Core Rules

TRAVELLER®
Science-Fiction Adventure
in the Far Future

Rules Booklet

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Science-Fiction Adventure
in the Far Future

Game Designers' Workshop

Traveller®
Starter Edition

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INTRODUCTION

Welcome to the universe of **Traveller**! In the distant future, when humanity has made the leap to the stars, interstellar travel will be as common as international travel is today. **Traveller** is set against that background drawn from adventure-oriented science fiction. The scope and breadth of this game are limited only by the imagination and skill of the players and their referee. **Traveller** is an entire universe to be explored, where almost any situation which occurs in a science fiction novel, movie, or short story can be recreated with only a little work on the part of the referee.

Traveller postulates that mankind has conquered the stars, and that travel from one stellar system to another is commonplace. However, the tremendous distances involved dictate that interstellar voyages can take weeks, months, and sometimes even years. In some respects a situation similar to Earth in the eighteenth century is created, where communication is limited to the speed of travel, setting the stage for adventure in a grand fashion, with all the trappings of classic science fiction: giant star-spanning empires (good, evil, or both), huge starfleets, wily interstellar merchants (or pirates, depending upon your point of view), complex diplomatic maneuvers, larger-than-life heroes, heroines, and villains.

The Character: Into the midst of all of this is thrust the player, whose alter-ego in the universe of **Traveller** (the character) interacts with the referee (who administers and, in many cases, creates the details of the universe) in an informal session of role-playing called an adventure. The attributes of the player's alternate persona are numbers generated by rolling dice, and these characteristics aid the referee in determining how successful characters may be in achieving whatever goal is set for them.

Traveller is open-ended, which means that there are no set conditions for winning. Each player sets his or her own goal, and has a lifetime (in game terms) to achieve it. **Traveller** can continue for as long as the referee and the players desire. Like the universe, **Traveller** has no limits.

This game contains all rules needed to play **Traveller**, plus enough introductory background material and scenarios to permit even beginners to start playing as soon as possible.

ADVENTURING IN TRAVELLER

Traveller is a set of detailed rules covering how the universe operates. These rules govern day-to-day activities to be expected for any individual. Against this background of basic information, players can work, earn money, travel to distant worlds, and lead exciting lives of daring and adventure.

But **Traveller** does much more. The characters have an opportunity to undertake genuine adventures as they search for their own self-appointed goals. Some adventures happen as a result of day-to-day activity. Some occur as players use pre-written adventures. This game includes two detailed adventures ready to play. One investigates an alien structure, and the players must solve its mystery if they intend to leave the world alive. The other requires the adventuring party to complete a planetary survey in return for needed ship repairs.

Most **Traveller** adventures come from the referee's own imagination. Each new world is an opportunity for the referee to present a new situation to the players, who must cope with this scenario if they are to progress in their own adventures.

GETTING YOUR FEET WET

Since **Traveller** is a role-playing game, players and referees experienced in other role-playing games should have little trouble. There are, however, a number of features which make **Traveller** unique among role-playing games:

The Character Generation System: In **Traveller**, it is possible for a character to gain experience for up to 28 years in one of the six services (army, navy, marines, scouts, merchants, and the undefined other). In practical terms, this means that a band of adventurers will not consist entirely of striplings. Some may be inexperienced, but there will also be characters from all levels of experience, and from all walks of life. A character has a past and can be more than just a series of numbers on a sheet of paper. A character picks up skills (like computer programming or navigation) during prior service, more being accumulated the longer the time served, but there are a number of trade-offs to be made. The longer the service career, the more skills the individual acquires, but as the character becomes older, dexterity, endurance, and strength may be lost through aging.

Animals and Animal Encounters: The various lifeforms which players are likely to encounter on their voyages through the cosmos are described not in terms of physical characteristics (lionoid, bear-like, pseudowolf, etc.), but in terms of their size, behavior, and the ecological niche which they fill on their particular world. Physical descriptions are also possible, but this ecological system is a universal approach that deals with relatively constant essentials of animal life.

Flexibility: The basic rules of **Traveller** are flexible enough to allow almost any science fiction theme to be recreated without significantly disturbing the balance of play. The basic rules deal only with the major aspects of the way the universe works, allowing the referee to fashion details to suit individual preferences. The technological levels of the various cultures players will contact in the course of play can be set at any level desired from the primeval past (tech level 0) through present day Earth (about tech level 7.5) to the barely conceivable wonders of the distant future.

Referees can adjust the complexities of their universes to their own and their players' abilities, gradually moving upward in complexity as more expertise with the various systems is gained.

Economics: A detailed but simple system allows the intricacies of interplanetary and interstellar trade to be represented, without dominating the referee's attention. Trade and commerce can be accomplished with a few rolls of the dice, and the system is simple enough to allow players to handle most of it if the referee desires. With minimal exertion, players can attempt to establish mighty trading corporations, spanning many star systems, or simply ply the space-lanes with a single decrepit free trader, desperately trying to keep one step ahead of their creditors while dreaming of that deal to end all deals.

The Combat System: Naturally, not everyone (or everything) the players meet will be friendly, and it will occasionally be necessary for characters to resort to violence. **Traveller**'s combat rules allow fights ranging from simple bare-knuckles fisticuffs to engagements between starfleets, and virtually everything in between. Every
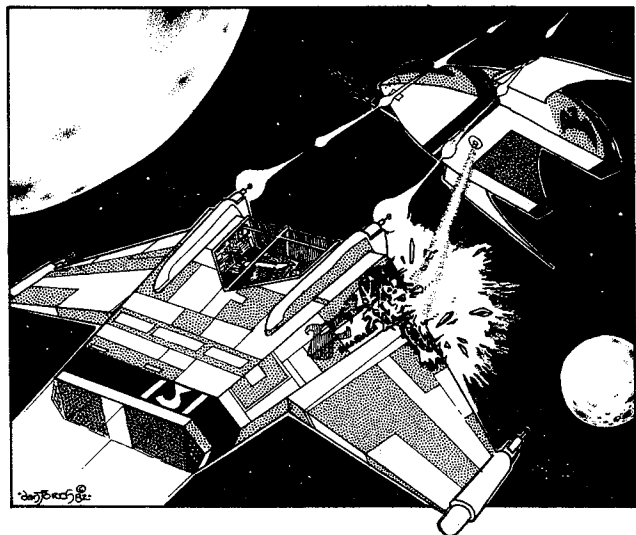
personal weapon from broken bottles to energy weapons is taken into account.

Psionics: Traveller includes a section covering psionic abilities for those who feel that no game is complete without a sixth (or seventh) sense. Clairvoyance, telekinesis, telepathy, and other abilities are defined, regulated, and smoothly integrated into the game rules.

REQUIRED MATERIALS

This game contains all the rules necessary to begin playing **Traveller**. The rules provide for solitaire and unsupervised play, but the highest form of the game, the one that is most fun, requires that someone act as referee. Traditionally, this person is the one most familiar with the rules. Indeed, the players need not know the rules at all in order to play, but enjoyment will be enhanced if everyone knows a little about what is going on. An independent, non-involved referee allows a degree of flexibility and continuity not possible when the players themselves control the game. A referee inserts a measure of uncertainty into the minds of the players as they play. Finally, a referee deals with situations that the rules may not cover; after all, no set of rules can totally define the universe and how it works.

Traveller is a conversational game, and as such has no board or playing surface, but it does require certain materials in order to play. The referee will need this game, two or more six-sided dice per player, writing instruments (pencils, pens, colored markers, and so on) and paper (scratch paper for lists and computations, graph paper for diagrams, and other types such as index cards or tracing paper).

The most important requirement, however, is imagination. Without imagination, **Traveller** is simply a dull, tedious routine of rolling dice and reading tables. With it, **Traveller** can be a vehicle to carry you to the limits of the universe.

