound*.

Crew: 2
Passengers: 4-6
Cargo Capacity: 25 metric tons
Consumables: 1 month
Hyperdrive Multiplier: ×1
Nav Computer: None
Hyperdrive Backups: None
Sublight Speed: D3
Maneuverability: 0
Hull: D4
Weapon: One Laser Cannon
Fire Control: D2
Damage: D4
Shields: D1

—James B. King

The H-Wing Strike Fighter



The BTS-A2 Long-Range Strike Fighter/Bomber (the Alliance designation is H-Wing) is a recent addition to rebel flight bays. Now manufactured by Koensayr and made famous for its rugged Y-Wing starfighter, it could only have been a matter of time before the Alliance military leaders chose to include the H-Wing in the rebel starfighter arsenal. Even so, the number in Alliance service is likely to remain low, as almost any two single-seat fighters can be purchased at a cost equal to that of one H-Wing.

The H-Wing is a stable weapons platform capable of delivering a hard-hitting punch. Indeed, only the B-Wing is more heavily armed. The fighter's primary long-range weapon is a heavy laser cannon mounted in a fully rotating dorsal turret. This laser can only be fired from the turret's gunnery chair; no fire control for the top mount is included in the piloting cockpit.

As in the Y-Wing, the H-Wing carries two Arakyd proton torpedo launchers. However, the H-Wing boasts a complete magazine of eight torpedoes for each launcher—twice the payload carried by the earlier Y-Wing. The magazines are identical to those used on Y-Wings, making heavy ordnance standard for the two craft. This ordnance is benefited by an elaborately complex, improved fire control system, quite necessary for the craft to efficiently serve in its primary role as a strike fighter/bomber.

The H-Wing's primary weapons systems are complemented by two light ion cannons (fire linked for greater effect), which are mounted in the starboard nose of the fighter's twin-nose hull. This weaponry has a maximum rotation and vertical pivot span of 40 degrees, which allows the gunner to engage forward targets independent of flight control.

The H-Wing is designed to survive extended combat engagements and multiple hits by using a heavily reinforced armored hull, with added protection provided by strong, high-energy shields. But weapons capability and hull integrity do not come without cost. Both maneuverability and sublight speed have been sacrificed for increased battle worthiness, thus creating a distinct disadvantage in that the H-Wing has very little chance of outrunning a numerically superior enemy or of disengaging prior to retreat.

Though the H-Wing has obvious speed and maneuverability disadvantages, Alliance military planners believe it has a decided advantage in combat due to its full combat crew of three. Rebel pilots of advanced, single-seat fighters have often complained that they cannot make full use of their craft's various systems; with evasive maneuvering, operating several weapon systems, and angling shields, they are simply overtaxed. The H-Wing's three-man crew provides extremely efficient use of the ship's systems. The forward cockpit contains two crew stations: primary and secondary. Piloting controls are installed only at the primary station, but shield control, ion cannon, and torpedo fire control are installed at both stations, giving the cockpit crew good flexibility, although the multiple controls, as well as full life support, are greatly reflected by the fighter's cost. In combat, the general practice is to have shield control provided by the pilot, leaving torpedo and ion cannon control to the weapons officer at the secondary station.

Many of the components used in the Y-Wing were adapted for use in the H-Wing, such as an improved Fabritech ANx-y sensor package and Koensayr Ion Jet engines—complete with thrust vectrals, though larger engines are employed on the H-Wing. Many components were not used. For instance, instead of using an R2 unit to provide nav data, a limited man computer similar to that used in the B-Wing is employed, although the H-Wing's has a higher data storage capacity. Also, the H-Wing does not employ ballistic ejection seats. That option simply isn't feasible in the tight space remaining after all systems are installed. The fighter does, however, contain a cramped, spartan cabin, which includes a single bunk with a soundproof divider that can be used on a rotational basis to provide increased comfort for the crew during long hyperspace jumps.

Alliance leaders are currently reviewing reports of the H-Wing's performance in its first encounters with Imperial fighter craft, encounters that went favorably for the oversized starfighter. However, its limited use has proven that its greatest capabilities are as a strike and anti-shipping craft, and as a screening fighter protecting slower transports and freighters.

Some high-ranking rebel leaders have suggested that the H-Wing should be designated to replace the B-Wing as the Alliance's primary heavy assault fighter. These H-Wing proponents cite the B-Wing's high required maintenance and poor performance after suffering damage. This replacement isn't likely to happen for several reasons. For instance, many smaller, bay-equipped starships, and even some small outposts, don't have fighter bays capable of housing and servicing the H-Wing, which limits its usability. The craft also lacks speed; even the comparatively slow B-Wing is quicker than the H-Wing. The final reasoning is simple economics: Not only is the H-Wing a high-cost space vehicle, but it also requires a greater number of trained flight personnel. While the large flight crew does provide an advantage in combat, such trained, combat personnel are always in short supply. What is most likely is that the H-Wing will serve as a special engagement craft, used where its advantages will provide it its greatest combat effectiveness.

H-WING STRIKE FIGHTER

The following data describes the H-Wing.
Craft: Koensayr BTS-A2 H-Wing Starfighter
Type: Long-Range Strike Fighter/Bomber
Length: 17.1 meters
Crew: One pilot and two weapons personnel
Passengers: None
Cargo Capacity: 220 kilograms
Consumables: Two weeks
Hyperdrive Multiplier: ×1
Nav Computer: Limited, up to four jumps
Hyperdrive Backup: None
Sublight Speed: (2D+2)
Maneuverability: (1D)
Hull: (5D)

Weapons

The following is a weapons listing.

One Laser Cannon
Fire Control: (2D)
Damage: (6D)

Two Proton Torpedo Launchers
Fire Control: (3D)
Damage: (9D)

Two Light Ion Cannons (fire linked)
Fire Control: (1D)
Combined Damage: (4D)

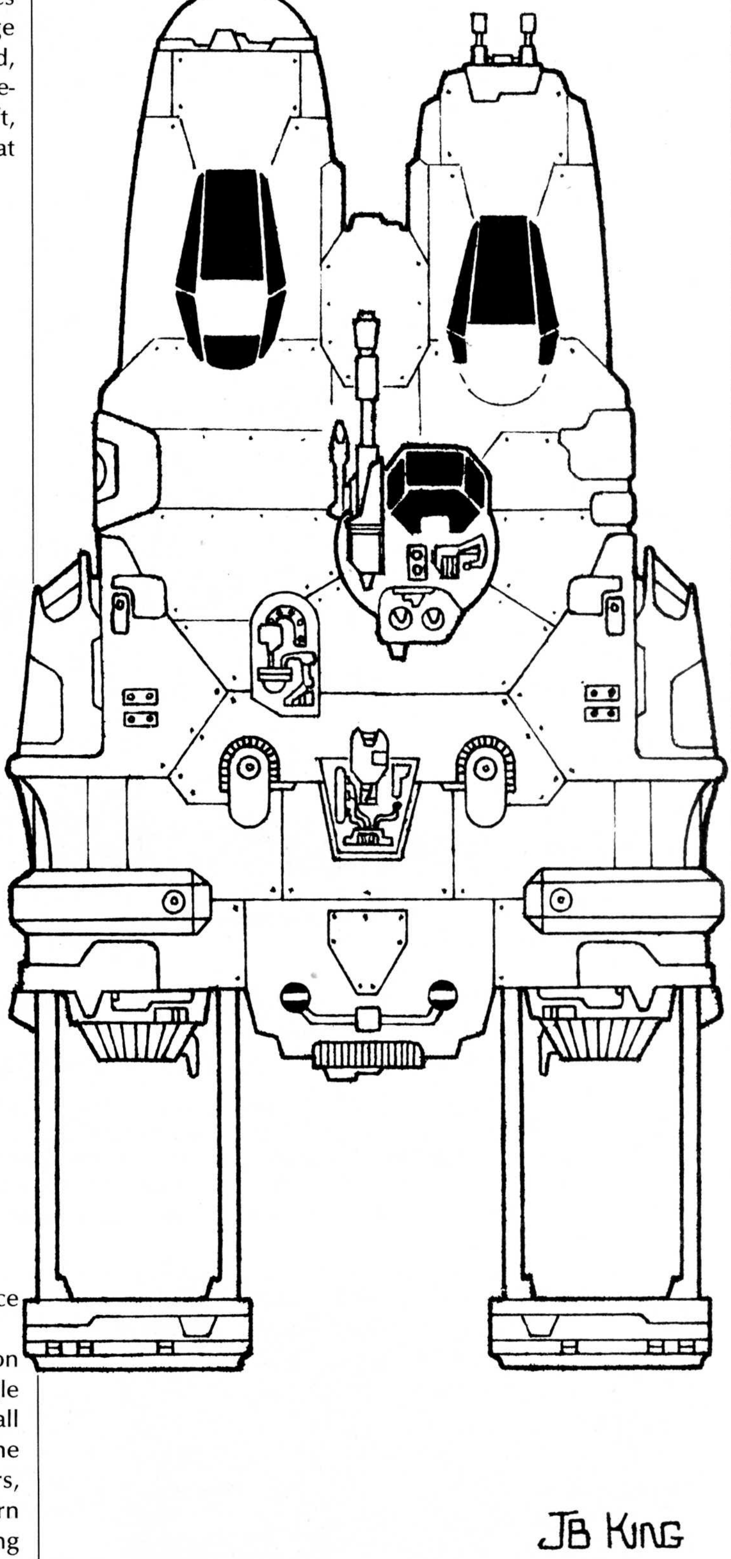
Shields

Rating: (2D)

H-WING ADVENTURE IDEA

The following scenario is suggested as a way to introduce the H-Wing to your *Star Wars* role-playing campaign.

The players are instructed to take commercial transportation to a designated planet where they will take delivery on a single H-Wing fighter. (Small fighters are usually purchased in small numbers, even singly, to make tracing the purchase and the purchasing agent extremely difficult. If you have four players, a passenger can be squeezed into the H-Wing for the return flight. Alternately, a second fighter could also be awaiting pickup, which will necessarily be the case if you have more than four players.) Their instructions are to jump to a small outpost where new rebel volunteers are detained until background checks are cleared. Further flight instructions will be awaiting their arrival.



When the players arrive at the outpost, they find it in an emergency evacuation situation. An Imperial frigate has exited hyperspace in-system and is executing a system-wide search pattern. As it approached the outpost planet, the rebels sent a tight beam signal to trigger a decoy sensor pod emplaced on a small moon. The frigate apparently detected what it determined to be an outpost power core and altered course for the moon. The rebels are now loading into a single rebel transport, which has been standing by awaiting embarkation orders. There are no other space craft at the outpost.

The transport must get away while the frigate is occupied by the sensor decoy. The outpost commander instructs the players to provide armed escort for the unarmed transport while enroute to another frontier outpost, providing the necessary navigational data for the jump. Shortly after the rebel ships take off, they detect four Imperial TIE/In fighters (more if the players came in two craft), which were apparently launched by the frigate. There is no way that the transport can reach a safe distance out-planet and escape into hyperspace before encountering the TIEs. The H-Wing must screen it from the TIEs long enough for the transport to make a safe jump (say, eight to 10 combat rounds). The TIEs attack in two flights of two. They do not break from this two-craft formation. One flight engages the H-Wing while the other attempts to fly by and attack the transport.

—James B. King

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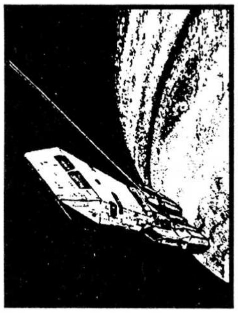

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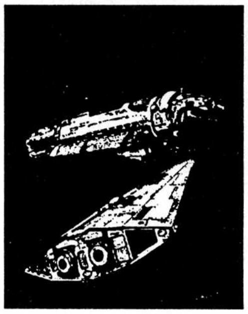

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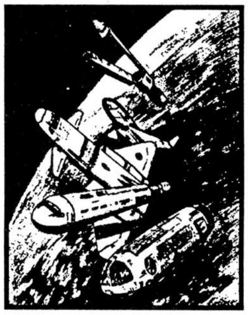

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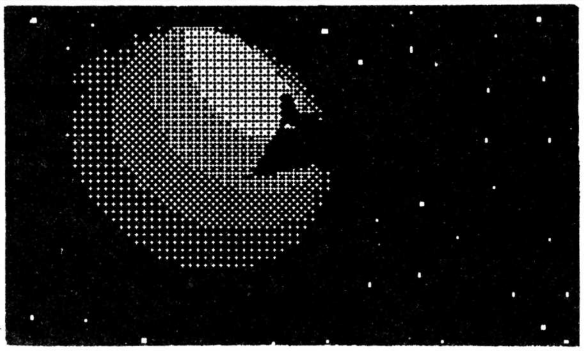

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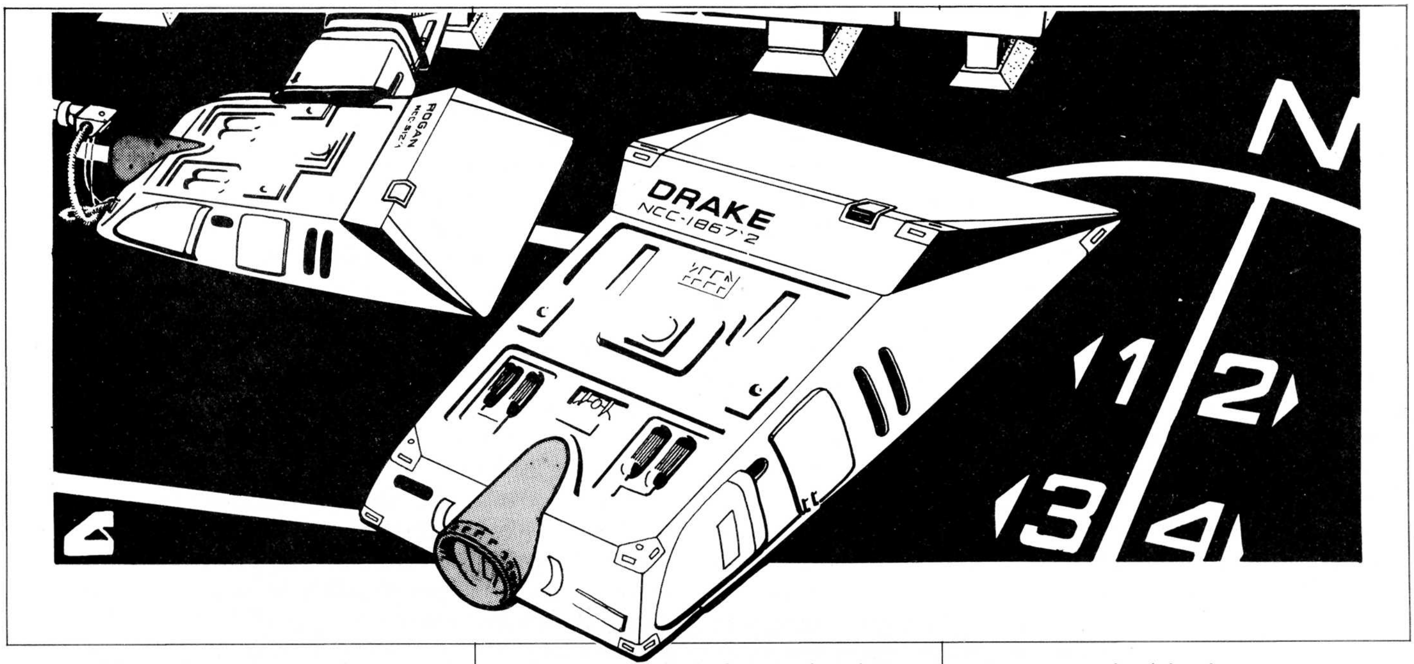
Spaceports In The Star Trek Universe



Say the word "starport" and most people immediately picture a level landing field with a control tower, launching pads and gantries, and needle-nosed ships poised to return to space. For most science-fiction role-playing games, this image, or some variation, is roughly accurate enough to serve as a model for picturing the scene.