DEFINITIONS OF TERMS

Traveller uses certain words and abbreviations in a unique manner, and in order to be able to properly understand the **Traveller** rules, players and referees should acquire some familiarity with these terms.

The following words, phrases, and abbreviations are commonly used in **Traveller**:

Character. The fictional role played in **Traveller**. Player characters are manipulated by the players; non-player characters are manipulated by the referee.

Credit (abbreviated Cr). The monetary unit in **Traveller**. For very large amounts of money, the megacredit (abbreviated MCr) represents one million credits.

Die (plural is dice). A random number generator. In order to make events relatively unpredictable by the players, events are often given probabilities of occurring. Dice are used to generate random numbers that represent these probabilities.

Die Roll (also Die Throw). The actual use of dice to create a random number.

Die Modifier (abbreviated DM). A number added to or subtracted from the die roll to obtain a modified result. DMs represent efforts to change probabilities in favor of or against some result. Characters may be allowed beneficial DMs because they have requisite skills, or they may be penalized by negative DMs because they lack strength or intelligence.

Encounter. The meeting of one or more characters and one or more persons, things, or events. Encounters may or may not result in significant interaction with player characters. An encounter with a clerk in a store is not likely to be of great importance, and it may not even be mentioned to the players. An encounter with a band of cut-throats late at night or a pack of wild animals could permanently affect the characters, and is dealt with in detail. A large part of a referee's job is the administration of encounters.

Jump. A trip from one point in space to another using jump drives, at greater than the speed of light. A jump is made by leaving the universe of the game and travelling through a different plane of existence (called jump space in **Traveller**, but often referred to as hyper-space or tau-space in science fiction literature).

Non-Starship. A spaceship without a jump drive, and thus incapable of interstellar travel on its own.

Patron. A non-player character used by the referee to create an encounter for player characters. Patrons are usually used to motivate players to move in a direction more fully in tune with the wishes of the referee, or to provide income or diversion for player characters.

Referee. An individual who creates and administers a hypothetical universe and adjudicates conflicts between the players and other inhabitants or forces within that universe.

Skill. An ability to perform a set action, such as navigating a starship, operating a rifle, or programming a computer. Skills are attained in levels (navigation-1, computer-2, etc.); the higher the level of a skill, the more expertise a character has in that area. Many different individual skills are available to characters.

Starport. A facility for the service of interstellar and interplanetary vessels of all sorts and for embarkation and disembarkation of passengers and cargo.

World. Any inhabited body. A world could be a planet like Earth, a satellite of a planet, an airless planet with domed or underground cities, a hollowed-out planetoid, or an artificial construct such as a space station or L-5 type colony.

Universe. The totality of existence for the player characters, the mythos, the informational background created by a referee. In **Traveller**, "universe" refers to the game "reality" in which the characters controlled by the players interact with the various characters and forces controlled by the referee.

CONDUCT OF THE ADVENTURING SESSION

Sessions should be conducted in some relatively quiet, comfortable place where there is room for the referee to lay out his or her materials out of the direct vision of the players, but close enough for conversation. If the quarters are too close, it may be necessary for the referee to use a screen of some sort (a passable screen can be made by taping sheets of cardboard together, accordion-style) to prevent the players from reading the referee's information sheets.

Beginning: During the first adventuring session of a campaign, or at the beginning of a scenario, take a moment out to determine a little background data. Why are the characters where they are, and why are they together? Working out this background data will help the players get into their roles. A close examination of the characters themselves can often help with this. Are several of the

characters former navy personnel? Obviously they met in the service and became friends, deciding to seek their fortunes after they were all discharged on the same planet. Perhaps the characters are distantly related, or have mutual friends, or are old schoolchums. A little imagination can come up with a reason why these people want to try a group effort and will give the players some clues to later behavior.

When the background is sketched in, give the players such information as they would logically have. Where are the characters, and how did they get there? Are they actively looking for work, or were they sought out? Is there a patron involved? What are the characters in the players' group supposed to do? What will be their payment if they are successful? What do they need to find out to carry out the task? What equipment is available? And so on.

Give the players a few minutes to talk the job offer over and then ask them to decide their actions. One player should be chosen to speak for the group as a whole. If the group wants to split up and do different things, try to talk them out of it unless a) one of the splinters will be carrying out an action which will require little or no continuing action on the part of the referee, such as research in a library, b) the groups will rejoin quickly, or c) you have one assistant referee available for each separate group of players. Beginners will find keeping track of two or more lines of action grueling while running back and forth from one room to another, and the players who are not with the referee at the moment will become mightily bored.

When the players' initial actions are made clear to you (don't be afraid to ask questions), figure out what will happen to them as a result of those actions. If, for example, the group wishes to adjourn to a library to search for information they want, the referee should consider where they are and how long the trip will take. If they are hundreds of kilometers from a settlement, it may take some time just to get to the library. If they are in a hotel lobby and there is a computer terminal ten meters away which hooks into a planet-wide information grid, only a few seconds will pass. How long it takes the group to find out what they are after depends on what the information is (they could not, for instance, use a library to find out the specifications of the local prison's latest security procedures) and how the players go about searching for it. It is easier to find something out if you know a little about what you seek, and know what to look for. The referee must decide how much information the group can find out, and how long it will take them. The referee reveals the information the players have discovered, and tells how much time was used up, and any other relevant details (or irrelevant details intended to throw the players off track) that the player characters may have noticed, like the fact that someone is following them as they leave the library.

Many times it will be useful to think of a situation in present day terms, scaled down a little. For starport, think of airport or seaport. For world, think instead of continent. The use of analogies will help you to resolve most situations easily.

Game Time: The passage of game time is of great importance. Player characters' actions must be measured against those of the rest of the universe. One of the most important parts of being a good referee is keeping proper track of the passage of game time. One of the greatest tools available to a referee is the ability to make players waste game time on items unrelated to the task at hand, especially if the group is working against a specific deadline. The ratio of real time to game time is left up to the referee. Obviously, it must be a flexible ratio, depending on circumstances.

Referees should watch out, however, for situations which take almost no game time, but take a great deal of real time. For instance if a character wants to know certain details of a door he is about to go through, he might ask "How big is it?" On being told, he might ask "Is it shut or open? Can I see anything through it or is the area beyond it dark?" All of this information could be gained in a few seconds of observation if the player were actually present;
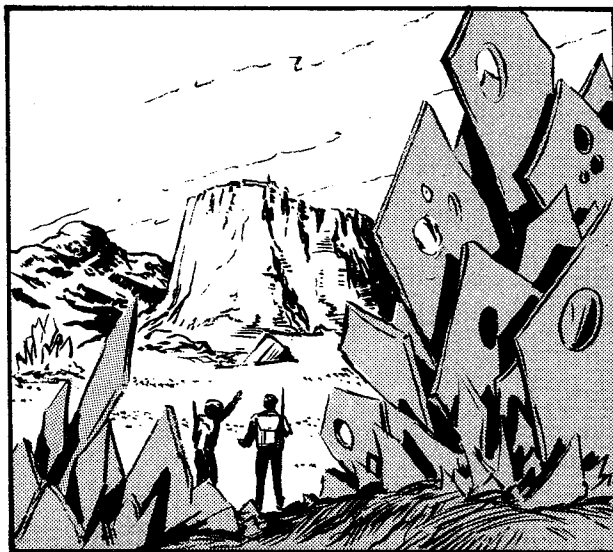
it is the artificial nature of the game that makes it take so long. Referees should not count this against the passage of game time.

In addition, the passage of time may cost the characters money. Characters must eat and must have lodging. Characters who suffer aging effects may require medical care. Starships must be maintained at regular intervals, or they will deteriorate. Simply by causing the players to become side-tracked while investigating some minor puzzle, a referee can cause their schedule to become upset and their intricately planned schemes to fail.

Outside Influences: The actions of forces in the universe other than the players should not be neglected, and must be almost constantly on the referee's mind. A group of characters might run afoul of the law while completing a job, or might anger some local criminal organization. If the referee decides that something of this nature has happened, he or she must decide what action (if any) the offended party (or parties) will take, how long that action will take to put into motion, and what effect the action will have on the players. Sometimes it will be necessary for a referee to keep track of several such "plots" at once, while running a group of player characters who are often blissfully unaware of the happenings around them.

As the session continues, the players will often engage in discussions of varying lengths. The referee should try to keep these conversations on track (don't let them stray to outside events, such as a replay of last night's football game, or a blow-by-blow of a similar situation in another game), but otherwise should let them run their course. As the discussion takes place, the referee should consider what is really happening to the characters and how long it takes in game terms. If the characters begin a loud argument in the middle of a restaurant, for instance, the owner will interrupt them and ask them to leave. If the adventurers are having the argument in the privacy of their own spaceship, however, the referee need only figure out how much game time the discussion takes, and let it run its course. Many times, these interludes will allow the referee time to "catch up" with the action, and plan what will happen to the characters next. Keep half an ear tuned to what they are saying, and offer such advice as may be needed, but otherwise, enjoy the short break from the frantic activity of refereeing. As the adventure progresses, the referee will often have the urge to "help out" the players by providing them with information that they otherwise would not or could not logically know. This is poor form, and the referee should resist this urge whenever it arises. The function of the referee is to guide, not control. The only time a referee should directly intervene is when a group of beginners has gotten itself into such a hopeless situation that the referee is certain it will not

be able to extricate itself, and the referee does not wish to force the full consequences upon the players. As a referee becomes experienced in indirectly giving information to players through such means as non-player characters, rumors, library data, and other sources, the urge to hand out "divine revelations" will lessen.

Direct intervention of the referee in a situation is also poor form. Referees should not get into the habit of stepping into their universes to put right some anomaly unless there is no alternative. Many referees use this course of action instead of thinking of a more subtle means of correcting a situation. The hand of a good referee, like that of a good puppeteer, should be invisible.

As referee, don't be afraid to kill off characters who have gotten themselves into tight spots, expecially if they have done so as a result of foolhardy play. In the so-called real world, the clever, heroic individuals are as often struck down in their prime as the rash, incautious types. Conversely, it is a good idea to be compassionate now and then. It is very easy for a player to become heavily ego-involved with a character, and resent what appears to be arbitrary cruelty by the referee. Sometimes a particular character will deserve a miraculous escape from a tight spot. This is perfectly acceptable, as this sort of thing happens in the "real world" also.

The End of the Session: An adventuring session should end when the players' goal is reached if a scenario is being conducted, or when some convenient stopping place is reached if a campaign is being undertaken. In any case, the session should be ended before the players or referee are exhausted (four to six hours is a fair limit). It may not be possible to resolve a particular scenario in one session, and certainly will not be possible to exhaust the possibilities of any competently designed universe in such a time. When a stopping point is reached (usually some temporary lull in the action, when the players are guaranteed safety for the next few minutes of game time) the referee should make written notes of the situation, paying particular attention to the condition of characters and noting any special aspects of the situation (if they are on a vacuum world with their air supply running out, and so on). The session can then be picked up where it stopped during the next session, even if considerable time passes.

When the players have accomplished their goal, the scenario is over, but if the session is part of a campaign, the referee's work is not yet ended. The referee must determine whether the players will receive the reward they were promised (this should usually be the case, but having a patron skip out without paying is a useful plot device). Additionally, the referee should decide if the actions of the players (either in the process of completing the job or some activity they have done unrelated to it) have caused them to gain friends or enemies. If this happens, the referee should figure out who these NPCs are, how happy or angry they are with the players, and what action, if any, they will take, either on the players' behalf or against them. Friends in high places can be very beneficial, and enemies anywhere add excitement and thrills to any campaign. If your players should happen to run afoul of the law, pursue them with any interplanetary or interstellar agencies the crime makes appropriate. There's nothing like being chased by some interstellar version of Interpol or the KGB to add spice to a character's otherwise dull, drab, wretched existence.

Obnoxious or obstreperous behavior should not be tolerated by the referee. A word or two of warning may be adequate, but a continually disruptive player should be ejected from the group. The referee owes this to himself and to the other players.

By the same token, a referee has a duty to the players to remain calm and collected. Losing one's temper is no fun for anybody involved.

As time passes, the referee will gain experience, and the players and referee will become accustomed to each others' styles and desires. Adventuring sessions will become smoother and the pleasure received from an evening's adventure will increase for all involved.

DIE ROLLING CONVENTIONS

Routinely, in the course of **Traveller**, dice must be thrown to determine a random result or unpredictable course of action. These dice throws may be made by players for their characters, or by the referee for the effects of nature, non-players, or unseen forces. Rolls by the referee may be kept secret or partially concealed depending on their effects. In situations where the players would not actually know the results of the roll or would not know the exact roll made, the referee should make the roll in secret. Generally, a throw involves two dice; exceptions requiring one die or three or more dice are clearly stated. The number of dice is either stated directly (one die, four dice) or abbreviated to save space (1D, 4D). The following terms and conventions for dice throws apply to the game.

Throw: That dice roll required to achieve a stated effect. If only a number is stated, it must be rolled exactly. A number followed by a plus (such as 8 +) indicates that that number or greater must be rolled. Similarly, a number followed by a minus (such as 6 −) indicates that that number or less must be rolled. Throws can be identified because the sign follows the number.

Die Modifier (abbreviated DM): A number to be applied to a die roll before it is used. Die modifiers are preceded by a sign which indicates whether the number is to be added to or subtracted from the die roll. Thus, + 4 would be added to the die roll while − 2 would be subtracted.

Implied Values: The rules or situations may call for the generation of a random number within a specific range, such as from 10 to 60. In this case, inspection of the highest number will give the number of dice to be rolled and the multiplier to be applied. For instance, if the rules call for 10 to 60 animals to appear, the referee can easily see that one die is to be rolled and the result multiplied by 10.

CHARACTERS

Pages 2-3 of the charts and tables booklet apply to this chapter.

Characters are the central focus of **Traveller**; they are the alter-egos of the players, and all activity centers on them. Each character is a person within the game, and has abilities and characteristics which define his or her actions and reactions. The character is the **Traveller** personality; the player is the person engaged in playing the game. A player character is a character manipulated by a player. A non-player character is a character manipulated by the referee in order to allow interaction between the player characters and the universe. Once a player character is generated, he or she continues to live an exciting life of adventure in the **Traveller** universe. This life ends only with death or disability. Non-player characters (NPC's) appear and disappear as the referee needs them.

All characters begin the game the same way: untrained, inexperienced, and about 18 years of age. Each character is generated with a series of die rolls. He or she then embarks on an abstract career in order to gain skills and experience. Ultimately, the character retires or leaves the service, receives mustering-out benefits, and is ready to begin adventuring.

INITIAL CHARACTER GENERATION

Characters are essentially described by six characteristics describing the physical and mental attributes of the individual. These characteristics are generated through a series of six-sided dice rolls. Roll two dice for each of the characteristics given on the characteristics table. Record the results on paper.

Values for the six generated characteristics may range initially from 2 to 12 (with 7 the average value). As a result of various modifications, characteristic values may ultimately range from 1 to 15. For player characters the values of characteristics may not exceed 15; they do not go below 1 except for the results of calamitous injury or aging.