Not so in the *Star Trek* universe, where most ships are too immense to land on any planetary body and the transporter is a major mover of people and cargo. The standard image of a starport as a kind of advanced airport in this context becomes as quaint as animal-drawn transport. No needle-nosed ships here.

But starports are still a necessity for transporting goods and passengers to and from space, serving as repair yards, parking areas, and as centers for all types of administrative work: customs, traffic control, civilian business, and military organizations. Starports exist in the *Star Trek* universe; they just don't look like what you might expect.

THE BASIC IDEA

Star Trek starports usually have three components: ground installations, spaceborne facilities, and traffic-control networks. All three are nonunitary (i.e., none are found exclusively in one place or even in one piece). They are very flexible as a result, capable of being tailored to the requirements of individual worlds and systems. They also tend to be extremely idiosyncratic, since no two star systems have exactly the same resources, population, or traffic.

The many worlds of the Federation are truly isolated but for their starports, where the denizens of the surface can interface with the bounty of a star-spanning civilization.

In general, ground installations reflect only the distribution of people and resources on a planet with need for an access to space. Orbital installations are the better indicator of how much traffic a world is willing and able to service and handle. Access is determined by the traffic-control system which steers faster-than-light starships to and from a starport around other planets, navigational hazards, and each other. Primitive facilities can dispense with one or more components, but any worthwhile populated world will have all three.

Because each of the three components can vary so much from system to system, useful groupings are difficult to make for purposes of classification. By far the greatest determinant of a starport's capabilities is the population rating of the particular world (A through E), though enough variation exists within each rating to allow classifying such starports as *small*, *medium*, or *large*. Even this system is arbitrary and leaves gaps; Delta Vega, for instance, an uninhabited automated mining world has port facilities large enough to receive, load, and dispatch the giant robotic freighters which call once every 20 years. Yet Gideon, a heavily populated world, refuses all contact with any spacefaring people and has no starport facilities at all.

By and large, 15 classes of starports define their capabilities fairly well. Since each world's requirements for each of the components varies so greatly, some description of each component's composition capabilities will help to envision how a *Star Trek* starport does its job.

GROUND INSTALLATIONS

Since *Star Trek* shuttlecraft and landing-capable starships are equipped with vertical lift engines (either antigravs or reaction motors), they can land in any clear place slightly larger than their own platforms. The matter transporter, of course, operating from orbit, needs even less space. Ground installations serve, therefore, a predominantly administrative and convenient function by centralizing landing and beam-down locations close to populated or industrial areas, where local authorities can keep track of what lands and what goes up.

The simplest possible construction for a ground installation that could be called part of a starport at all would be a cleared outdoor area, with some kind of communications apparatus nearby to fix transporter coordinates or provide a makeshift beacon for landing shuttlecraft. There is no upper limit to complexity; Earth has five major starports, twenty-odd subsidiary ports, and numerous Star Fleet and private facilities tied into its overall starport scheme. Even this is outdone by Rigel IV, the trading planet, whose entire surface has been paved to provide landing and parking space, but this is an exceptional case.

On worlds with Low Population (rating E and sometimes D), the simplest form of a full ground installation stands revealed. It consists of a control center (sometimes but not always contained in a tower), possessing both local and remote sensor readouts and a central communications system; a shuttlecraft landing target and parking space, usually including a directional beacon to help with final approach; a transporter station or reception relay and at least one transporter pad; and a warehouse or waiting room building, close to or part of the control facility, for customs inspection, cargo processing, and passenger reception. A system this simple can handle up to 150 passengers each way, and between 1000 and 5000 Standard Cargo Units (SCU) a day, in general usage. In theory.

In practice, small population worlds usually depend heavily on one kind of export cargo, and their port facilities are built accordingly. Such installations will be found close to the mines, mills, or fields, with automated handling machinery for the movement of bulk cargoes, such as pipes, conveyor belts, cargo containers, automated trucks, etc. Loading capacity may be closer to 10,000 SCU per day or more, with a comparable off-loading ability for colonies or other nonself-supporting worlds. Starports on a main trade route or with considerable traffic to multiple markets, may have normal storage or warehousing space since they can rely on a constant flow of ships to bear products away, but more limited, isolated or "singe-purchaser" worlds (owned by megacorporations or combines) may have almost nothing but storage space on the ground for the export products waiting for a single massive cargo vessel.

Mid-sized ground facilities (population C and B) tend to be larger, more extensive, and less specialized. The flow of cargo and passengers is heavier, but more diversified. Warehousing, for upbound and downbound goods, will be much more extensive and decentralized. Personnel facilities are greatly enhanced, and include hotels, ground and air transportation, perhaps some medical facilities, and an extensive public-access information and communications system. Starports of this size do geometrically more information transfers than smaller ports, including newsfax, computer data, interplanetary mail, and entertainment media.

The actual machinery for receiving and dispatching people and cargo to and from space, however, may not be tremendously greater than that of simpler starports. It's a busy port that can use, for instance, four personnel transporters and 10 cargo transporters, plus landing and parking space for 20 or so shuttlecraft, as many population C starports do. What makes the difference is all the distribution machinery to keep people and goods flowing through the facilities, meaning more conveyors, vehicles, storage, and workers per pad. Where a population D or E port might have only one building and a couple of warehouses, a population C port could have separate structures for control, communications and computers, ground and air transportation, emergency control, ship repair, maintenance, and each available passenger and cargo services at this particular port. The buildings, roads, rails, and workspace take up much more area, but the actual transporter pads and spacecraft landing spots do not.

Generally, passenger terminals are grouped radially around a central transporter pad, or two, or three. Cargo transporters are likewise surrounded by docks for the loading of ground or air vehicles. Shuttlecraft and starship parking sites are grouped (usually linearly, but there are many variations) near to the manual cargo processing centers for ease of loading and unloading. All these structures are arranged for convenience so that they can be reached by whatever local transportation systems are available.

Starports of this size tend to be located near population centers of some size—cities, cluster-cities, complexes, megahabitats, or industrial zones or strips. Starports on worlds whose population centers or industrial sites are far-flung may actually have many small facilities, usually subsidiary to a central main starport ground installation, with local landing control slaved to the main facility's central control. As population increases, so do the size and often the number of these subsidiary facilities; private fields and docks may even subscribe into the system.

Another feature of population C and B starports is the shifting of some starport functions "upstream" to orbital stations and complexes. One of the first things to go up is customs and import control, which tends to give cause for the building of orbital warehousing, public and private, for downshipping and transfer to other ships, and the construction of orbital hotels and administrative complexes. Upbound passengers and cargo are still cleared on the ground. Only much larger ports, which can afford the personnel and sensors to control all transporter and shuttlecraft traffic, clear outbound people and cargo in orbit, as well as on the ground.

Ground-based loading and unloading never do quite disappear from any starport, no matter how large. Smaller ports see a disproportionate number of landing-capable starships, since they are the most economical way of landing and picking up cargoes from such worlds, but larger ports see larger ships, and the great time advantages of the transporter make themselves felt. Smaller ships, though their share of total tonnage decreases even faster than their actual tonnage carried, never do desert the larger markets and larger ports. Federation-wide, some 55 percent of all cargo and passenger landings (nearly all the passenger traffic) are by transporter. Shuttlecraft handle another 25 percent, and the remainder is borne by landing-capable starships. Thus, customs and immigration offices remain sited on ground installations even though a growing proportion of their work takes place in space.

The largest starports, those serving worlds of population rating A, are even larger and more dispersed. Past a particular size, after all, the advantages gained by a larger single installation are overbalanced by the costs of construction and transportation, so many more starport ground facilities are provided to many more locations. In fact, ground locations served by the same spaceborne and traffic-control systems may not even be on the same planet; Earth, for instance, counts Luna's numerous landing sites as ground installations, and even the LaGrange habitats, though they are in stable orbits, are "ground" to Earth's starport system.

Even more of a starport's functions take place in space at population rating A, and the starport ground facilities begin to take on the aspect of mere orbital transfer stations and workshops. Large population B and all population A starports begin to move some of their spacecraft maintenance and manufacturing functions downstream to plants, foundries, and shops on the planetary surface, where gravity makes heavy manufacturing tasks easier. This explains the appearance of Earth's New Jersey spaceport, where luxurious passenger terminals are nestled cheek-by-jowl with heavy industry.

SPACEBORNE INSTALLATIONS

The bulk of starship parking and maintenance in the *Star Trek* universe must take place in space. However, as has been shown, smaller ports tend to have smaller ships calling, and truly comprehensive spaceborne facilities are not commonly found among population E and D starports. Some worlds, in fact, have ground installations without a spaceborne component, but these tend to be automated mining stations, very young colonies, or other pop-X planets. A world with any appreciable traffic at all needs manned orbital stations and attached repair and rescue facilities to support incoming vessels.

Rescue vehicles, especially if they are war-driven, are extremely valuable spaceborne assets, particularly to the reputation of the world from whose starport they hail. They are money-losers more often than not, but spacers feel a great deal more comfortable knowing the port they are bound for (or passing near to) has a ship on call to come to their aid should they lose warp capability. Rescue craft, alas, are expensive, and warp-capable ones are rarely found at any starport with a population rating of E.

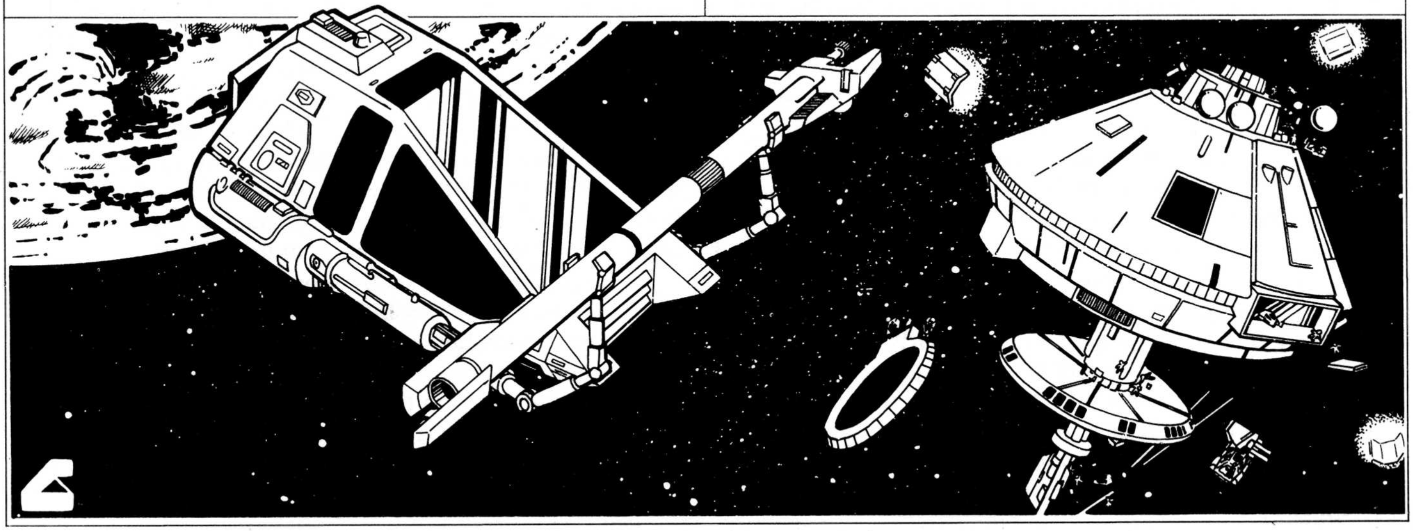
Population rating E starports have bare-bones spaceborne facilities, usually just a single manned space station to monitor communications and the traffic-control net. It may not even have its own transporter system or shuttlecraft, but most have at least one spacecraft available for surface-to-space and in-space service, and often times they may have more. The personnel of such stations usually do double-duty, operating the station and control net and coincidentally, when called upon, doing repair and maintenance work on starships that call. Work can be tough when the crunch comes, but most of the time station personnel have it pretty easy.

Population D starports have noticeably larger spaceborne contingents, particularly in the number of service, transport, and rescue vehicles. Actual numbers vary widely from starport to starport, but a typical population D port might have six or more craft: three workbees doing double duty as light tugs, two shuttles, and at least one rescue craft with an extensive medical section, habitually known as "the ambulance." Star Fleet regulations require life to be saved first in the event of a space disaster, but most starport authorities at the smaller starports look the other way if their ambulance has been used to tractor in a hurt ship and its intact cargo—so long as the ambulance itself isn't harmed, of course. Large population D ports might have a second craft used entirely for deep-space vessel rescue and cargo salvage. This tends to be very popular duty, and crews tend to be picked carefully; they are elite, well trained, and usually scrupulously honest.

Population C starports have complete spaceborne systems, including auxiliary vessels to service the satellites and markers of the traffic-control system, to operate as ground-to-space shuttles, and to form at least two search-and-rescue teams, capable of intercepting stricken ships, handling on-board emergencies, and evacuating quickly. Tugs capable of handling Class X size or larger vessels are common.

Fixed orbital facilities, likewise, are much larger and complete, and more heavily populated, with some or all of the complement living in space. With a larger proportion of pure-space vessels now arriving, orbital customs and cargo inspections become regular, as well as close-in traffic control to keep landings, takeoffs, and orbital positions straight among all vessels. Starports of this size also tend to have civilian or private interests leasing office space in the existing station, or building their own. It is not unusual for multiple manned stations to be used to keep traffic straight and accommodate private business at population C worlds, with these stations being spaced evenly in low parking orbit or placed high in synchronous orbits at the outermost limits of transporter range.

Worlds of population rating B have starports with spaceborne assets which are little short of being entire orbiting cities. They



have multiple manned stations, extensive repair yards with expandable "flydocks" for working on starships or constructing them anew from components, fleets of tugs, workbees, rescue and salvage craft, immense administrative offices, living quarters, passenger accommodations, and even warehouses in several orbits, on nearby moons, or in orbit about them. Some even have installations in orbit about other worlds in the same planetary system or its asteroid belts, either as part of the outlying traffic-control network or servicing ground facilities on other worlds. Space-based manufacturing is quite common at this population rating, and entire industries receive raw materials, process them, and ship down finished goods to the planet below, or they ship them outsystem again, without an ounce of product ever touching the ground.

The administrative work that goes into keeping such a complex functioning is mammoth. Simply keeping track of the hundreds of ships, shuttles, orbital structures, and satellites in near-planet space absorbs an enormous amount of sentient and computer time. Having multiple landing and beam-down points complicates things further, as well as the much greater proportion of slower-than-light craft, which claim the right-of-way from warp-driven ships. The cost of maintaining this vigilance is also mammoth, but the port authority of most worlds this size deals with it by taxing not just private industry, but all users and occupiers of near-planetary space who fall within its jurisdiction or use its services. Compared to smaller starports, which bend over backward to attract more vessels and trade, larger starports charge a premium for their use. There is more than enough to draw trade, and money is being made on-world and in space because of that trade.

Population A worlds have starports not merely larger and more extensive than population B starports, but of an entirely different order. Their spaceborne facilities are found orbiting the main world of the system, any moons it may have, and most of the other worlds in the system. It services ground facilities throughout the system, as well as the enormous and elaborate traffic-control network needed to tie them together. Their search-and-rescue vessels, and most of their tugs, are based farther out-system where they are closer to where they are needed. Medical complexes, space hospitals really, are likewise located far out from the starport's center, as are repair yards, construction yards, orbital factories, and even living complexes.

Nearly all administrative features of a population A starport are now in space, usually in near-planet orbits and branched out all over the system. Spaceborne assets of this size are capable of handling the traffic to a huge metropolitan ground port as easily as they handle a private one-ship landing field, or about as well as can be expected, given the heavy and increasing traffic at population A worlds.

Some of the features of the largest starport types are unique, but most are not; slowly they are trickling down to smaller starports as need arises. Once only population A worlds had lander-tugs, the huge vessels capable of carrying immense loads like starship engines to and from a planetary surface. Now they are found at most population B starports, particularly the larger ones. Large-scale sensor arrays, specialized rescue craft, and other improvements introduced at population A worlds are now being found at lower-population worlds and even becoming common. This includes the emplacement of more spacecraft construction, workshops, and factories on the ground. The day is probably not far off when every population B world, as every population A starport now boasts, will have a permanent Star Fleet presence in the form of an administrative office and a permanent rotating contingent of vessels.

Until recently, population A starports were also known for being even thicker with "sky clutter" than B starports, but the construction of Space Dock in low Earth orbit may reverse that trend. In place of many scattered constructs in similar orbits, a single megalithic spaceborne structure offers a large savings in communications and transportation difficulties while controlling runaway growth. It has long been possible to put all spaceborne assets into one gigantic structure, but the costs always seemed to overwhelm the need. No longer. A single structure like Space Dock may be expanded to accommodate new growth without impairing its continuing function. There need be only one structure for every world in a starport system to contain all spaceborne assets needed for that world and its immediate space, with the exception of outlying search-and-rescue facilities. The savings in traffic-control problems alone will probably cause this advance to trickle down to smaller starports in time as well.

Space Dock was built to Star Fleet specifications, and apparently only to fulfill their needs. Whether civilian space operations move into Space Dock as well, or another Space Dock is built purely for private interests, remains to be seen.

TRAFFIC CONTROL

Ships in the *Star Trek* universe are *fast*. They can accelerate from orbital to light velocities in minutes, or seconds. They aren't affected by gravity wells or (to judge by the last movie) immersion in planetary atmospheres. They have no problems operating, or going anywhere, at light speed, even perilously close to planets and each other. This is why, when you have 10 or 200 of them in close proximity to a world, it becomes *very* important to know *exactly* where each of them is and what they are doing, and better still, to be able to direct them in a sensible, non-lethal pattern, so that they can all get where they're going without causing what 20th century rocketmen called "snakebite"—an accident.

Spaceborne starport assets are intended to help sort out the mess, but they would be useless if not for two things. The first are the Federation-mandated, Star Fleet-enforced Rules of the Road, which specify which vehicles will yield or alter their courses for which others under what kind of circumstances. For instance, warp-driven vessels always yield to sub-light craft. Outbound vessels always yield to inbound, and so forth. These rules state in comprehensive terms how vessels approaching a planetary body in controlled space are to decelerate, at what altitude they must orbit, how to land and take off again, and how to depart controlled space. The bulk of these rules also apply to worlds without a traffic-control system.

The second thing that keeps things straight is the system of sensors, marker satellites, buoys, communications relays and protocols, and the beings behind them, which is a starport's traffic-control system. In its simplest form, as shown in the diagram, a starport's traffic-control zone is divided into three parts. The Outer Zone is the official limit to the system's control, where all spacecraft must follow the directions of Traffic Control. In the Outer Zone are two travel corridors: the

Approach Corridor and the Departure Corridor, which would look like truncated elliptical cones if they were visible. The third control zone is the Inner Zone, roughly from the planetary surface to 20 diameters out, where warp speeds are not allowed and where spacecraft are achieving, departing, or changing orbits. This diagram is greatly simplified; if there were other planetary objects in this star system, they would also have approach and departure corridors, plus travel corridors between each. The traffic-control solution can be terribly complicated in a huge hurry.

On the other hand, the basic principles of in-system navigation for all types of vessels may be summarized briefly as follows:

1. All approaching ships under warp drive must approach a planet from the trailing direction and within 10 standard degrees of the orbital plane once they are within the outer control zone markers.
2. All departing ships under warp drive must depart in the direction of planetary motion within 10 standard degrees of the orbital plane until they reach the outer control zone markers.
3. Ships may not be under warp drive within 20 diameters of the destination world, not have a speed greater than 0.1c within five diameters of the destination world, unless directed to go slower by Traffic Control.
4. Faster vessels must yield to slower; warp-drive vessels must yield to sub-light; powered vessels must yield to unpowered; manned vessels must yield to robotic.
5. Traffic Control is always right.

Traffic-control systems and their assets vary at least as widely as the other two components of a starport, and often more so, due to the wider variety of problems moving planets, asteroids, stray comets, and the types of ships in system. They can be relatively simple or mind-bogglingly complex. Not all systems share the same precise features, but all have some basics in common.

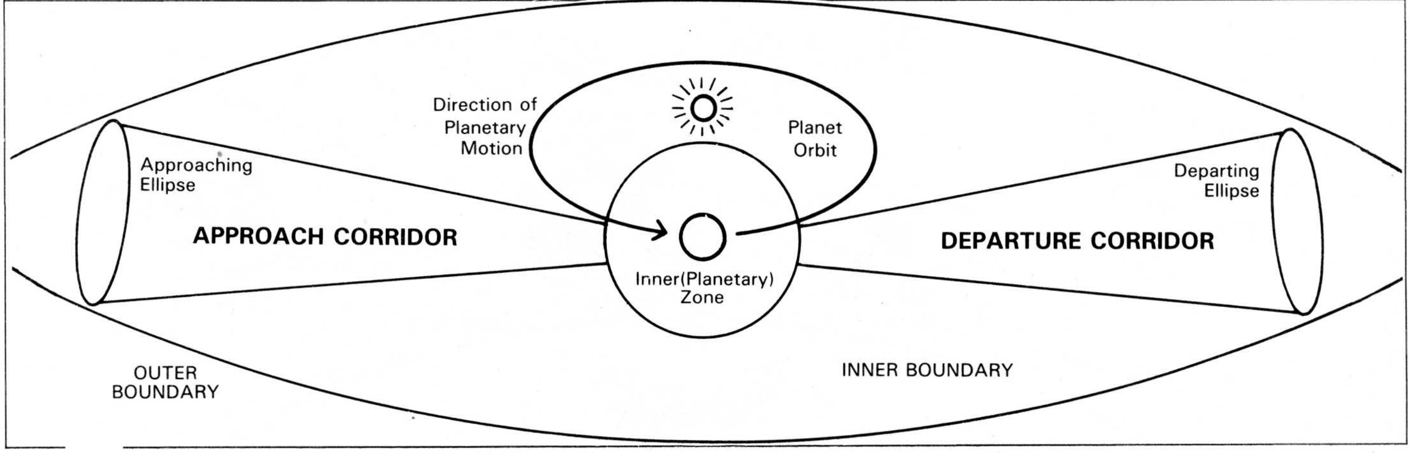
There are three parts to any traffic-control system: Approach Control, Departure Control, and Planetary Control. At smaller starports many personnel double up on some jobs; at larger ones Planetary Control is further divided into a Landing Control and a Takeoff Control section. Approach Control's job is to gather all incoming vessels, establish contact with them by sub-space radio, guide them into the approach corridor, and cause them to arrive, in single order, and at sub-light speeds, at the 20-diameter limit where Planetary Control takes over. Departure Control sequences departing spacecraft leaving Planetary Control's jurisdiction into the departure corridors, or other interplanetary transfer corridor, and guides them in an orderly manner to the edge of the system closest to their intended destination. Planetary Control establishes orbits for all incoming craft, designates orbit changes, landings, and takeoffs from the planetary body, and regulates departures from orbit to other planetary destinations or out-systems. Though all three of these divisions make up Traffic Control, where a star system has multiple system destinations, Traffic Control handles guidance between local Planetary Control authorities.

Sometimes smaller starports, with limited traffic, have only an Approach and Departure Control and a Planetary Control; the very smallest have only a Traffic Control. Larger starports have more subdivisions, including Search-and-Rescue, Harbormaster (space-going "traffic cops"), Salvage, Medical, even a Mobile Repair Control. Each has specific authority over a part of a vast network of ships and unmanned buoys that, if it functions well, never gets noticed at all.

How much each traffic-control system can vary from another is illustrated with these three schematic diagrams of selected starports and their traffic flow.

Janus VI is a low-traffic world, and its traffic-control system is very simple. It is a mining world, the only destination in its star system; it has next to no sub-light traffic with which to contend. Its only concern is ore freighters, manned and robotic, and the occasional supply and mail ship. There is only one main surface installation handling all shuttle and transporter traffic from orbit to ground and back. Parking orbits around Janus VI are unusual, being either very high (7000 to 15,000 kilometers) to give longer loading times for transporter-equipped freighters, or very low (500 kilometers or less) to accommodate loading by shuttlecraft.

Deneva is a mid-population world with moderate traffic to its one inhabited planet and the mining settlements in its asteroid belts; there is a moderate amount of intra-system traffic between these settlements and Deneva itself. Traffic is more variegated; besides the usual freighters there are numerous passenger and research vessels, plus a steady influx of Star Fleet ships, for Deneva is an important scientific outpost. Contrary to popular belief, Star Fleet must follow the same orders from Traffic Control that regular traffic does, but they have the authority, in emergencies, to maneuver independently even in high-traffic areas, relying on their superior sensors and highly



trained crews. Deneva is a good representative of the majority of starports in the *Star Trek* universe: Note that in the diagram the multiple destinations in the asteroid belts have been abstracted into one out-system destination.

Now comes Earth, the Grand Guignol of traffic-control systems. The starport at Earth is one of three starport complexes; there are comparable ones at Mercury and Mars, with subsidiary operations at Venus, Jupiter, Saturn, and the asteroid belts. All of these operations have ground and spaceborne facilities subordinated to Earth Control, and all receive traffic from out-system as well as each other. Near Earth there is Space Dock, of course, plus all the LaGrange habitats, the Lunar complexes, all five major ground ports and 20-odd subsidiary public ground installations, and a like number of private fields, *plus* the Star Fleet complexes, orbital and ground-based, incorporated into the Earth starport system, for the sake of simplification. Multiple ground destinations at the other worlds in Sol System are the rule, not the exception. The situation only gets worse when one considers that all these destinations are in motion, and that twice a month approach and departure corridors to Earth have to be diverted due to the presence of Luna and *its* approach and departure corridors sweeping through. And Star Fleet, which has authority to override Traffic Control even here, maintains large training areas in the asteroid belts and out-system where traffic is not permitted. This diagram is, of necessity, greatly simplified for clarity.

STARPORT OPERATION: AN EXAMPLE

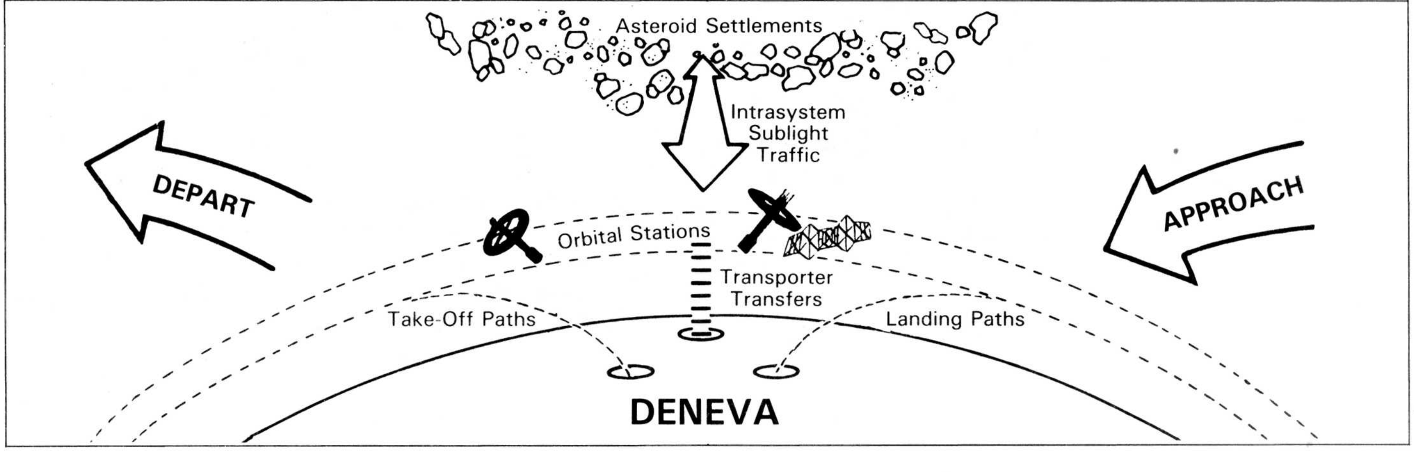
All the data on *Star Trek* starports that could be given would not be sufficient to get a feel for how they handle individual ships. So, for the purpose of illustration, follow the approach, landing, and departure of the *Handley*, a Class V merchant vessel, at a typical population C starport.

Upon detecting the star system's navigation beacon, the captain or communications officer contacts Traffic Control and informs them of the ship's approach. Traffic Control then assigns the ship a course which will bring it to the outer system boundary markers within the ellipse of the approach corridor. Should a vessel fail to alert Traffic Control, system sensors will detect the ship as it crosses the outer zone boundary, and Traffic Control will immediately hail that vessel on all the usual channels. Failure to contact Traffic Control before reaching the outer boundary is not an offense, but since it greatly simplifies the approach problem (and gives the ship a time reference for the coordination of ship's time with the intended landing site), it is greatly recommended. Failure to heed Traffic Control once the outer markers are crossed is an offense against the Navigation Act, and can result in suspension of licenses for pilot and master.

The *Handley* is directed to steer 135mark10 to bring it to the approach corridor for the one planet in the system it wants to reach. Star systems with multiple inhabited worlds have more than one pair of corridors, which Traffic Control is careful to keep from overlapping; this usually involves moving one or the other every standard month or so, or, in more congested systems, every week. (At Earth the corridors shift every six hours.) The course the *Handley* has been given will not take it directly to its destination world, of course, but it will take it to where Approach Control expects to gather it in.

Upon crossing the outer boundary marker the *Handley* alerts Approach Control and gets a new course and speed for the destination planet, in this case 223mark4, warp 2. At this speed (one au a minute), the *Handley* will spend nearly half an hour on approach. More crowded systems place their outer markers farther out and vary approach speeds more widely than smaller starports. Traffic and sun-weather advisories, available on a reference channel and often running continuously through a ship's computer, inform incoming vessels of peculiarities or hazards to watch for on the approach. Active suns with prominences or violent solar winds sometimes wipe out distant-reception functions of both the traffic-control new and incoming spacecraft, and if that happens, a backup system of short-range, powerful beacon satellites is available to guide craft down a "string" in the middle of the approach path to within the planetary magnetosphere. This trip, the weather is fine, and the *Handley* joins several other ships in a converging cone, each ship's speed matched to bring them all to the cone's apex in a uniformly spaced sequence. The *Handley* is informed of one possible problem: Three ships ahead of it is a Class XVIII robotic freighter, which may require additional time to bring into orbit, perhaps as much as half an hour's delay. A starport tug is also working close to the approach lane today, removing a previously undetected small asteroid before its orbit intersects the approach path, and a sub-light shuttle is inbound from an out-system settlement, making an orbital approach to the destination world from outside the warp-speed approach corridor. The captain of the *Handley*, being a cautious sort, instructs the helmsman to look lively when the robotic freighter gets close enough to the shuttle to detect it.

During approach, ships also receive preliminary parking



orbits, invariably circular about the destination world, but at different altitudes, according to size, needs, and capabilities of each ship, and the requirements of local Planetary Control. Most systems put sub-light vessels under warp-driven ships, which are arranged according to size, with the smaller being lower. The highest orbits of all are reserved for very large ships, notably robotic freighters. Practice varies from system to system, however, and often from ship to ship, according to circumstances. Preliminary orbit coordinates generally are good for final approach, but in high-traffic systems it's not unusual for them to be changed once or more before insertion.

At the apex of the cone is the Approach Corridor Inner Boundary Beacon (ACIBB); each vessel, as it encounters it, must call Approach Control and get a final course vector for their parking orbit. Ships may not pass the ACIBB at greater than warp 1, unless directed otherwise by Approach Control. On this trip, the robotic freighter has indeed detected the sub-light shuttle and slowed to just below warp speed, and Approach Control informs the *Handley* that it must do the same to avoid closing the intervals between ships. Most starports prefer a margin of at least five minutes between arrivals for minimal safety.