Obviously, it is possible for a player to generate a character with

seemingly unsatisfactory values; nevertheless, each player should use the character as it is created. The experience procedures and acquired skills table offer a genuine opportunity to enhance values, given only time and luck. Should a player truly consider the character so poor as to be beyond help, various options in the experience procedures are available to the player to improve characteristics.

The Universal Personality Profile: Characters in **Traveller** are precisely defined using the universal personality profile (the UPP), which expresses the basic characteristics in a specific sequence using hexadecimal (base 16) numbers. In hexadecimal notation, the numbers 0 through 9 are represented by the common arabic numerals; the numbers 10 through 15 are represented by the letters A through F. The highest single-digit number in base 16 notation is 15 (F). Characteristics are listed as a string of six digits, in the order originally rolled: strength, dexterity, endurance, intelligence, education, and social standing.

For example, a character who is totally average in all respects would have a UPP of 777777. If, instead, the individual were highly intelligent, his UPP would be 777B77 (the B in the fourth position indicates an intelligence of 11).

While the use of the UPP is optional, it allows the referee (and the players) to tell at a glance the characteristics of persons they encounter and have dealings with. Because the hexadecimal notation uses single digits or letters for each of the six characteristics, numbers which are normally two digits cannot become confused and give false readings to the players and referee.

Naming: Once generated, the character should be named. There are several schools of thought on the nature of names. One school holds that the character should carry the name of the player; the referee can then refer to John or Marsha, and everyone knows exactly who's who. This usage is convenient, but tends to lose some of the flavor of the campaign.

Another school of thought calls for the use of pseudonyms or fanciful names (for example: Alexander Lascelles Jamison, or Timothy Fairweather; more extremely, Seeker or Starkiller). As with everything involved in **Traveller**, the actual choice depends only on the players and on their imaginations.

Titles: The social standing characteristic shows relative position within society for the individual. Those with social standing of B+ (11 or greater) are considered to be noble, and may assume their family's hereditary title. Noble titles are commonly used, even if the individual is not engaged in local government. At the discretion of the referee, a world may be generated (see Worlds) and the noble may have some ancestral lands or fiefs on it.

A knight (social standing B) is entitled to the use of Sir or Dame before his or her name. Social standing C entitles the individual to the title Baron or Baroness. In lieu of this title, the individual may use the prefix von or haut or hault with his or her name to denote baronial nobility.

The noble ranks table shows the range of noble titles and their corresponding social levels.

CHARACTERISTICS

Strength is both a general evaluation of the character's physical ability and a specific measure of force which may be applied.

Dexterity measures physical co-ordination.

Endurance measures personal determination and stamina.

Intelligence corresponds to IQ.

Education indicates the highest level of schooling attained by the individual.

Social Standing notes the social class and level of society from which the character (and his or her family) comes.

Other Attributes: In the course of character generation, the character will acquire age (in years and in four-year terms), rank, money, skills, and possessions.
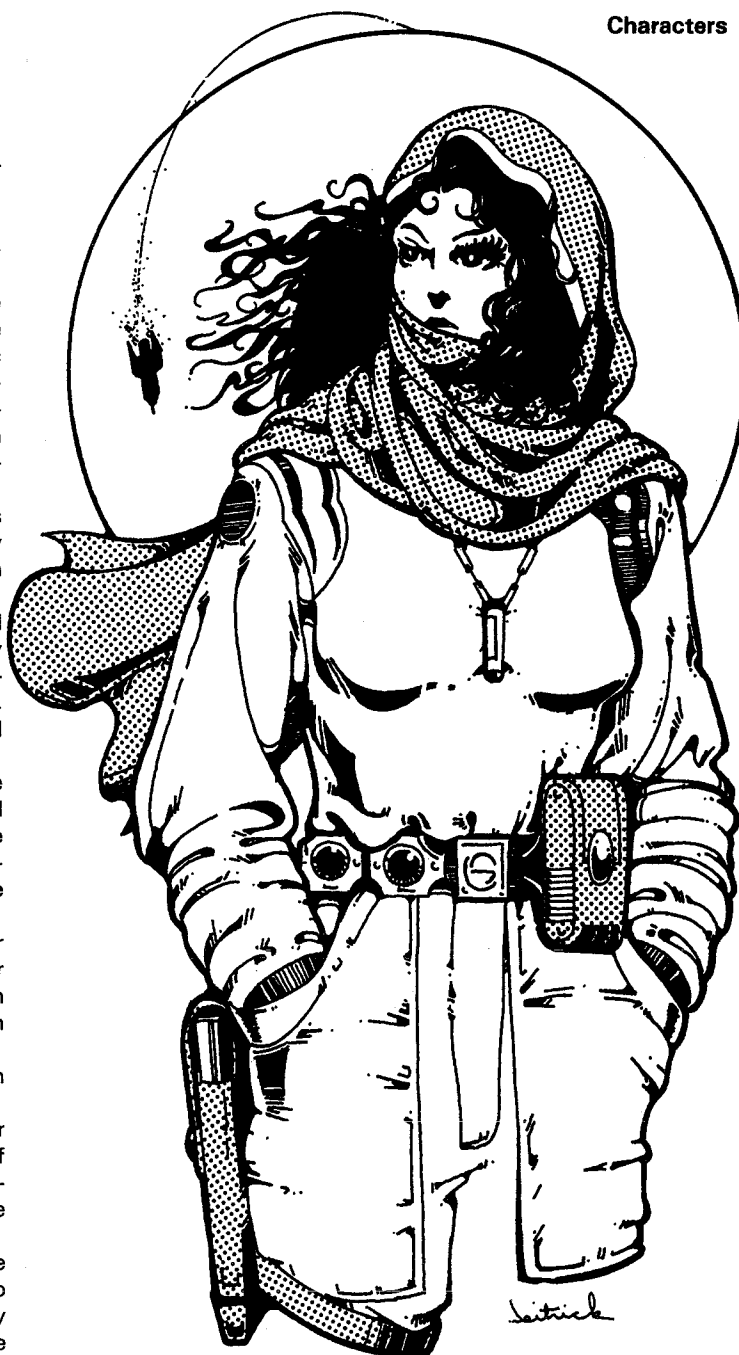
ACQUIRING SKILLS AND EXPERTISE

Any newly-generated character may choose one of these six services (Navy, Marines, Army, Scouts, Merchants, and Other), and attempt to enlist. The prior service table gives the service enlistment throw required to enlist. Successfully throwing that number or higher on two dice allows enlistment. Most services allow die modifications if the character has one or two characteristics of a certain level or higher. If both characteristics are present in the required level, the die modification is cumulative.

For example, the enlistment throw for the Navy is 8+; DM of +1 is allowed for intelligence of 8 or greater, and DM of +2 is allowed for education of 9 or greater. Assuming a character Hylan Vincent, 8946A8 (intelligence of 6 and education of 10) attempted to enlist in the Navy, he would be allowed a DM of +2 (for his education). He rolls a 3 on two dice, adds his DM of +2 to get a 5 (he needs 8+), which is insufficient. The Navy has rejected his enlistment.

Only one enlistment attempt is permitted per character. If rejected

for enlistment, he must submit to the draft. Enlistment or draft is not allowed after age 18.

The Draft: Should an attempt at enlistment fail, the character must submit to the draft. Each of the six services has a draft number; the draftee rolls one die and enters the service with that draft number. Note that it is possible for a character to be drafted into the very service which had just previously rejected an enlistment.

Draftees are not eligible for commissions during their first term of service; they do become eligible during the second and subsequent terms of service if they reenlist.

Terms of Service: Upon enlistment (or upon being drafted), a character embarks on a term of service lasting four years. This adds four years to the character's age. Each time a character reenlists, it is for an additional four-year term of service.

Survival: Each term of service involves some danger; during the term, a character must successfully throw his service's survival number to avoid death in the line of duty. Each service also has DMs which may apply. Failure to successfully achieve the survival throw results in death; a new character must be generated.

Optional Rule: If the referee or player chooses prior to character generation, then a failure of the survival roll can be converted to injury. The character is not dead; instead he or she is injured, and leaves the service (after recovery) having served only two years of the four year term. The short term is not counted for mustering out benefits.

Commissions and Promotions: Each service has a commission number; in order to be commissioned as an officer, the character must throw the stated number. DMs may apply to the throw. If the commission is achieved, the character receives rank 1 in the service. A character may attempt to acquire a commission once per term of service until successful, but a draftee may not attempt to acquire a commission in the first term of service.

In the same term of service that a commission is received and in each subsequent term of service, a character may attempt to be promoted. Each service has a promotion number and DMs affecting that promotion throw. If a promotion is achieved, the character advances to the next higher rank in the service. A character is eligible for one promotion per term of service.

Commissions and promotions are not available in the Scout Service or in the Other Service.

Skills and Training: During each term of service, a character has the opportunity to acquire personal skills and expertise. Allowances are made for the acquisition of new skills based on service, duty, commission, and promotion.

Skills are acquired by rolling on the acquired skills table once for each skill allowed, using one die. There are four tables, each containing different general types of skills. Once of the tables is chosen before the die is rolled, and the single die roll determines the specific skill acquired.

Of the four acquired skill tables, the first three may always be used by a character. The fourth is available only through advanced education, and may be used only by characters who have an education characteristic of 8 or greater.

During the character's first term of service, he or she becomes eligible for two skills; during each additional term of service, the character becomes eligible for one skill. Upon receiving a commission, he or she becomes eligible for one skill. Upon being promoted, the character becomes eligible for one skill. Thus, a character who joins the Navy, receives a commission, and then receives a promotion during the initial term of service becomes eligible for four skills. The same character, in the next term, is eligible for one skill if he or she does not receive another promotion.

Some skills are automatically acquired by a character (without using eligibility) by virtue of rank or service. These skills are listed on the rank and service skills table. When the character achieves the indicated rank or service, he or she gets the indicated skill.

The scout service is an exception to the normal eligibilities. Because the service has no rank or promotion, scout characters do not become eligible for extra skills during their careers. Instead, however, scouts receive two skills for each term of service, including the first.

Reenlistment: Generally, a character is free to leave the service or to remain for another term, depending on the individual's goals and desires. As always, the possibilities of war, peace, and other considerations loom ever-present over the character's career, and may force others to decide the course of the career. Each service has a reenlistment number; in order to undertake a subsequent term of service, a character must throw that number or greater (no DMs are allowed). If the throw is not successful, reenlistment has been denied, and the person must leave the service. If the throw is 12 (exactly), the needs of the service require that the character serve another term, regardless of his or her personal desires. The reenlistment throw is required during each term of service.

Retirement: A character may serve up to seven terms of service voluntarily, and may leave after any term (provided mandatory reenlistment — a reenlistment throw of 12 exactly — does not occur). A person may retire any time after the end of the fifth term. Retirement grants the individual an annual retirement pay (in addition to any mustering out benefits); rates of retirement pay are shown in the retirement pay table.

Service beyond the seventh term is normally impossible, and retirement is mandatory for an individual who has completed a seventh term of service. However, persons who throw mandatory reenlistment must instead serve that additional term of service. It is theoretically possible for an individual to be required to serve ninth and even tenth terms under mandatory reenlistment.

MUSTERING OUT

When a character leaves the service (for any reason), he or she is eligible for mustering out benefits. The two mustering out tables indicate the nature of these benefits: one provides travel, education, and material benefits, while the other provides cash severance pay. Each table is matrixed by service and a single die roll. When mustering out of the service, a character is allowed to consult these tables based on total terms of service and on final rank.

One benefit roll is allowed for each full term served. Note that if a character serves only half a term under the optional survival rule, that term does not count toward muster-out. In addition, a character who has achieved rank 1 or 2 receives one extra roll, while a character with rank 3 or 4 receives two extra rolls. A character who has received rank 5 or 6 receives three extra rolls, and in addition may apply a DM of +1 to die rolls on the skills and benefits table. Any character who has acquired the skill of gambling-1 or higher may add +1 to the die roll on the cash table.

A character is free to choose between the benefits table and the cash table, but no one may consult the cash table more than three times during the mustering out process.

For example, an uncommissioned character who has served four terms of service is eligible for four mustering out benefits. She may roll a total of four times, distributing the rolls as she desires between the two tables, provided only that she may roll no more than three times on the cash table. The player must designate the table being used before rolling the die.

AGING

Because each term of service is four years in length, a character can potentially age twenty years or more before venturing into the adventure portion of the game. This aging may even have a detrimental effect on a character's strength, dexterity, endurance, and even intelligence.

When a character reaches 34 years of age (the end of the fourth term of service) aging begins to take its toll. The aging table must be consulted then, and thereafter at four year intervals. This table shows each of the characteristics affected, and the throws necessary to avoid the effects of aging. If a specific throw is failed, then the reduction indicated is applied to the characteristic.

In some situations, the use of drugs (to speed up or slow down the body chemistry) or low passage (suspended animation for low cost travel) will make the character age faster or slower than a strict game calendar would indicate. It is therefore quite important that each player maintain careful records on his or her character's physical age.

Aging Crisis: If, as a result of aging, a characteristic is reduced to zero, the character is considered to have had an aging crisis and become quite ill. A basic saving throw of 8 + applies to avoid death (subject to a DM for the expertise of any attending medical skill). If the character survives, recovery is made immediately (under slow drug, which speeds up the body chemistry). The character ages (one die equals the number of months in added age under slow drug) immediately, but also returns to play without delay. The characteristic which was reduced to zero automatically becomes 1. This process occurs each time (and for each characteristic) a characteristic is reduced to zero. In the event that slow drug is not available, the individual is incapacitated for the number of months indicated if the basic throw of 8 + is successful.

Disability: Characters may quit adventuring when they reach age 66, if any one physical characteristic (strength, dexterity, or endurance) permanently equals 1, or if the sum of all three physical characteristics equals 10 or less. When a character quits adventuring, he or she leaves the game, taking along all money and possessions. The player is then free to generate a new character. Quitting due to disability is availalble to allow players to maintain reasonably competent characters.

NON-PLAYER CHARACTERS

Player characters will frequently encounter people not actually manipulated by a player. They may be thugs or assailants; they may be potential hirelings or patrons. In any case, their skills and abilities should be determined by the referee using the character generation procedure. Alternatively, the referee may simply generate a character and assign the necessary skills plus a few others for variety.

For example, a starship captain may be looking for a crew for his ship. The referee would generate characters until one occurs with the required skill (medical, navigation, etc.). Generally, the first appropriate character to be generated would present himself or herself for employment, and if not accepted (or unsuitable) a delay might occur before another becomes available. Similarly, the characteristics of thugs and brigands who are menacing player characters or of people presenting themselves for hire may be determined and recorded for use when necessary.

Loyalty and Dedication: In most cases, non-player characters will be dependable and loyal (assuming the absence of bad treatment by their employers); the possibility exists, however, that a seemingly loyal non-player character has foul play at heart. The referee should utilize the character reaction table (see Encounters) to determine such potential, and note such possibilities as they exist. Continued loyalty of non-player characters is ultimately dependent on the quality of treatment and level of skill of their employing player characters.

Character Generation: Most players new to **Traveller** spend some time in the generation of various character types. It is recommended that the referee save these characters for future use as non-player characters, hirelings, and other types.