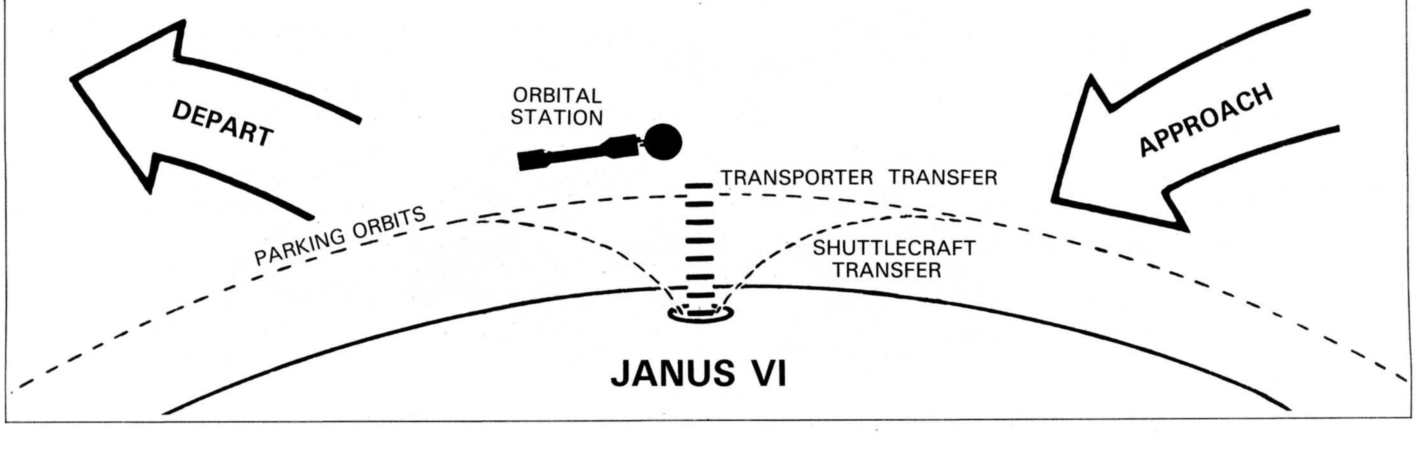
At this point in its journey the *Handley* is close enough to other inbound vessels that it can detect them up to three ships away, fore and aft. Now comes final approach to orbital insertion, one of the true tests of a helmsman's skill. Orbital parameters are given in the form of an altitude, a declination to the local planetary equator, and a precise time to achieve position. Planetary Control gives final clearance for the specified orbit, and then it is up to the individual helmsman to make the slot. Automated piloting programs, if running constantly and coordinated precisely with telemetry relayed from Planetary Control, can achieve very precise orbits, but their flexibility is limited and their use on manned vessels strongly discouraged, though not illegal. The *Handley* announces to Planetary Control that it is going for orbital insertion, and this legally commits the craft to making some kind of orbit; up to this point, for whatever reason, the *Handley* could have announced that it was not going to attempt orbit and requested a departure slot on a priority basis. Once orbital insertion is announced, it cannot be aborted without endangering other craft close to the planet—and gaining an immediate revocation of both master's and pilot's licenses.

The *Handley*'s helmsman is good and careful, and achieves orbit within one second of the assigned time and 300 meters of the assigned position. Both can be corrected easily with ion engines once the main impulse engines are shut down. The *Handley* has officially arrived at its destination planet and may be serviced by all orbital facilities (and charged therefore).

But the *Handley*, having too small a crew and payload to make transporter or shuttlecraft cargo transfer worthwhile, and being landing-capable, files a flight plan with Planetary Control and requests a planetary landing at the starport's ground facilities, submitting at the same time the data Landing Control will need to figure its descent orbit. Traffic is light, and the *Handley* does not need to shift to a lower orbit before it begins atmospheric entry. Landing Control transmits a "landing packet" of data to the *Handley*, including the time of de-orbit, expected time of arrival at the requested facility, and the precise curve the ship must follow. Atmospheric entries are extremely hazardous maneuvers, more so than orbital insertions, and the smallest deviations from a calculated path can destroy a ship or shuttlecraft, and possibly involve other vessels in lower orbits, or themselves landing or taking off, as well as people on the ground below. The precise landing path is a safeguard as well as a guide; deviation from it for any reason, unless sanctioned by Traffic Control, is not permitted.

De-orbit is performed without incident, and the *Handley* descends in a slow arc until it reaches the planetary atmosphere and must begin braking. Most smaller vessels like the *Handley* are not yet equipped with gravitic decelerators which work at high skin temperatures, and which in any case add up to 50 percent to travel time on thick-atmosphere worlds, so the *Handley* rides down in a fireball, relying entirely on atmospheric braking through the hull shape. Most of the fireball rides the shock wave ahead of the ship itself, so the worst of the heat does not penetrate the craft. But it can be a tense time, especially since the fireball cuts off all communications and sensor relays until just minutes before touchdown. A descent like this can take as little as an hour or up to three hours, depending greatly on the altitude of the original parking orbit.

The *Handley*'s fireball fades, and the navigator quickly acquires the landing site's locator beacon to assist the helmsman on final approach. As in orbital insertion, this operation is performed manually; unlike orbital insertion, computerized landing programs are *not* legal. The vagaries of local climate, winds, precipitation and airborne traffic are simply too complex for automated systems, though most ships, the *Handley* being no exception, have automated "prompter" systems, which alert the helmsman to necessary procedures while handling some



minor tasks like waste heat dumping and traffic alert monitoring. The helmsman, with the navigator's assistance, steers the ship onto the glide path provided by the landing beacon.

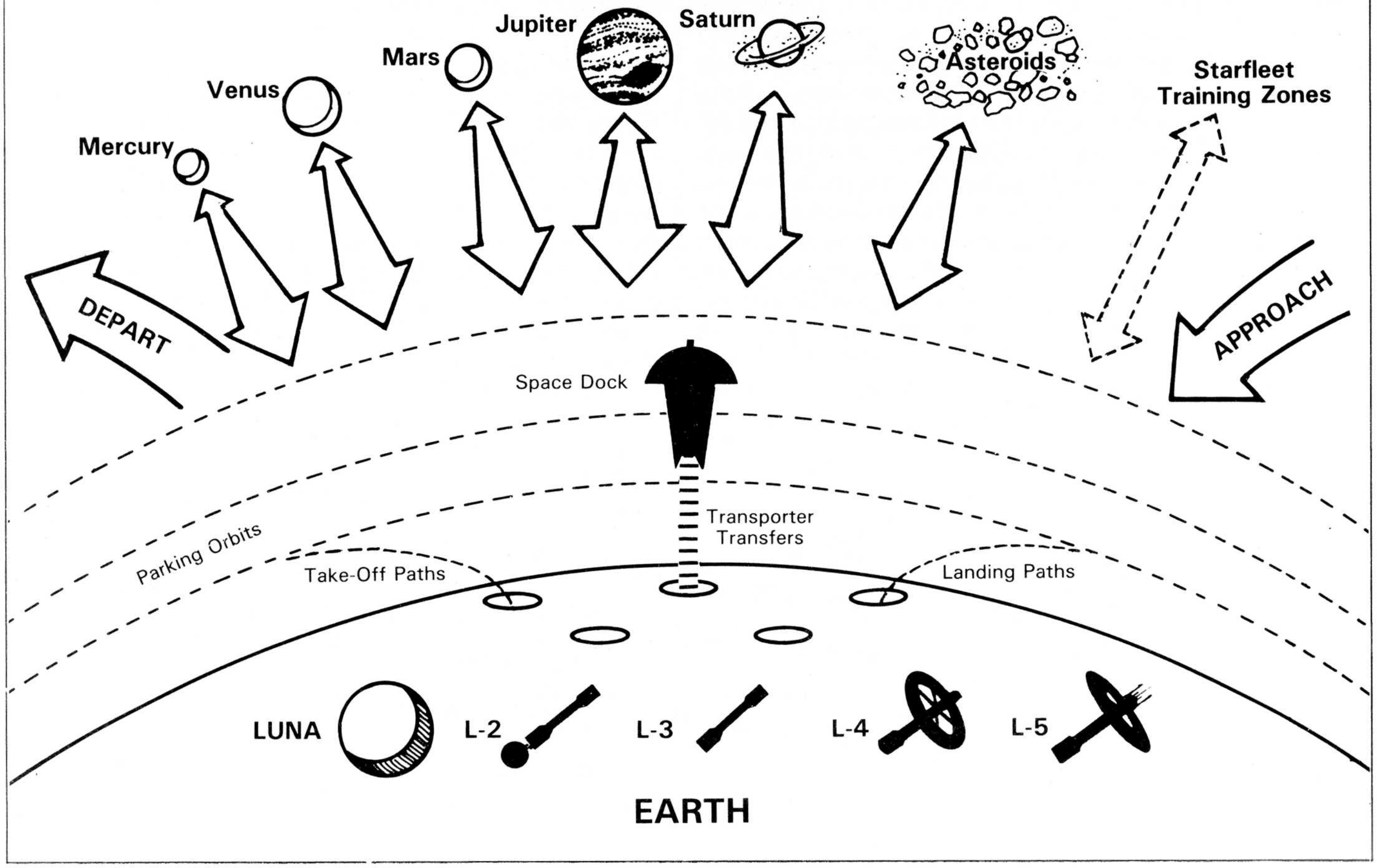
Some starport ground facilities have such advanced short-range ground control systems that they can gather in a landing starship on approach, indicate its landing berth, and have the ship land there. Larger ports have such systems to save time and landing space, since the same landing path may be occupied by three-person shuttlecraft and 50,000-ton freighters at the same time, but this port has a simpler system found in many smaller starports.

As the *Handley* comes below 5000 meters altitude relative, it begins to engage its antigrav vertical lift system—a rather modern innovation for a ship of Class V size, which usually uses reaction thrusters with their lower cost in spite of the attendant heat and blast. The navigator contacts the local Landing Control, informs them that the ship is on final approach, and requests clearance and directions to a berth. Landing Control acknowledges, warns them of a low-level air traffic corridor a kilometer short of the port, and directs them, after touchdown, to take taxi turnoff 7L and follow the markers onto Dock 16.

The port and its landing target now come into visual range, and the *Handley*, already decelerating, aims for the center of the target just past the landing beacon emplacement. Landing gear are extended. A ground facility's landing target is a rectangle of resilient heat-resistant thermocrete, capable of withstanding the blast of landing thrusters and the occasional—very rare—crash landing. A distinctive target shape is typically molded into its surface, and lights outline this shape for night landings. Many pilots make at least a token touchdown on the landing target for the purposes of making a formal log entry at the earliest possible moment of landing, but the *Handley* merely settles to within two meters of the target with a forward speed of just a few kilometers an hour, and immediately glides off the target down the taxiway ahead of it.

Blue arrows and symbols show the various turnoffs to the right and to the left. The *Handley* takes the seventh turnoff, to the left, and follows the arrows to Dock 16, where ground technicians and stevedores wait to help guide the freighter into the slip. This is done. The helmsman lets the ship settle to the ground and lets the lifters fade to nothing. The ship is now landed, and cargo and passenger transfer may now begin.

The *Handley* has no repairs to be performed, and no need for lengthy stays, but after transferring cargo the ship is moved via ground tractor and its own lifters to a berth, where it will await clearance to return to orbit. Larger ports, and those on airless worlds, often have indoor berths for parked vessels, even ones as large as the *Handley*, but this particular world is quite habitable, and all the berths are outdoors. A starship ground berth, on first inspection, is disappointing; it's just a section of hardstand, very strong but hardly impressive, with a number painted or inlaid on it. Connections for long-term power, water, and sewage lines, as well as local communications and datalinks, are all available from the so-called "Christmas tree" at the forward end of each berth. Only ships planning stays of several days or longer make use of all the



conveniences, but while awaiting an orbital takeoff window, a ship will make use of at least the datalink to keep its navigation system updated.

Some ships, particularly larger freighters with containerized cargoes, can file for departure as soon as they hit orbit, knowing precisely how long it will take to offload and load another cargo. Most other vessels wait for their business to be completed, particularly small ships looking for available cargoes on non-standard lines, who do not know if they will lift that day or sometime next week. Dock space is valuable, so as soon as a ship has completed offloading, unless it has another load waiting to come on, it is moved to a parking berth until it can be reloaded, and likely as not, it will be moved back to its parking berth while waiting for orbital clearance.

Takeoff from a starport ground facility resembles landing: A flight plan must be filed, sometimes with a specified orbital position for rendezvous, and Takeoff Control issues a "takeoff packet" with the planned takeoff arc, which again must be followed exactly on pain of violating local and Federation Navigation Acts. The *Handley* wants to simplify its navigation problem of leaving the system. Instead of filing for a parting orbit first and then a departure path, the navigator files for a direct departure—planetary surface to the Departure Corridor and out. This means there is no wait in orbit for a suitable departure time, but it does mean waiting a longer time on the ground while orbital traffic finally clears enough to permit a direct path. The quicker way out of system is *not* the quickest way off-planet.

As the mandated takeoff time approaches, the *Handley* prepares for space by disconnecting itself from the "Christmas tree" and having a ground tractor pull the hovering ship to the takeoff spot. This is another marked rectangle away from the berths and docks, with a clear area before it in the direction vessels will take going into orbit. Smaller ports sometimes have only one target for landing which is also used for takeoffs, but this is very rare; if a port is too small to allow two different spots for landings and takeoffs, it generally allows ships and shuttles to take off from their berths or even their docks. This port, however, has a proper takeoff pad, where the *Handley* is "spotted" on a "toemark" while awaiting final clearance from Ground Control.

When clearance is given, the *Handley* lifts off on its vertical lift system and begins to pick up forward speed. If it were going to orbit, it would need speed more than altitude and would leisurely shift to impulse engines to complete its acceleration to orbital velocity. The *Handley* is heading directly for the Departure Corridor, instead; thus, not long after takeoff it tucks up its landing gear, picks up its nose, and lights off its impulse engines as it climbs a considerably steeper angle than when it came in. It never goes fast enough to cause the fireball effect, and this is intentional in order to keep forward sensors clear and communication open in case of sudden danger, such as an out-of-control landing or an errant craft in low orbit.

The *Handley* encounters no problems as it accelerates out of the atmosphere and along its prescribed course. The navigator informs Planetary Control that the ship is near the end of its programmed trajectory and requests a heading and speed for the Departure Corridor Inner Boundary Beacon (DCIBB). As on approach, the *Handley* gets sun-weather advisories and traffic hazard updates. The weather is clear, and there are no hazards of which to stay clear; at 0.1c the *Handley* is to steer 251mark2 until the DCIBB is acquired.

At the DCIBB several other ships are also gathering, which the *Handley*'s helmsman can acknowledge by the ship's sensors. The navigator informs the system's Departure Control in which direction the *Handley* wishes to proceed once leaving system. Departure Control, which already has this data from the filed flight plan, gives the *Handley* a course that will take it to the point on the departure ellipse closest to its chosen heading. Ships passing the DCIBB begin to radiate outward, following the invisible "walls" of the Departure Corridor as they head out-system. The *Handley*'s course is to be 246mark15, and speed to the outer boundary markers is to be warp 2. The navigator acknowledges, the helmsman adjusts the course, and the *Handley* engages warp drive.

In another half an hour the ship passes the outer markers, and the navigator contacts Departure Control one last time to give the ship's heading. This again helps rescue and recovery forces in the event of disaster, and helps Traffic Control keep track of vessels even after they leave controlled space. It's more a courtesy than a legally mandated necessity, but few ships or captains would omit it.

After setting course and final speed, the *Handley* is out of the starport's control system and free to maneuver at any course and speed it chooses, until it again approaches a new destination world, with its traffic control beacons and starport.