CAREER TYPES

The six career types generated here are general careers assumed to exist in the human societies within the galaxy. For players who are adventuring within the general human Imperium that serves as a background for **Traveller**, these services are commonplace and ordinary. The services shown are also sufficiently general to allow their use in virtually all **Traveller** situations. They can be described as follows:

Navy: Members of the interstellar space navy which patrols the space between the stars. The navy has responsibility for the protection of society from lawless elements in the interstellar trade channels and from foreign powers.

Naval characters will tend to be familiar with the technical aspects of space flight, such as navigation, with such things as advanced electronics and engineering necessary to running giant starships, and with the less complex aspects of space such as vacc suits.

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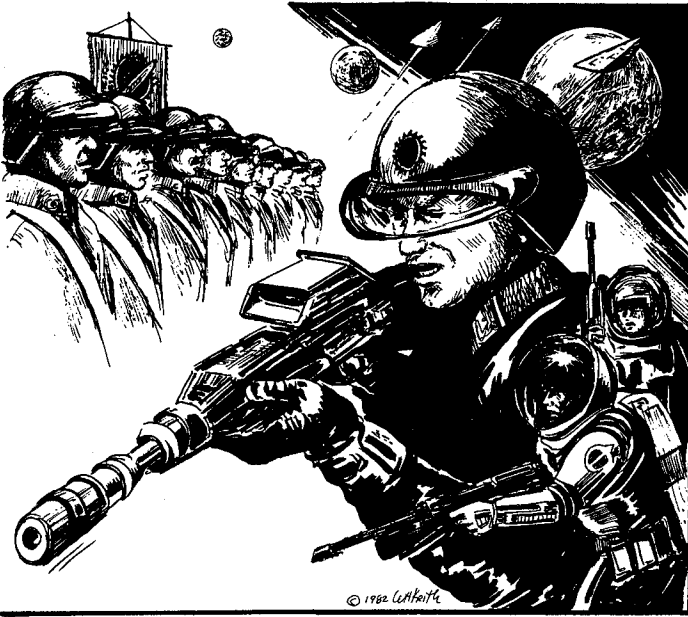
Marines: Members of the armed fighting forces carried aboard starships. Marines deal with piracy and boarding actions in space, defend the starports and bases belonging to the navy, and supplement other ground forces.

Marine characters will accumulate skills related to their roles in ship-to-ship and surface combat, as well as a smattering of more technical skills such as mechanical and computer.

Army: Members of the planetary armed fighting forces. Soldiers deal with planetary surface actions, battles, and campaigns. They may also serve as mercenaries for hire.

Scouts: Members of the exploratory service. Scouts explore new areas, map and survey known or newly discovered areas, and maintain the communications ships which carry information and messages between the worlds of the galaxy.

Since they are often expected to operate on their own, scout characters receive skills related to all aspects of space flight from pilot to engineering and mechanical.

Merchants: Members of the commercial enterprises. Merchants may crew the ships of the large trading corporations, or they may work for the independent free traders which carry chance cargos and passengers between worlds.

Merchant characters may be constantly on the move, or may remain in one place throughout their term of service. Merchants can engage in every activity from plodding, conventional commerce, through quasi-legal actions, to outright violations of the law such as smuggling. Merchants can accumulate skills relating to space flight, such as pilot and navigation, to trade, such as admin, and to less technical but equally important aspects of life, such as brawling, gambling, and forgery.

Other: Characters who do not serve in one of the above services instead follow careers in a variety of occupations, legal and illegal, collectively called the Other. The Other service covers some trades not mentioned above, and the nether realm of the underworld. Not all characters in the Other are ex-criminals. A character with skills in bribery, forgery, and streetwise could be a former government undercover agent as easily as a counterfeiter. The exact nature of the career of any specific character in the Other service must be deduced from the skills and benefits received during character generation.

SKILLS

The skills which can be acquired during a term of service are of greatly diverse types and values. Skills form an integral part of the

player's character, assisting the referee (and the player) in calculating both general abilities and the specific probability of performing certain tasks.

Skills are differentiated by level: skill-3 (meaning level 3 of a specific skill) is higher and more sophisticated than skill-2. There are a finite number of skills listed and it is possible that one specific skill may be acquired more than once; in such cases, the second acquisition increases the character's expertise in that skill. Upon the first acquisition of a skill, the player writes the skill name, followed by a dash and the number 1 (thus: navigation-1). The second time the skill is acquired, the number is increased to show greater expertise (thus: navigation-2). Additional acquisitions of the same skill will increase this skill level to 3, 4, or even higher.

The acquired skills table provides four basic types of results: characteristic alterations (such as +1 strength), weapons expertise (such as blade combat), transport skills (such as ATV), and basic skills (such as navigation).

Characteristic Alterations: Expressed as an addition to (or subtraction from) a character's ability. In this category, alterations tend to affect strength, dexterity, or endurance (although some services can affect other abilities as well). Characteristic alterations are applied immediately, and require no further attention. An example of a characteristic alteration is +1 dexterity.

Characteristic alterations reflect physical (or other) training while in the service. A result of +1 strength may mean that the service has required a regimen of calisthenics which has improved the individual's strength.

Weapons Expertise: Expressed as a general trait, such as brawling, blade combat, gun combat, or gunnery. When acquired, the character notes the area of expertise, and immediately selects the specific skill received. Thus, if gun combat is received, the character must select which type of gun the expertise is in. Gunnery and brawling do not require selection because they are not subdivided.

All player characters have an innate weapon expertise, in all weapons on the list, of zero. Acquisition of a weapon skill boosts this to level-1. Additional acquisitions of expertise in the same weapon increase the current level by one.

Brawling: Brawling is a general skill for hand-to-hand combat, and includes hands, clubs, and bottles as weapons.

Blade Combat: Blade combat is a specific skill in the use of blades and polearms. The character may select one blade or polearm each time blade combat is received. The blades and polearms table indicates the weapons available under this skill. Selection of a specific blade or polearm should be a discriminating decision; the table is intended to assist in that decision even for players still unfamiliar with the **Traveller** combat system. Following each listed weapon are three columns. The +DM column indicates the minimum required strength for the character if he or she is to receive strength bonuses for using the weapon in combat. It is advantageous for a character to have skill in a weapon which provides such bonuses. The −DM column shows the level of strength (or less) which calls for mandatory strength penalties for using the weapon in combat; such penalties are to be avoided. Finally, the wounds column indicates the degree of wounding ability which the weapon has; it indicates relative power of the weapons.

A character may select one weapon each time that blade combat skill is received. In the event that a character receives blade combat three times, he might choose, for example, cutlass-2 (taking cutlass twice) and dagger-1, or decide to concentrate on one weapon, perhaps taking foil-3.

Note that one of the possible weapons is named blade. Players must be careful to designate the weapon or weapons they have selected; otherwise, skill defaults to the edged weapon named blade.

Gun Combat: Gun combat is a specific skill in the use of firearms. The character must immediately choose one firearm from the guns table; a different gun may be selected each time that the skill is

received. The table contains columns indicating positive or negative DMs, but the DMs for guns are based on dexterity (not on strength).

Gunnery: Gunnery is a skill in the use of weapons mounted on board spacecraft (beam and pulse lasers, sandcasters, and missile launchers). This skill entitles the individual to the job title of gunner. Space combat is covered in the chapter on space combat.

Transport Skills: Receipt of a transport skill indicates that the character can operate a vehicle within a specific category. Where the category is further subdivided, the individual must select one of the subdivisions.

Basic Skills: Basic skills are expressed as a general ability, such as navigation or engineering. Each skill is further defined on the following pages.

AVAILABLE SKILLS

Basic Skills	Weapons Skills	Transport Skills
Administration	Brawling	Air/Raft
Bribery	Blade Combat	ATV
Computer	Dagger	Ship's Boat
Electronics	Blade	Vehicle
Engineering	Foil	Aircraft
Forgery	Sword	Helicopter
Forward Observer	Cutlass	Propeller
Gambling	Broadsword	Jet
Jack of All Trades	Bayonet	Grav Vehicle
Leader	Spear	Tracked Vehicle
Mechanical	Halberd	Wheeled Vehicle
Medical	Pike	Watercraft
Navigation	Cudgel	Small Craft
Pilot	Gun Combat	Hovercraft
Steward	Body Pistol	Submersible
Streetwise	Automatic Pistol	Large Craft
Tactics	Revolver	
Vacc Suit	Carbine	
	Automatic Rifle	
	Shotgun	
	Submachinegun	
	Laser Carbine	
	Laser Rifle	
	Gunnery	

Administration: The individual has had experience with bureaucratic agencies, and understands the requirements of dealing with them and managing them.

When contact with officials is required, understanding their needs and motives will assist in dealing with them. A basic throw of 7+ will successfully resolve normal interaction without further problems (such as avoidance of police harassment, insuring prompt issuance of licenses, approval of applications, avoidance of close inspection of papers, etc.). Apply these DMs: no expertise, −3; per level of admin expertise, +2.

When serving in a bureaucratic organization, admin expertise allows competency in the eyes of superiors. Apply a DM of +1 per level of expertise, with the exact throw to be determined by the referee under the circumstances.

Referee: Admin expertise should also affect the quality of work and potential for success of an organization which the character is controlling or managing.

Air/Raft: The individual has training and experience in the use and operation of the air/raft, floater, flier, and all types of grav vehicles.

The air/raft is the major transportation vehicle on most worlds with high enough tech levels. Most people are aware of the basics of operation for such vehicles. The air/raft can be dangerous to operate in high speed situations or in bad weather. A basic throw of 5+ to avoid an accident or mishap in bad weather, chases, or high speed maneuvers should be used. Apply these DMs: per level

of expertise, +1; if weather is extremely bad, if the craft is old, or if gunfire is involved in the chase, −1. Generally, roll once for a short chase, twice or three times for longer flights.

Referee: Air/raft and grav vehicle are interchangeable and identical skills. The chapter on equipment provides descriptions of various grav vehicles including the air/raft.

ATV: The individual is acquainted with modern all terrain vehicles, and has been trained in, or has experience with, their operation. The term ATV (all terrain vehicle) includes AFV (armored fighting vehicle) and covers both wheeled and tracked vehicles.

The ATV is used, in varying forms, on frontier and airless worlds, or in situations where weather, atmosphere, or players' intent preclude the use of air/rafts or aircraft. ATVs are quite reliable (throw 11+ per day for mechanical breakdowns), but are susceptible to off-road difficulties such as becoming bogged down in mud or sand or trapped by jungle growth. Generally, driver expertise will serve as a DM (+1 per level) to help avoid such difficulty.

Referee: ATV skill will also serve to allow increased speed and greater maneuverability. It allows the individual to diagnose malfunctions within the vehicle, to help repair them, and to perform preventive maintenance on the ATV.

Blade Combat: The individual is skilled in the use of a specific blade or edged weapon. The use of various blade weapon skills by individuals is governed by the chapter on personal combat.

Brawling: The individual is skilled in basic hand-to-hand combat and can engage in simple fighting without weapons or with typical improvised weapons such as clubs. Brawling by individual characters is governed by the chapter on personal combat.

Bribery: The individual has experience in bribing officials in order to circumvent regulations or ignore cumbersome laws. Bribery skill does not guarantee success, but does minimize bad effects if the offer is rebuffed.

Petty officials can generally be bribed to ignore regulations or poor documentation, requiring a throw of the law level of the world in question or less (plus a cash offer) to do as asked. If the first offer is refused, a second roll may be made with the cash offer doubled. The character offering the bribe should first roll on the reaction table (see Encounters) and should not offer to a negatively reacting official. Apply these DMs: no expertise, +5; per level of expertise, −1; if the official reacts as a strong friend on the reaction table (a roll of 12), −2.

Referee: Insure that both the cash offered and the act solicited are reasonable; if not, implement appropriate DMs. Note that the roll for accepting a bribe varies inversely with the law level of a world; the more stringent the laws, the greater the corruption. If a bribe is not accepted, roll 3− for the offer to be reported to higher authorities.

Computer: The individual is skilled in the programming and operation of electronic and fibre optic computers, both ground and shipboard models.

Computers perform valuable functions in human society, and individuals capable of using them find that their skill is equally valuable. Characters with computer expertise may be hired (when needed) to operate and program computers for organizations, ships, or other employers.

Computer programs (especially starship programs as required for starship operation) are widely available, although for relatively high prices. It is also possible that such programs may be written by characters with computer skill. The individual must have access to a computer which will handle the intended program, knowledge of the skill being incorporated, and no other duties, responsibilities, or distractions during each week of work. For more details, see Computers.

Referee: In spite of all good intentions, there is always the possibility that any program written will have a fatal flaw and will not function when actually put to use in a critical situation. Throw 7 exactly for a fatal error to be written in. If there is none, throw

5— for a negative DM to appear on the program when used; there is a half chance that the DM will be − 1 or − 2. These flaws will generally remain hidden until the program is actually used; the referee simply institutes any failure or DM without comment. Debugging a program that does not seem to function well may find the flaw or impose other flaws.

When characters want to write computer programs, the general procedure shown in Computers should be used, with appropriate modifications, for the specific purpose.

Electronics: The individual has skill in the use, operation, and repair of electronic devices. The person is considered handy in this field, with the equivalent of a green thumb; this skill includes the repair of energy weapons.

An advanced technological civilization depends heavily on the use of electronic devices. The need to use, repair, and replace electronic devices is ubiquitous.

Electronic expertise allows a character to use and operate electronic items; generally the skill is a DM applied to the throw to understand, repair, assemble, or operate. Complex items would also require a certain level of education or a very high intelligence; many devices may also require some degree of dexterity to disassemble, repair, and reassemble.

Referee: Specific throws for specific situations must be generated. Obviously, some throws will be harder than others, and many will be impossible without an accumulation of DMs based on expertise, education, dexterity, intelligence, and the availability of parts and tools. To generate a specific throw, the referee analyzes the specific circumstances and selects a number to be thrown (usually throw that number or greater to succeed). DMs allowed should be the level of electronics skill, + 1 for intelligence above some level (say, 10), + 1 for education above some level (say, 9), and appropriate values for lack of tools (perhaps − 5) or poor conditions (maybe − 3). The throw is then made, and success is determined by the result. Such throws are restricted to one per specific time period, an hour, four hours, a day, or a week, as appropriate.

Engineering: The individual is skilled in the operation and maintenance of starship maneuver drives, jump drives, and power plants. Engineering experience enables an individual to operate the vital drives of starships (and interplanetary craft) and to maintain the machinery against failure.

The engineer is essential for the proper operation of any starship. Expertise qualifies the individual for such jobs, and can be used to get working passage on a ship in need of help. Greater levels of expertise enable the individual to handle problems of greater complexity and jobs with higher levels of responsibility.

Referee: Skill level is generally a DM applied to the throw to remedy an engineering problem. In order to handle the relative value of experience, the DM may be assigned on the basis of + 2 per level of expertise.

Forgery: The individual has a skill at faking documents and papers with a view to deceiving officials, banks, patrons, or other persons.

Documents necessary for cargo transfers, bank transactions, personal identification, and many other purposes are often closely inspected by officials such as the police, customs agents, or clerks when encounters occur (such encounters happen when the law level for a world or less is thrown; generally once or twice per day). The throw for detection of forged or fake documents is 6 + ; DMs to be applied: − 2 per level of expertise.