STARPORT GENERATION

Though there are 15 classes of starports, *Star Trek* GMs need not despair at equipping every world with every piece of apparatus and every tendril of Traffic Control. Population rating

is the overwhelming determinant; for further subdivision roll 1D6. A 1 or 2 indicates the starport is *large*; 3 or 4, *medium*; 5 or 6, *small*. Or arbitrarily assign a starport ratio according to a world's traffic—intersystem and intrasystem. A tiny world in a system with other habitable planets or outposts might rate a population E starport, but it could be a *large* one to handle interplanetary shipping.

For quick-roll artists and those with no time to contemplate a star system's innermost needs, the following tables are provided for quick starport generation on any *Star Trek* world.

NUMBER OF GROUND INSTALLATIONS*

PopR E	*PopR D*	*PopR C*	*PopR B*	*PopR A*	*1D10*
1	1	1	1	1	2
2	1	1	1	2	3
3	1	1	1	2	4
4	1	1	1	3	5
5	1	1	2	3	6
6	1	1	2	4	7
7	1	1	2	4	8
8	1	1	2	5	9
9	1	2	3	6	10
0	2	2	3	8	10+1D10

*Able to handle a landing-capable starship.

NUMBER OF SPACEBORNE INSTALLATIONS MULTIPLIER*

PopR E	*PopR D*	*PopR C*	*PopR B*	*PopR A*
×1	×1	×2	×4	×8

*Total number of all inhabited structures in all orbits at one planet: Reroll Ground Installations number and multiply by the appropriate number.

RELATIVE SIZE OF STARPORTS (1D10)

	PopR E	*PopR D*	*PopR C*	*PopR B*	*PopR A*
Small	1-6	1-5	1-3	1-2	1
Medium	7-9	6-9	4-6	3-7	2-6
Large	0	0	7-0	8-0	7-0

NUMBER OF OTHER STARSHIPS PRESENT*

	PopR E	*PopR D*	*PopR C*	*PopR B*	*PopR A*
Small	1D6-4	1D6-2	1D10	2D10	4D10
Medium	1D6-3	1D6	1D10+4	3D10	6D10
Large	1D6-2	1D6+2	2D10	4D10	10D10

*On the ground. Use spaceborne multiplier for parking orbits)

NUMBER OF SUB—LIGHT VEHICLES MULTIPLIER*

PopR E	*PopR D*	*PopR C*	*PopR B*	*PopR A*
×1	×2	×3	×5	×9

*Intrasystem, intra-atmosphere, and shuttles: Reroll on Starships and multiply by the appropriate number.

AVAILABILITY OF STARPORT ASSETS (PERCENTILES)

	PopR E	*PopR D*	*PopR C*	*PopR B*	*PopR A*
Repair Tender	60%	75%	90%	90%	100%
Rescue Vessel	10%	25%	70%	100%	100%
Tugs	5%	20%	35%	80%	100%
Orbital Shipyards	0%	25%	50%	100%	100%
Star Fleet Ship	2%	5%	10%	40%	100%
Internal Docking	0%	5%	10%	30%	60%

Notes

Reduce percentage by one-third for *small* starports; increase by one-third for *large* starports.

Repair Tenders cannot repair warp engines or damage exceeding 20 percent of original construction values.

Rescue Vessels will save a crew and passengers from a stricken ship but not cargoes, ordinarily.

Tugs can bring crippled vessels into port, cargo and all, or just the cargo, for Cr1 per ton, cash.

Orbital Shipyards can repair any damage to any ship. Roll on availability again if the ship is non-Federation.

Star Fleet Vessel if present can act as repair tender, rescue vessels, and tugs, if asked nicely and if they aren't too busy. But they're *nosy*.

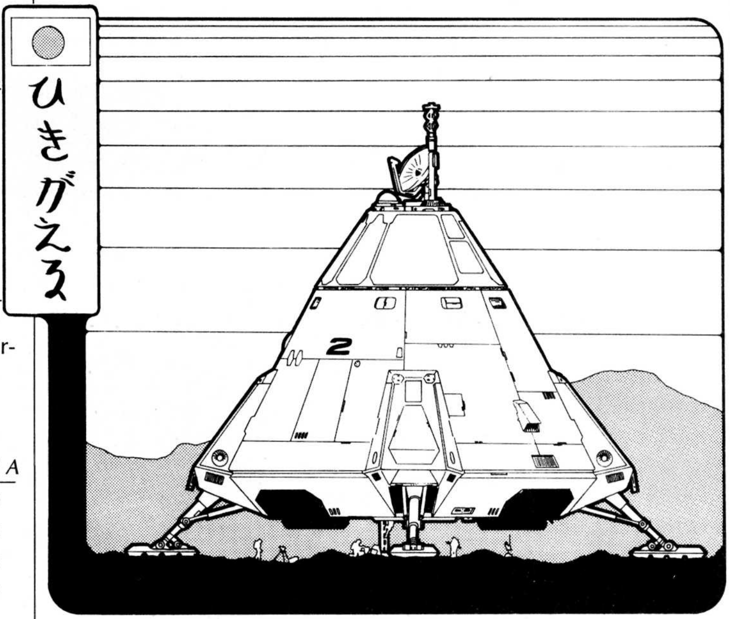
Internal Docking indicates ships and shuttles may dock physically, if desired, with any habitable starport structures in space (GM's option).

Population X starports (1D6)

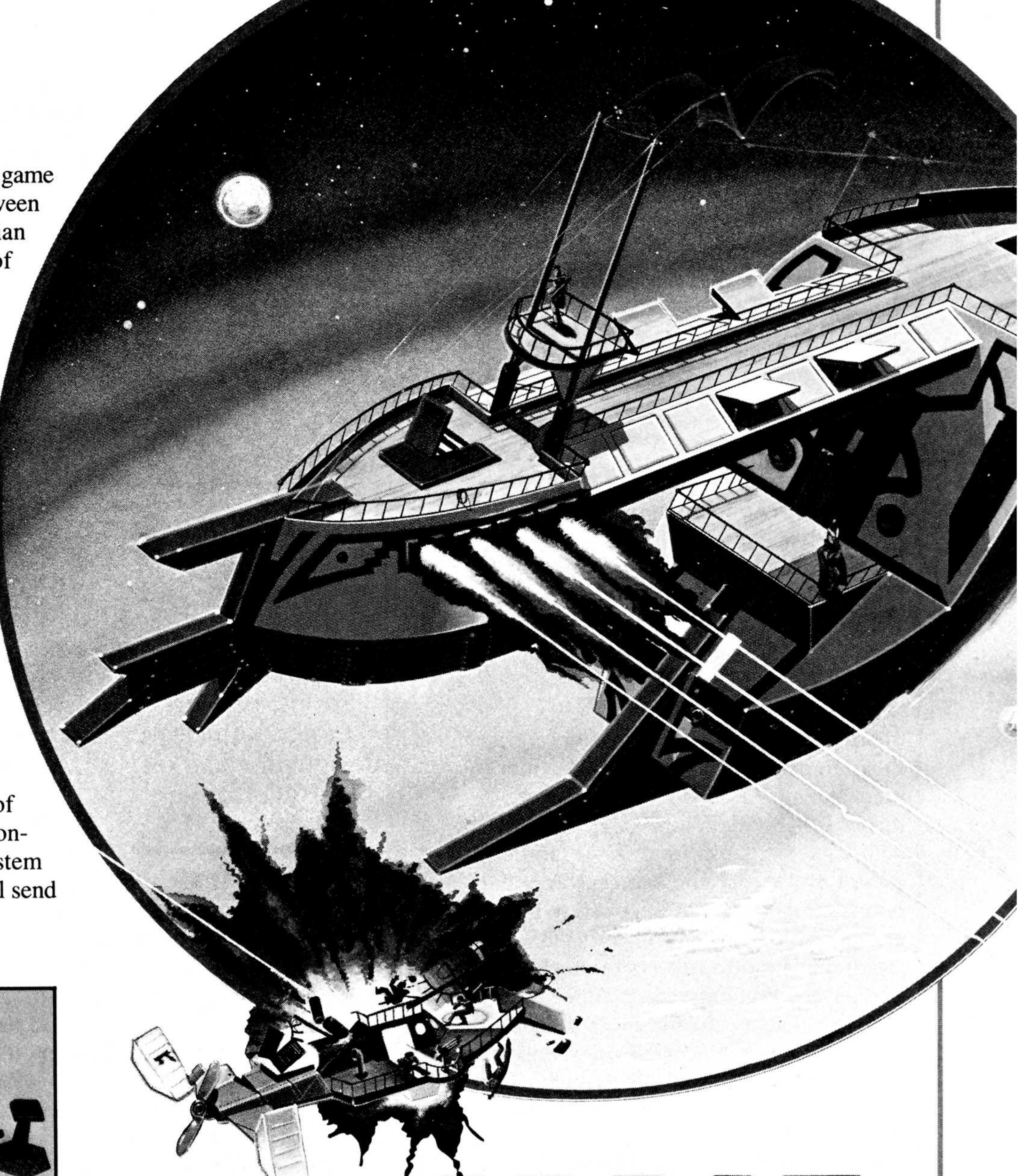
Worlds with fewer than 100 inhabitants do not have permanent facilities, but they may have a special feature or several if the GM desires.

1. Orbital marker buoy and sub-space radio relay.
2. Unused space station or converted spacecraft, habitable but empty.
3. Ground-based shuttlecraft (seven passengers or five SCU of cargo).
4. Ground-based cargo shuttlecraft (10 passengers or 10 SCU of cargo).
5. Transporter pad available on surface.
6. Strange spacecraft in orbit (Uh oh...).

—Peter R. Rogan



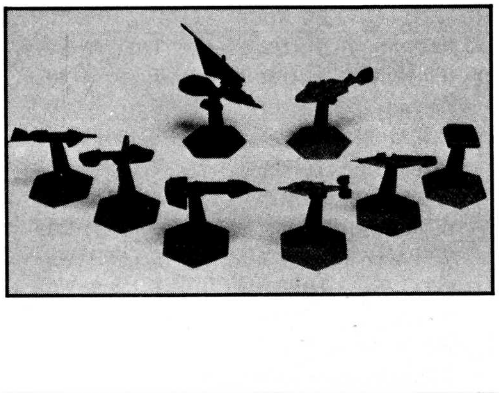
SKY GALLEONS OF Mars



Sky Galleons of Mars is a fast-playing game of aerial combat in the Martian skies between the wooden cloudfleets of the Martian princes and the steel aerial gunboats of Queen Victoria's Royal Navy. Model-quality, plastic playing pieces, pictured here, add to the reality of the thrilling battles among the clouds which pit Martian warriors against the discipline of the British Empire's colonial troops.

Once the basic game scenarios are mastered, players can go on to design their own galleons and gunboats and play out continuing aerial campaigns. **Sky Galleons of Mars** is compatible with the **Ironclads and Etherflyers** boardgame, coming this fall, and the **Space: 1889** role-playing game coming in January 1989. **Sky Galleons of Mars** is $24.00.

Space: 1889 makes Victorian Era science fiction the role-playing event of 1989. For a free, 16-page, information-intensive booklet on the game system and background, just write and ask; we'll send one out by return mail.



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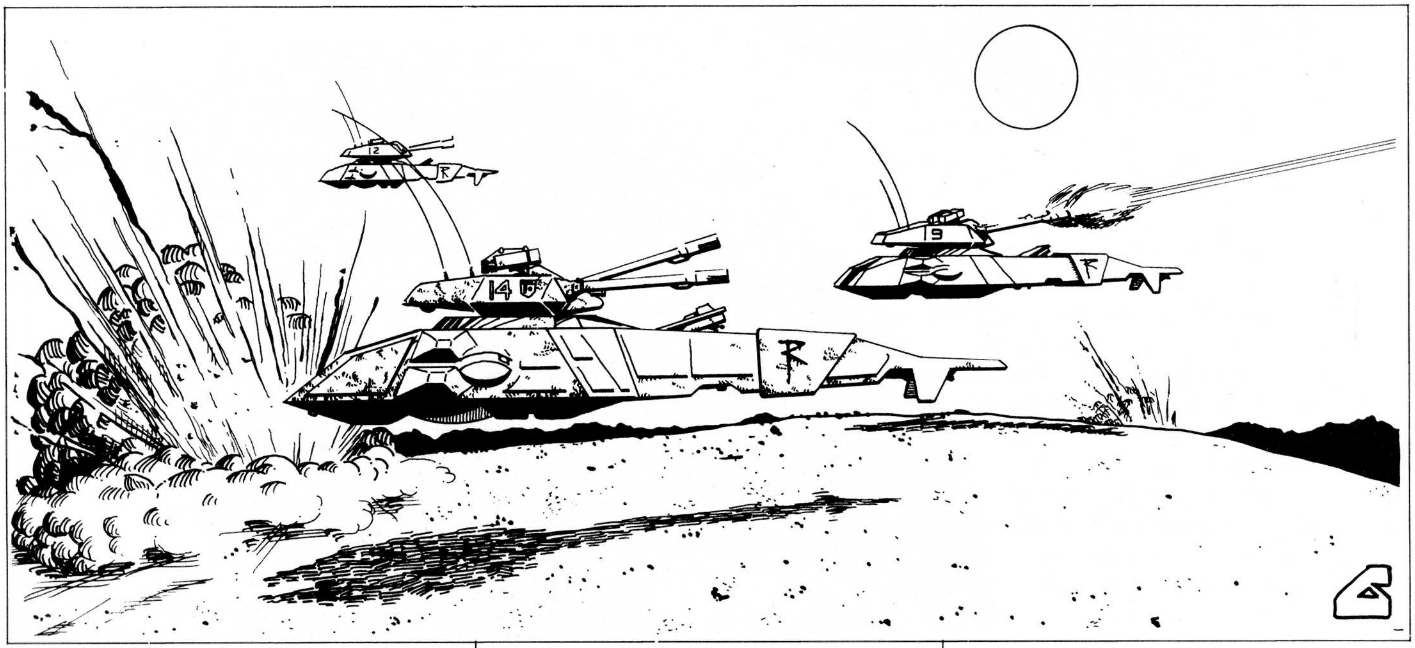
The 9876th

Renegade Armored Support Unit



The 9876th Armored Support Unit is a Commonwealth experiment to determine the feasibility of two new vehicles, the Dart and Sprint, in front-line combat. If this study works, the tanks will be assigned to the much beleaguered units on the TOG border.

The 9876th doesn't have a typical table of organization as other legions because they are assigned to "spur of the moment" missions. Commonwealth commanders send them into areas overrun with infantry, tanks, and those under assault by atmospheric interceptors and bombardments. The 9876th exists to take any punishment TOG can dish out.

The unit's motto reflects the feelings of the Dart and Sprint crews. Since they are always sent into the most difficult missions against impossible odds, belief in a higher (and benevolent) being is usually the only thing that keeps morale at a reasonable level.

A divine benefactor apparently *is* looking out for the 9876th. When the Dart and the Sprint were first brought to combat status on Caralis, they were immediately besieged by several TOG-armored legions. Fortunately, Commonwealth commanders provisioned the support unit with some of the best colonels, captains, and sergeants available. Using the powerful weapons of the experimental vehicles and the outstanding ability of the Sprint's elite infantry squads, the TOG legions were temporarily turned back, giving the 9876th just enough time to make necessary repairs and pull out before the next assault.

Terrific new *Centurian* scenarios using the Dart and Sprint, new armored vehicle designs for use on the TOG frontier.

Commanding the 9876th is not a form of punishment to vehicle commanders, as may seem to be the case. The unit plays an important role for Commonwealth logistics and command; by using the 9876th, any flaws in a vehicle's design are discovered before it is sent to other armor legions, possibly saving countless lives and resources.

DART

Class: Medium Strike Tank
Cost: 151219
Mass: 265
Engine: 1750
Thrust: 5
Scenario Points: 15
Infantry Squad: No

Shields

Front: 80
Right: 50
Left: 50
Stern: 60
Bottom: 30

Armor

Front: 80
Right: 60
Left: 60
Stern: 60
Bottom: 50
Turret: 80

WEAPONS

Type	*Location*	*Damage*	*Range*
100 mm	Turret	T	10
100 mm	Turret	T	10
Yulcan-3	Turret	S	0
SMLM (2)	Turret	T	10
SMLM (2)	Turret	T	10
1.514 Laser	Hull	5	20
1.514 Laser	Hull	5	20
AP Laser	Hull 1	S	3
TYLG (6)	Hull 2	T	6

Overview

The Dart is the latest in a series of Commonwealth tanks designed for quick strides and rapid attacks. Though the Dart has the necessary weaponry for raiding, it does not have the proper speed. This is due to a flaw inherent in the design engineer's calculations of the mass and drive needed to propel it. When they were finally found, the tank had already gone into production. Though the engineer was fired, he was immediately rehired when the tank proved very effective in various combat missions.

One of the most interesting features of the Dart's design is the Automatic Regulated Fire (ARF) control system. The ARF coordinates all weapons fire into the most logical pattern in a given fight. The order of fire pattern typically used (in order of attack) is SMLMs, 100mm gauss guns, then the hull-mounted lasers. This ensures that armor is destroyed to maximum depth. The TVLGs are not hooked into this system and are normally controlled by the gunner.

The Dart's power system has caused a resurgence in the interest in modularized power systems. Most conventional power systems are solid pieces of equipment. The Dart's reactors, however, are broken down into smaller components. The system still generates the same amount of energy, but the smaller units are much more easy to maintain, replace, and repair.

SPRINT

Class: Medium Armored Personnel Carrier
Cost: 1836850
Mass: 278
Engine: 1750
Thrust: 5
Scenario Points: 18
Infantry Squad: Yes

Shields

Front: 80
Right: 50
Left: 50
Stern: 60
Bottom: 30

Armor

Front: 80
Right: 60
Left: 60
Stern: 60
Bottom: 50
Turret: 100

WEAPONS

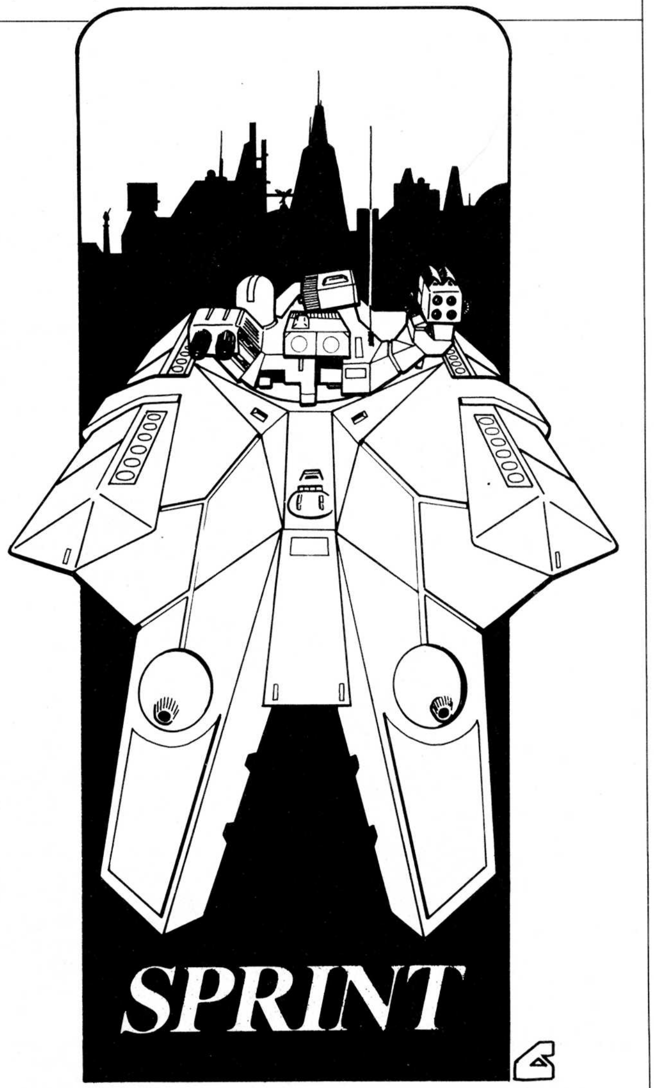
Type	*Location*	*Damage*	*Range*
3/6 Laser	Turret	8	20
3/6 Laser	Turret	8	20
3/6 Laser	Turret	8	20
3/6 Laser	Turret	8	20
Vulcan-4	Turret	S	0
Vulcan-4	Turret	S	0
SMLM (2)	Turret	T	10
SMLM (2)	Turret	T	10
TVLG (6)	Hull 1	T	6
TVLG (6)	Hull 1	T	6
TVLG (6)	Hull 1	T	6
TVLG (6)	Hull 1	T	6
AP Laser	Hull 2	S	3
AP Laser	Hull 2	S	3

Overview

The Sprint is an idea resurrected from the early days of the Commonwealth's war history. Infantry units carrying painting lasers were the perfect forward observer to guide indirect missile fire. Several vehicle designers tried to combine the concepts of a mobile missile platform with an infantry carrier vehicle, but they all failed. Recently, though, engineers have looked back at the original plans, improved on them, and designed the newly commissioned Sprint.

The main improvement on the old design plans was the addition of offensive weaponry. The Sprint carries enough additional firepower to quickly and efficiently destroy any vehicle it hits with its missiles. The lasers are in a quad mount on the upper right of the turret (to facilitate cooling), and the SMLMs and Vulcan-4s are mounted on top of the turret. The TVLGs are installed in rows which extend to the side of the vehicle in vertical launch boxes, providing a more stable firing platform.

Sprint is not the vehicle's original name. Sprint is actually a nickname given by infantry crews because they always have to sprint to their assigned positions, since the vehicle isn't fast enough to get them into a combat zone without getting blown up by enemy fire.



9876th ON THE ROCKS

9876th on the Rocks is a mini-campaign for two players. It is broken down into three parts; the outcome of the final scenario depends on the success of the first two.

The game takes place on Caralis during one of the 9876th's many test runs.

Scenario 1: Darting

Excerpt from performance evaluation by Dart crewman Joe Cursio.

Interviewer: "Now Sergeant Cursio, tell me once again how the Dart performed under severe combat conditions."

Cursio: "Severe? Downright ridiculous, I'd say! Where do you guys get off sending us into the middle of a planetary bombardment like that? I could've been hurt!"

Interviewer: "Please skip the rhetoric and just give me the facts, Sergeant Cursio."

Cursio: "Yeah, yeah. Sure. Just give me a second to collect my thoughts again. Hey, you got anything to drink around here? (clinking glasses and liquid being poured) Ahhh, that's better. Right. It all started at the edge of our tactical map."

Interviewer: "What all started at the edge of your tactical map, Sergeant Cursio?"

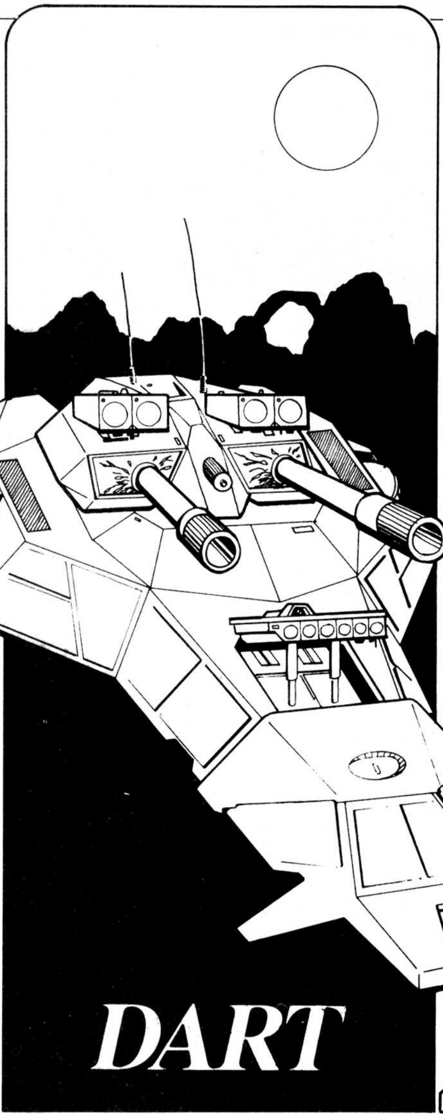
Cursio: "The blasted Toggie Thor systems started dropping depleted uranium beverage bottles on our heads, that's what! I thought you guys in logistics had taken care of those things before we landed."

Interviewer: "Logistics has nothing to do with it, Sergeant Cursio. We just observe the battles. If command doesn't take action based on our observations, there's nothing we can do about it."

Cursio: "Yeah, well, next time try. We lost two vehicles before we made it two meters across the map!"

Interviewer: "Please continue, Sergeant Cursio."

Cursio: (Takes a long drink) "So, like I was saying, we lost two vehicles when a whole slew of TOG tanks came in low over the edge of our map."



Game Setup

The Maps: The TOG player takes any two of the *Centurian* maps and lays them out lengthwise.

Forces: The Commonwealth player gets his choice of 30 points of vehicles plus three Darts. The TOG player gets his choice of 60 points in vehicles.

Neither side can buy APCs or have more than eight vehicles.

Setup: The Commonwealth forces are placed at either edge of the map at the player's option. The TOG forces are set up at the opposite side.

Special Rules: The TOG player has three missions' worth of Thor missile fire. The first rounds can come in at the first turn of the game; the normal three-turn delay then goes into effect.

Victory Conditions: TOG wins the scenario if there is a greater number of scenario points in Commonwealth vehicles than destroyed TOG vehicles.

The Commonwealth forces win if they can get a greater number of vehicle scenario points off the board than they have destroyed.

Special Campaign Rules: Any surviving Commonwealth Darts are added to the forces in the last scenario.

Scenario 2: Sprinting

Performance evaluation of the Sprint by ex-Dart crewman Joe Cursio.

(Sound of life support equipment)

Interviewer: "Now Sergeant Cursio, tell me once again how the Sprint performed under severe combat conditions."

Cursio: (Wheezing) "Did you ever get the feeling you've done something before?"

Interviewer: "Please skip the rhetoric and just give me the facts, Sergeant Cursio."

Cursio: (Aside) "I knew I'd done this before. Okay, I'll tell you what I remember before the Thor systems started dropping rocks on our heads. The Sprints were digging in, and the infantry was disembarking when the Thors began pelting us, and the TOG tanks came over the edge of our map, just like last time."

Interviewer: "Do you see any design flaws in the Sprint from the results of this enemy offensive, Sergeant Cursio?"

Cursio: (Coughing) "Yeah! I'd say the greatest flaw was that I got hit. What do you want from me? I was semi-conscious most of the time!"

Interviewer: "Please continue, Sergeant Cursio."

Cursio: (Breathing heavily) "Fine, but I don't know how much longer I'll be able to stay awake. These interviews are pretty draining. Alright. We had just dug in when the attacks came."

Game Setup

The Maps: The Commonwealth player takes any two of the *Centurion* maps and lays them out lengthwise.

Forces: The Commonwealth player gets his choice of 30 points of vehicles plus three Sprints, plus three extra infantry squads. The TOG player gets his choice of 60 points in vehicles.

Neither side can have more than eight vehicles.

Setup: The Commonwealth forces set up, up to 15 hexes from the map edge. The TOG forces line up at the opposite side.

Special Rules: The TOG player has three missions' worth of Thor missile fire. The first rounds can come in at the first turn of the game; the normal three-turn delay then goes into effect.

Victory Conditions: TOG wins the scenario a greater number of scenario points are in Commonwealth vehicles than destroyed TOG vehicles. The Commonwealth forces win if they get a greater number of vehicle scenario points off the opposite edge of the board than they have destroyed.

Special Campaign Rules: Any surviving Commonwealth Sprints are added to the forces in the last scenario.

Scenario 3: Back to the Wall

This excerpt is the final interview with Sergeant Cursio before his interment at the New Janos hospital complex.

Interviewer: "Now Sergeant Cursio, tell me once again how the Sprint and Darts performed under severe combat conditions."

Cursio: "Haven't I seen you somewhere before?"

Interviewer: "Please skip the rhetoric and just give me the facts, Sergeant Cursio."

Cursio: "Yeah, I thought I had. Elements of the 9876th had finally broken through the TOG lines and were moving to link up with other legions already on the planet. Unfortunately, we ran into some Overlord stragglers with enough firepower to mop us up."

Interviewer: "Precisely how many enemy vehicles were there, Sergeant Cursio?"

Cursio: "There were precisely about eight, and boy did they hit us hard!"

Interviewer: "What tactics did they use in their assault?"

Cursio: "Well, the first thing they did was shoot at us."

Game Setup

The Maps: The TOG player takes a *Centurion* map and lays it out, then the Commonwealth player takes a map and lays it out width-wise next to the first.

Forces: The Commonwealth player gets 30 points in vehicles and however many Darts and Sprints he had left from the previous scenarios; all damage is repaired. The TOG player gets a number of vehicle points equal to the total points of the Commonwealth forces. Neither can have more than eight vehicles.

Setup: The Commonwealth forces are placed at either edge of the map at the player's option. The TOG forces set up at the opposite side.

Victory Conditions: Either side wins by having more vehicles left at the end of 20 turns than the other player.

— *Kevin Stein*

Approved For Use With TRAVELLER®

Undersea

The Undersea Environment *by J. Andrew Keith.* New rule systems simulating the underwater environment: aquatic activities and hazards, the use of underwater gear and equipment, and special events and encounters to help construct underwater encounter tables. *(GL-1984 48pp $5.95)*

The Drenslaar Quest *by William H. Keith, Jr.* On the watery world of Yarhfahl, the adventurers join the race to salvage a valuable cargo from the *Drenslaar*, a sunken star freighter. Will they elude detection long enough to complete their task? Makes use of rules and information presented in *The Undersea Environment. (GL-1985 64pp $6.95)*

Mountain

The Mountain Environment *by J. Andrew Keith.* Travel and survival in rugged terrain. New rule systems simulate mountaineering and other activities and hazards found on mountainous terrain. Explains the use of mountaineering equipment and includes a guide for the construction of specific mountain situations: special events, encounters, and adventures. *(GL-1986 48pp $5.95)*

Ascent To Anekthor *by J. Andrew Keith.* Lady Sandra Lockhart was rich, famous . . . and bored. A thrill-seeker and daredevil, she was always on the lookout for new horizons to conquer. Now she has set her sights on the triple peaks of Anekthor where an old love and an old hatred await Lady Sandra's challenge. Makes use of rules and information presented in *The Mountain Environment. (GL-1987 56pp $5.95)*

Desert

The Desert Environment *by William H. Keith, Jr.* Travel and survival in a desert climate. New rule systems simulate all aspects of desert survival, explains the use of desert equipment, and gives guidelines for setting up specific desert situations: special events, encounters, and adventures. *(GL-1988 56pp $6.95)*

Duneraiders *by William H. Keith, Jr.* Riches, danger, and mystery lie within the arid wastes of Tashrakaar, a desert world peopled by the savage and enigmatic Duneraiders. The adventurers soon learn that desert nomads and desert heat aren't the only enemies they face. Makes use of rules and information presented in *The Desert Environment. (GL-1989 64pp $6.95)*

Adventure

A Pilot's Guide to the Drexilthar Subsector *by J. Andrew Keith.* From the navigational computer files of the Imperium comes a detailed explanation of a subsector on Reaver's Deep, in the Imperial frontiers. Presents background information on the Deep and on the Drexilthar subsector (setting for the adventures *The Drenslaar Quest* and *Duneraiders*). Each world in the subsector is explored to sufficient depths to be the setting for one or more adventures. *(GL-2980 48pp $5.95)*

Wanted: Adventurers *by John Marshal.* From the want ads of a starport news service come 20 short adventure situations. Job opportunities abound for adventurers in this collection of scenarios which can lead a band of characters into anything from a luxury cruise to a mercenary expedition. *(GL-1971 48pp $5.95)*

Startown Liberty *by John Marshal.* Startown . . . the rough and tumble district on any world where travellers can find anything from entertainment to the worst sorts of crime and corruption. Condemned by the majority of honest citizens, exploited by the criminal subculture, and visited by starship crews looking for entertainment, information, jobs, and almost everything else, this is "a wretched hive of scum and villainy" . . . this is Startown. *(GL-1975 48pp $5.95)*

Lee's Guide to Interstellar Adventure: Volume 1 *by Gregory P. Lee.* The journals of the noted galactic wanderer Aramais P. Lee have now been converted into a referee's aid. *Lee's Guide* provides complete planetary specifications and detailed plot outlines for 10 worlds in which the situations taking place on the planet form the basis for a varied range of adventure opportunities, suitable for both small parties and large groups. *(GL-1980 48pp $5.95)*

Available from Sleuth Publications, Ltd., 2814-19th Street, San Francisco CA 94110. Add $2 per order for postage & handling.

GenCon/Origins Report

All of the official numbers aren't in just yet, but it looks as though we've just lived through the largest gaming convention in the history of such events. Previous estimates appear to have been correct, and somewhere in the neighborhood of 10,000 people showed up for the con. Unfortunately, due to illness, I was only able to enjoy one day of the show. You may say "There's always next year," but can next year match the sheer magnitude of a combined GenCon and Origins?

Let's take a look at that notion for a moment. In business terminology, the key factor in combining cons like this is "crossover," or that number of people, that weight of bodies, if you will, who would have gone to either show. It is obviously not two entirely unique sets of people who attend each show, and their intersection is presumably a happy group of gamers who have varied interests. Mathematically, if you expect 6000 people at Con A and 6000 at Con B, you should expect somewhat less than 12,000 to show for combined Con A/B.

At GenCon/Origins the crossover element must have been enormous. I would estimate their numbers at around 3000 to 4000. That leaves about 3000 gamers leaning more to the stereotypical GenCon fantasy-related events and 3000 others leaning toward traditional Origins historical boardgaming. Broad stereotyping, I know, and I don't subscribe to it. Read my editorials—I'll play just about anything and enjoy it!

Anyway, what was happening at this show of shows? I saw many things, and with the help of my colleagues here at GDW, I will try to paint a picture for those of you who couldn't come at all.

Things that especially caught our eyes were the updated version of *Living Steel* presented in hardbound form from Leading Edge. Games Workshop seemed to have a great deal of interest over its new *Blood Bowl* game. FASA offered its new *Circus Imperium* game and the *Star Trek Next Generation Officer's Manual*, both fine-looking products. Digest Group Publications presented its *101 Vehicles* booklet to good response. And, of course, TSR went out of its way to promote its new *Buck Rogers* game, jam-packed with plastic pieces.

Also, AEF Designs, Inc. presented its line of large plastic kits from the movie *Aliens*. The warriors are particularly impressive, and the company announced its ambitious schedule of future model releases through next year.

At GDW we held many tournaments, for **A House Divided**, **Star Cruiser**, and others. The $1000 **Team Yankee** tournament was won by Dave Ross—congratulations Dave!

ORIGINS AWARDS 1987

Best Historical Figure Series, 1987: *Shogun Hard Guys: The New Samurai*, Ral Partha Enterprises. Sculptors, Dennis Mize and Bob Charette.

Best Fantasy or Science-Fiction Figure Series, 1987: *Julie Guthrie's Fantasy Line*, Grenadier Models. Sculptor, Julie Guthrie.

Best Vehicular or Accessory Series, 1987: *Star Trek Miniatures*, FASA Corporation. Sculptors, Randy Hoffa and Steve Apolloni.

Best Miniatures Rules, 1987: Harpoon, GDW. Designer, Larry Bond.

Best Role-Playing Rules, 1987: *Star Wars*, West End Games, Inc. Designer, Greg Costikyan.

Best Role-Playing Adventure, 1987: *Tournament of Dreams, Pendragon*, Chaosium, Inc. Designers, Sam Shirley, Les Brooks, and Greg Stafford.

Best Role-Playing Supplement, 1987: *Star Wars Sourcebook*, West End Games, Inc. Designers, Curtis Smith and Bill Slavicsek.

Best Graphic Presentation of a Role-Playing Game, Adventure, or Supplement, 1987: *Miskatonic University Kit, Call of Cthulhu*, Chaosium, Inc. Graphic Designer, Lynn Willis.

Best Pre-20th Century Boardgame, 1987: *Shogun*, Milton Bradley Company. Designer, Mike Gray.

Best Boardgame Covering the Period 1900-1946, 1987: Scorched Earth, GDW. Designer, John Astell.

Best Boardgame Covering the Period 1947-Modern Day, 1987: Team Yankee, GDW. Designers, Marc Miller and Frank Chadwick.

Best Fantasy or Science Fiction Boardgame, 1987: *Arkham Horror*, Chaosium, Inc. Designers, Richard Launius, Lynn Willis, and Charlie Krank.

Best Graphic Presentation of a Boardgame, 1987: *Shogun*, Milton Bradley Company. Graphic Designers, Alec Jutsum and James Brenner.

Best Play-by-Mail Game, 1987: *Alamaze*, Pegasus Productions.

Best Fantasy or Science-Fiction Computer Game, 1987: *Pirates*, MicroProse, Inc. Designer, Sid Meier.

Best Military or Strategy Computer Game, 1987: *Project: Stealth Fighter*, MicroProse, Inc. Designers, Jim Synoski and Arnold Hendrick.

Best Screen Graphics in a Home Computer Game, 1987: *Pirates*, MicroProse, Inc. Graphic Artist, Michael Hair.

Best Professional Adventure Gaming Magazine, 1987: *Computer Gaming World*, Golden Empire. Editor, Russel Sipe.

Best Amateur Adventure Gaming Magazine, 1987: *Polyhedron*, TSR, Inc. Editor, Jean Rabe.

Hall of Fame: Greg Stafford.

Special Award for Outstanding Achievement: *The Dragon*, TSR, Inc.

Special Award for Outstanding Achievement: *The Courier*. Editor, Dick Bryant.

1988 GAMERS' CHOICE AWARDS

Best Family Game: *Shogun*, Milton Bradley.

Best Fantasy Role-Playing Game: *Ars Magica*, Lion Rampant.

Best Science Fiction Role-Playing Game: MegaTraveller, GDW, and *Star Wars*, West End Games.

Best Other Category Role-Playing Game: *Top Secret SI*, TSR.

Best Role-Playing Adventure: *Who Watches the Watchmen?*, Mayfair Games.

Best Role-Playing Accessory/Supplement: *Forgotten Realms*, TSR.

Best Historical Strategy Game: Team Yankee, GDW.

Best Science Fiction/Fantasy Strategy Game: Star Cruiser, GDW.

Best Miniature Line: *Julie Guthrie's Fantasy Line*, Grenadier.

Best Computer Game: *Bard's Tale III*, Electronic Arts.

Best Play-by-Mail Game: *World Wide Plan*, Flying Buffalo.

Best Professional Gaming Magazine: *Polyhedron*.

—Timothy B. Brown

Review

Warhammer™ 40,000 Rogue Trader
Games Workshop Ltd. $30.00 (U.S.)
***By:* Rick Priestley**
***Editing:* Jim Bambra and Paul Cockburn**
***Cover Art:* John Sibbick**
***Graphic Design:* Charles Elliot**
218-page hardbound book.
For referee and two or more players. Requires miniatures.

Just when you thought you had seen everything, explored every corner of the universe, ventured forth and conquered all there was, suddenly, you discover to your surprise, there are Orks in space! Such a discovery is made when playing *Warhammer 40,000 Rogue Trader*, Games Workshop's latest entry into the role-playing game market.

Warhammer 40,000 is an adaptation and an extension of the popular *Warhammer Games System* to outer space in the far future (40,000 A.D., hence the title). As such, it has been described as a fantasy game in a science-fiction universe, and rarely has a promotional claim been more honest or accurate.

The bulk of the *Warhammer 40,000* universe is comprised of a million-world Imperium under the control of a tyrannical emperor. This 10,000-year-old semi-human "being" maintains control of his dominion partially through awesome psionic powers and partially through an administrative hierarchy, which includes the Adeptus Terra (a fanatical, quasi-religious priesthood), Inquisitors, Assassins, and the dreaded Legiones Astartes: Space Marines. (There is an Imperial Army as well, but they are a second-rate fighting force in comparison.)

Imperial Space Marines are the central focus for this game. There are exactly 1000 "Chapters," each with approximately 1000 combat troops, a long reputation, unique uniform insignia, and other identifying features. The players most often assume the role of individual Marines serving in one of these Chapters. In combat, they may use a combination of weapons, vehicles. and even psionic powers to combat Orks (or their Gretchin slave-troop underlings), warp creatures, or a variety of nasties which inhabit Imperial worlds. However, there are rules for generating other types of characters, including Inquisitors, Assassins, independent Rogue Traders (hence the title), and creatures of several other intelligent races.

If this were intended as a serious science-fiction game, my criticisms would be enormous. However, it is not; it is undeniably action-oriented science-fantasy. As a result, by openly acknowledging that it is a fantasy game set in the far future, any comments on internal consistency, suspension of disbelief, and game rationale can be thrown out the nearest window. This is basically cosmic hack-and-slash, not an extrapolation of future-history-yet-to-come. And if that's the way you like to play, this game is fun, fun, fun.

There are such goodies as: 1) chains words—you can substitute the word "saw" for "sword;" 2) vortex grenades, which literally tear a miniature hole in the fabric of space/time; 3) dreadnought suits—roughly man-shaped combat vehicles between three and four meters tall, in which a pilot sits in a mid-section cockpit and directs the vehicle's movement and attacks; and 4) a 40th-millenial vehicle called a Land Raider, but which looks incredibly like the British World War I "Mother" tank. If this isn't fantasy, I don't know what is!

Once disbelief has been suspended—this game has no glaring weaknesses. Oh, the book has its share of minor errors, including places where the text literally reads: "turn to page XX." The production department, in its rush to bring the book to press, failed to delete the "XX" and insert appropriate page numbers for several cross-references. This leaves the reader to hunt through the table of contents or the text to find the right page (more on that below). In at least one place, one or more lines of text were cut, and did not continue onto the next page. (The description of scare gas on page 93 should read: Troops wearing protective clothing or in a sealed building/vehicle are immune.) Some other basic points values for creatures also don't seem to mesh with the points system rules, and some weapon data in the scenario handouts don't match corresponding weapon data in the text.

However, these errors are relatively rare and comparatively minor (for the size of the product). I noticed very, very few typos in this volume, one sure sign of a conscientious editorial staff. According to one GW spokesperson, the company's policy is to suggest that gamers use common sense when obvious mistakes are found in its products. Errors in its products are rare enough to make this a workable policy, and presumably, most of the little errors that do exist will be corrected in any subsequent printings.

Physically, *Warhammer 40,000* is an elegant, 218-page glossy-coated, heavily illustrated, hardcover book. The cover is a beautiful and intricately detailed battle scene painting by John Sibbick. This complex (and slightly gory) piece of art provides excellent clues to the nature of the game, as well as to the high quality of graphic art contained within. The printed endpapers likewise show a similar scene in black and white, further setting the tone. As soon as I opened the book, I knew three things: This game would be bloody (and bloody good); the art department put a *lot* of well placed sweat and toil into the project; and someone (or several someones) has a very black sense of humor. Battle parables, sprinkled liberally throughout the book, deserve special praise (even if "cut lines" show when they shouldn't).

I found the table of contents skimpy and wholly inadequate (unsatisfactory at first glance, and even more so after thumbing through the rest of the book and then trying to find a particular section again). The editors only devoted a page and a half to itemize the material in a 218-page book, then didn't utilize that space nearly as well as they could have. Some entries in the TOC don't even include a page number!

The page immediately following the contents gives a very nice and concise overview of the game, its premise, necessary equipment, and some concepts well known to experienced gamers, but possibly unfamiliar to newcomers. In fact, the entire game is remarkably "user-friendly," as the author explains various rules (and reasons for them) without becoming condescending.

The first section, Book 1, deals with rules for combat, and it's truly the heart of the book. Though *Warhammer 40,000* does have some potential for role playing, it is first and foremost a tabletop miniatures game. This is abundantly obvious when all scales are given in inches, characters are often referred to as "models," and character encumbrances and rough terrain are reflected as movement penalties. In fact, all data are given in terms of miniatures and tabletop gaming. Unlike "true" role-playing games, certain categories of data simply presented aren't here, including such things as equipment weights and costs, nontactical movement, ammunition capacities, and so on.

Elegant black-and-white and color illustrations, and even some photographs (of painted miniatures and tabletop scenery), enhance this—and all other—sections. Some of the special rules include unit coherency, line-of-sight and elevation, discovering hidden troops, area effect weapons, and a separate turn sequence for bringing in reserves. All in all, this is one of the most detailed-yet-playable systems for small-scale miniatures "future" warfare I have seen. The psychology of battle is also well handled, with distinct effects for confusion, frenzy, fear, and hatred. The section is rounded out with notes on psionics and psionic skills, mutants, and how various vehicles and weapons systems work within the combat system. An introductory scenario ("The Battle at the Farm") is also provided, pitting Space Marines against Orks.

Book 2 contains 54 pages jam-packed with weapons, grenades, missiles, mines, vehicles, robots, bionics, armor, and miscellaneous gadgets useful for keeping warriors alive in the 40th millennium.

Book 3, the largest section, describes the Imperium and its Emperor, the government and everyone's role in it, other intelligent races, warp creatures, alien creatures, and plants to be encountered (and destroyed!).

Book 4, entitled "The Advanced Gamer," contains optional rules for the experienced GM, a plot generator for adding ideas to a scenario or campaign, and some very fine notes on miniatures and scenery collecting and painting. Interested gamers who have no prior experience in miniatures-collecting may find these rules especially helpful for getting underway.

Book 5 contains a couple of rules summary sheets and some perforated, removable handouts for use with "The Battle at the Farm." This section finishes out a well crafted, one-volume game package, all things considered.

Sadly, my biggest complaint about the book is its binding. In less that three weeks of moderate-yet-cautious use, one portion near the center of my review copy has worked its way out from the binding, leaving me with a loose-leaf section and with more pages threatening to fall out as well. This is a disheartening comment to make on a book which is such a fine product in most other respects, and I can only hope my experience is the exception and not the rule.

Some young or impressionable gamers may be disturbed by the premises used in *Warhammer 40,000.* The rulebook's opening preface sums this up nicely: "He (the Emperor) is a rotting carcass writhing invisibly with power from the Dark Age of Technology. He is the Carrion Lord of the Imperium to whom a thousand souls are sacrificed every day, and for whom blood is drunk and flesh eaten. Human blood and human flesh—the stuff of which the Imperium is made." Admittedly gruesome, particularly with an illustration of His Obnoxiousness himself inside.

However, it is very important to note: This is the premise for the "universe" in which *Warhammer 40,000* is essentially a swords-and-blasters man-to-man tactical combat system, with fill-in for background. The players' characters will be slaying Orks, *not* taking part in human sacrifices. If you think this is too unpleasant for a story concept, remember *Hansel and Gretel*, where the two kids pop the old witch into the oven? Anyone who has ever read *Grimm's Fairy Tales* or ever watched any adventure shows on television shouldn't have any major problems with this game. (Personally, I think Ralph Bakshi might appreciate the artwork, and Mel Gibson would be an excellent choice for the motion picture version.)

Aside from the peculiarities of the universe setting, I feel this game is destined to become a genuine classic. It should appeal equally to miniaturists, fantasy gamers, science-fiction gamers, and those in-between gamers who simply like to blow things up anytime, anyplace. I recommend it.

—*John A. Theisen*

Judge Dredd™ Companion.
Games Workshop Ltd. $20.00 (U.S.)
***Compilation and Editing:* Marc Gascoigne**
***Cover Art:* Christos Achilleos**
120-page hardbound book.
For referee and two or more players.
Requires *Judge Dredd: The Role-Playing Game.*

Hey ya, juve! Been on the lookout for Judge Dredd and the Justice Department? Well watch out, because the Judge is comin' and he's lookin' better 'n ever! Where did I find out? I ain't no nark, but I'll give ya a hint: the new *Judge Dredd Companion*. Got all sorts o' neat stuff in it. You wanna know more? Then stick your head a little closer and listen good.

This 120-page 8 1/4-inch by 11 3/4-inch glossy-coated hardcover tome is jam-packed with 18 separate articles, including two full-length investigations, two Code 14 investigations ("Ready When You Are" and "Repro Man"), a solo adventure ("On the Beat"), and a pullout boardgame. Everything in it will spice up your game better 'n a handful of stookie capsules.

One article describes more than two dozen Special Abilities for experienced Judges, or even gifted Mega-City citizens. There are new official rules changes for a Judge's Strength and HtH Combat; now a few can have a *Strength* score of 4! To make life more interesting, there is a Spontaneous Crime Blitz Result Generator. (Judges need not investigate and come out empty-handed anymore.) Two new weapons, the Lawrod and the Blazooga, make sure a Judge can get any perp's attention. Someone got into the MAC and dug up the Crazy File (citizens get bored, then do strange and illicit things, and their actions get logged here). And just when you thought it was getting safe on the streets, new advanced driving rules are included, even tables to generate random roads (who wants to try mapping MC-1 anyway?).

If your life lacks something for entertainment, there's a tourist's brochure (with brief glossary) for visiting Britcit, rules for playing shuggy, and a simplified boardgame version of Block-Out. Playing pieces for the latter are on perforated handouts bound into the back of the book (players probably will want to mount them on cards so that they hold up better).

It's a bat; it's a skysurfer; no, it's Captain Glider! It's actually rules and guidelines for adding superheroes to *Judge Dredd*, with three sample superheroes to start. Then there's a detailed visit of an area in a Downtown sector (not just any

Downtown sector, but one at city bottom, near a neighborhood like yours). Maps, characters, and lots of notes show this is a place in need of stouthearted Judges!

You thought Cursed Earth muties were pushovers, eh? Guess again. New rules make mutants a real challenge for Judges who expect a little convenient target practice. Finally, there are rules on qualifying Judges for the Justice Department's Exorcism Division; you never know when a demon or devil may show up. (The Devil himself resides in Iso-Block 666—just thought you'd like to know!) I'm not gonna tell ya about the investigations 'cept the titles: "Channel 9 Crime Time Special" and "Fear and Loathing in Mega-City One." You can find out the rest yerself.

Nah, I'm not bein' a bit sarky. If you respect Law and Order (well, Law anyway), you better pick up a copy of this—quick, before a Judge runs you in for loitering! (Oh, if you worry about the idea of demons or devils in the 22nd century, as two of the contributors state: "*Judge Dredd* is just a game, guys!" But we know better, don't we?)

—*John A. Theisen*

Citi-Block
Designer: **Richard Halliwell**
Artists: **Gordon Moore and Dave Andrews**
Rules Booklet Written By: **Carl Sargent, Alan Merret, and Graeme Davis.**
Boxed set. Eight full-color maps, four accessory sheets, 20-page rules booklet.
For referee (primarily) and two or more players.
Requires either *Judge Dredd: The Role-Playing Game* or *Warhammer 40,000 Rogue Trader.*

Do you have difficulties visualizing the blueprints of a Mega-City Block? Do you wonder what the differences are between a Pre-Atomic War Block and a Con-Apt? Or are you curious about the physical layout of a Hive World city? If so, then you too may need *Citi-Block*, Games Workshop's newest floorplans designed for use with *Judge Dredd: The Role-Playing Game* and *Warhammer 40,000*.

Physically, *Citi-Block* consists of eight 11-inch by 16 1/4-inch geomorphic full-color plans (printed on heavy paper), four 8-inch by 10 3/4-inch sheets of full-color accessories, vehicles, and furnishings (printed on light cardstock), and a 20-page 8 1/4-inch by 11-inch rules booklet, all packaged in a 1-inch gamebox.

The eight plans (ruled off in a 7/8-inch or 22mm square grid) include one open area, one park, one entrance plaza, one office units area, one helipad/hover-bus stop, two pipeway/corridors, and one skyrail station. I admit I was a bit confused at first as to which was which (they're not marked), but the illustrations in the booklet helped. The scale is one square equals two meters.

The accessories sheets include such things as grav chutes, elevators, potted plants, display shelves, indoor fountains and ponds, desks, tables and chairs, office and apartment furnishings, crates and boxes, a vid-phone booth, staircases, numerous vehicles and equipment of unknown nature, a manhole cover, and even trash cans. The sheets are bound as the cover and centerfold of the rules booklet. Once they are separated, individual accessories may be easily removed and cut apart with any sharp knife or scissors.

The two-part rules booklet includes information on using these plans with either *Judge Dredd* or *Warhammer 40,000*. A detailed Block-generation system shows how to "build" an entire Block from the ground floor up, whether it is a Pre-Atomic War Block, a Con-Apt, or something entirely different and special. It is not necessary to map every floor of a Block, the rules state, but essential features (such as elevators, grav chutes, and the like) must be included in every structure. Guidelines are also provided for adding Entrance Plazas, Citi-Def Armouries, Med-Centres, and other special floors. This section contains numerous, easy-to-read tables and illustrations, including graphic sample apartment and office layouts. There is even a Standard Profiles table for quick generation of ordinary citizen-types, and two groups of perps for possible random encounters. Finally, the floorplans are compatible with those released in *Slaughter Margin*.

The much briefer, but equally useful, section for *Warhammer 40,000* deals mostly with added rules on floorplan movement, line of light, and how to breach walls or doors. There are additional notes on Hive Worlds and what life is like there, and a complete generation system for creating Hive World gangs (and their equipment), including an example.

—*John A. Theisen*

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Classifieds

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Tidewater Traveller Club: An organization of players and referees in the Hampton Roads area of Virginia dedicated to the playing and promotion of GDW's role-playing games. Contact Mark "Geo" Gelinas, 1302 Riverfront Ct., Suite 302, Virginia Beach, VA 23451.

For Sale: Traveller items, including supplements, adventures, Paranoia Press stuff, JTAS issues and more. Send SASE to Barry Osser, 1018 F St, No. 1, Eureka, CA 95501.

NCRP: An amateur fanzine covering FRPs, including lots of **Traveller**, **2300 AD**, and more. Samples copies are $1.50. Subscriptions are $8 for six issues. Barry Osser, 1018 F St, No. 1, Eureka, CA 95501.

Wanted: Photocopies of "Traveller News Service" from **Journal of the Travellers' Aid Society** 1-24, **Traveller/MegaTraveller** starship stats for all kinds and sizes of ships (also deck plans if you have them)—will trade for mine. Also want *Striker* Vehicle designs. Jeff Wharton, 3960 N. Monet Court, Allison Park, PA 15101

Players Wanted: Dallas **Traveller** group looking for select adult players for campaign game. Contact Alex Ingram, (214) 357-3216.

Wanted: Will players and/or referees of **2300 AD** in the Shenango Valley area please contact Robert L. Downs, 1065 Baldwin Ave, Sharon, PA, 16146. I've never played RPGs before, but I'm anxious to start.

Inquiry: Experienced **Traveller**, **2300 AD**, and **Twilight: 2000** referee soon to relocate to London, England. Would anxiously like to hear from players or referees of these games who live within 40 kilometers of London and who would like to game with a British-born American. Will be arriving around 21 November 1988. Please Write R. Scott Byerly, 2010 Yorktown Court North, League City, TX, 77573, USA.

Variant: Discontinued RPG fanzine including **Traveller** deckplans, character classes, equipment. All 16 back issues only $5.00 postpaid; sample issue $1.00. Gary Reilly, 395 Wimbledon Rd, Rochester, NY 14617.

Wanted: Runequest II material, such as *Borderlands, Pavis, Big Rubble, Runequest Companion,* etc. Please send a list of items, noting condition and price (please allow for shipping) to: Per Eklund, Violstigen 16,153 00 Jarna, SWEDEN

Chief Tactical Officer: Starbase Two (Central/Southern United States) unit of Starfleet Command is looking for gamemasters and players for play-by-mail campaign using **Traveller/Star Trek** rules. Contact: Commodore David Johnson, 1417 Vanderbilt East 610, Fort Worth, TX 76112-8957.

Adventurers: Players wanted for existing play-by-mail campaign loosely based upon *The Traveller Adventure*. Contact: David of Tenelphi, 1417 Vanderbilt East 610, Fort Worth, TX 76112-8957.

Wanted: *Atlas of the Imperium.* Please write quoting price and shipping costs to: Roger Myhre, Odvar Solkbergso 136, 0973 Oslo 9, NORWAY.

HELP! I've just started **Twilight: 2000**, and I need to know if I'm doing it right. Players and referees in the Groton-New London, Connecticut area please call 445-7027 and leave a message. Groton-New London area only, please. My name is Bill.

Wanted: *Atlas of the Imperium* and *The Traveller Adventure.* Send prices to Allan Hopkins, 715 Donovan Ave., Victoria, BC, V9B 2A4, Canada.

Wanted: *High Passage* 1; *JTAS* 1-12, 17, 18; *Traveller's Digest* 1-3; *Fifth Frontier War.* Send info to Jimmy Simpson, 1735 Ridgeview Drive, Arlington, TX 75012.

Wanted: *High Passage* 1, *Far Traveller* 1, *Travellers' Digest* 1, 2, & 6, *Beyond Sector* and *Vangard reaches* from Paranoia Press. Also want *Alsan Mercenary Cruiser* (FASA), *Atlas of the Imperium* (GDW), and *Pilot's Guide to the Drexilthar Subsector* (Gamelords). Write Patrick J. Hoye, 343 Washington St, Holliston MA 01746 or call (617) 429-1285 or (617) 429-4476

Wanted: MegaTraveller or **2300 AD** programs for the Atari ST in FastBasic or ST Basic. J. D. Law-Green, 1 Whitelands, Rawdon, Leeds, W. Yorks, LS19 6BU, ENGLAND.

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Security Leak Magazine: Dedicated exclusively to **Traveller** and printed quarterly. Subscriptions are $10.00 (US) in US, Canada, APO, and FPO, $2.75 singly (elsewhere $12/year, $3.25 single). For additional information write: The Security Leak Magazine, 4200 Park Place 217, Tyler, TX 75703-1822, USA.

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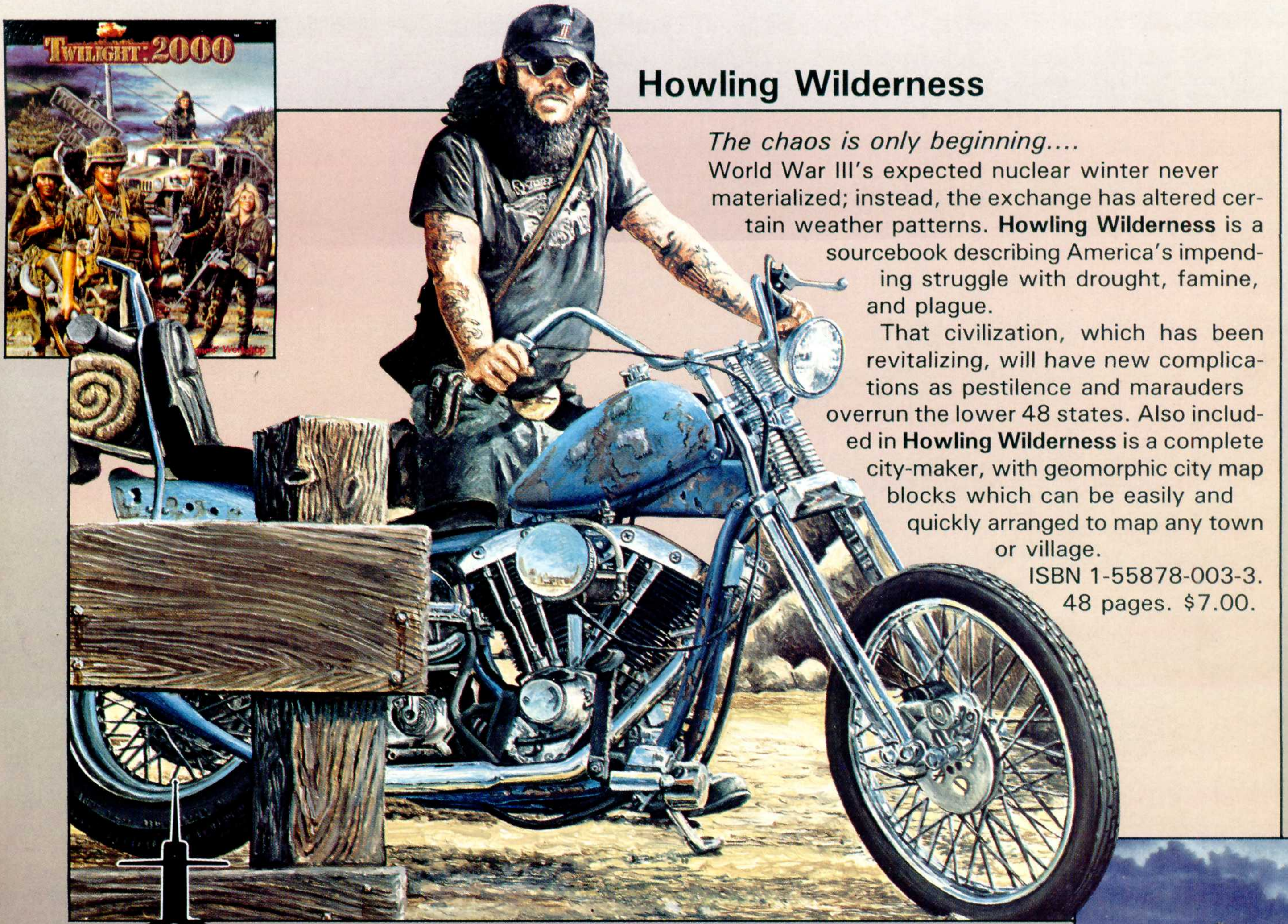

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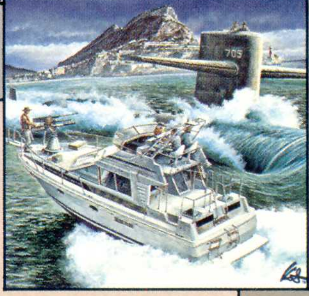

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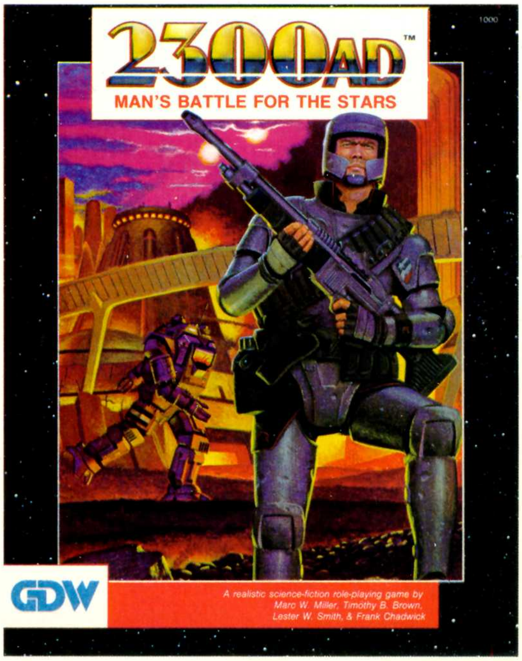
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