Referee: Forgery is a useful skill, but control is required to prevent blatant misuse (to provide a bottomless checking account, for example). Note that administration and bribery may also be used to determine whether documents are actually examined by the individuals involved.

Forward Observer: The individual has been trained (in military service) to call on and adjust artillery (projectile, missile, and laser) fire from distant batteries and from ships in orbit.

Modern fire support can be a tremendously effective weapon, when available, but is virtually useless unless the technique of its application and adjustment is known. If artillery of any form (including communication with the firing battery) is available, the first shots fired will invariably miss the target. On each subsequent turn in which such fire is delivered, a basic throw of 11 + to hit is required. Apply these DMs: + 4 per level of expertise; per adjustment (two minutes per adjustment), + 1; if adjusting person has no expertise: − 4.

Gambling: The individual is well informed on games of chance, and wise in their play. He or she has an advantage over nonexperts, and is generally capable of winning when engaged in such games. Gambling, however, should not be confused with general risk-taking.

Organized games (as in casinos) allow bets of up to Cr5000, and require a throw of 9 + to win. Private games allow bets ranging from Cr50 to Cr5000, and require a throw of 8 + to win. Gambling skill allows a DM of + 1 per level, but the house always wins on a throw of 2 exactly.

Games may be crooked (throw 10 + to be dishonest) in which case the referee will stack the odds against the players. Gambling-3 or better will usually detect crooked games (throw 7 + to detect).

Gambling-4 or better may be suspected of cheating and the gambler ejected (or worse) due to the finesse of the skill involved (throw 9 + to be suspected; DM − 1 per level over 4). Characters may elect to use a lower expertise level in order to avoid detection of true skill level.

Referee: Characters' die rolls should not be divulged when gambling; instead, merely inform the individuals of wins and losses. This procedure should serve to conceal any manipulation of dice throws.

Gun Combat: The individual is skilled in the use of a specific gun weapon. The use of various gun weapon skills is covered in the chapter on personal combat.

Gunnery: The individual is skilled in the operation of gunnery mounted on board starships and spacecraft. The use of such weaponry is covered in the chapter on space combat.

Defensive and offensive weapons are mounted on a variety of interplanetary and interstellar vessels. Gunnery skill qualifies an individual to operate such weaponry, and to be hired on a ship's crew with the title of gunner. Gunnery may also be used for similar weapons mounted on ATVs or air/rafts.

Jack of All Trades: The individual is proven capable of handling a wide variety of situations, and is resourceful in finding solutions and remedies.

The well-rounded individual (the renaissance man, so to speak) is uncommon in all societies, but is naturally proficient when he or she occurs.

This skill is a general ability which may be applied to nearly any endeavor at the discretion of the referee. The jack of all trades can attempt activity which is not normally possible due to the absence of skills or expertise. Unskilled people have no idea how to even

start many projects; jack of all trades can apply this skill to such a project as if he or she has the skill. Jack of all trades can be considered to confer skill level-0 in every other skill (but never level-1).

For example, one of a group of adventurers arrives at an aging crisis while on an expedition into the wilds of an unsettled planet. No one has medical expertise. Jack of all trades can be applied as a substitute for medical skill in this situation; the referee should assume that the person has studied independently at some time or has seen such a crisis previously and knows something of what to do. When using jack of all trades skill, the referee should also consider appropriate personal characteristics (intelligence, education), availability of equipment (drugs, medical instruments), and other factors (weather, shelter, or the specific situation).

Leader: The individual has led troops in battle (or on adventures) and is possessed of a knowledge and self-assurance which will make for a capable emergent or appointed leader.

Leadership is a required ability to control a group of more than six non-player hirelings or soldiers. Such a group will tend to obey the general orders of the character with the highest leader expertise. Reaction throws are necessary when the leader and the group first meet. DMs may be applied: +1 per level of leader expertise when consulting the reaction table.

Leader-3 or better is sufficient to allow soldiers to obey orders without hesitation.

Leader-4 or better will allow a positive DM when recruiting soldiers or hirelings for adventures. The throws and DMs for such hirelings depend on the situation imposed by the referee.

Mechanical: The individual has skill in the use, operation, and repair of mechanical devices. The person is considered to be handy in this field, with a talent similar to that of a green thumb. This skill specifically excludes the field of engineering; it does include nonenergy weapon repair.

Many of the devices of civilization are strictly mechanical in nature, and the need to repair, replace, or simply use them pervades life. Mechanical expertise allows a character the ability to operate mechanical devices easily, as well as to repair them quickly and efficiently. Any situation requiring a knowledge of mechanical aspects of devices or equipment can be affected by mechanical skill. In this regard, mechanical skill can be used to allow an understanding of a situation, if it is mechanical in nature.

Referee: Specific throws for specific situations must be generated. Obviously, the throw to fabricate a new main drive bearing as a starship plunges into a flaming sun would be harder than the throw to repair a broken air lock hatch while in port. Success in any mechanical enterprise is also affected by such variables as tool availability, personal strength and dexterity, education, and the situation.

Medical: The individual has training and skill in the medical arts and sciences.

Medical science is capable of great feats in preserving and maintaining the health and welfare of individuals. The services of medically trained individuals are in great demand. The levels of medical skill represent steps in increasingly better ability and knowledge.

Medical-1 is sufficient to qualify a character for the position of medic on a starship crew. An expertise of medic-2 or better allows a DM of +1 when reviving low passengers (each normally throws 5+ to revive after a trip; otherwise the passenger dies).

Medical-3 is sufficient for a character to be called doctor, and assumes a license to practice medicine, including writing prescriptions, handling most ailments, and dealing with other doctors on a professional level. A dexterity of 8+ is required for a doctor to also be a surgeon.

Xeno-Medicine: Normally, medical expertise is considered to apply to humans, and to a limited extent to animals which live on human worlds. Anyone with medical expertise can apply that expertise (with a reduction of −2) to non-human aliens. For example,

a human doctor (medical-3) may find herself in a situation which calls for treatment of an alien, with anatomy and physiology unfamiliar to her. She could provide treatment with the equivalent of medical-1. Obvious encumbrances such as strange environment or unfamiliar chemistry should also be considered by the referee.

Navigation: The individual has training and expertise in the art and science of interplanetary and interstellar navigation.

Travel between worlds depends on the starships and their crews; the navigator is relied upon to plot the course and to insure that correct information is made available to the pilot and crew as they need it. The navigator interprets the long-range data provided by the ship's scanners and detectors.

Navigation expertise qualifies a character for the job position of navigator on a starship or interplanetary vessel.

Referee: In general, navigation skill allows a character to perform in a starship crew position which requires this type of skill. On exploratory missions, or when venturing into unexplored territory, navigation skill may be used to assist in the speedy computation of courses, in the accurate determination of courses, and in the determination of position when lost or strayed.

Navigation expertise can assist an individual in land or sea navigation as well. In any situation where directions need to be known or location must be determined, navigation expertise can be used as a DM of +1 per level on a throw to determine the needed information. The only requirement is that the night sky must be visible from the planetary surface.

Pilot: The individual has training and experience in operating starships and large interplanetary ships. This skill includes both interplanetary and interstellar aspects of large ship operation.

Interstellar travel depends on starships and their crews; the single most important crew position is that of the pilot, responsible for control of the starship's lift-offs, landings, and routine flight. Pilot skill qualifies a character for the job of pilot on a starship of 100 tons or more.

Referee: Pilot skill is usable as a DM in handling of starships as they travel. Pilot skill generally refers to interstellar ships; much of the ordinary operation, however, is similar to that of interplanetary craft and pilot expertise also applies to large interplanetary craft (100 tons and up). Small interplanetary craft (under 100 tons) handle somewhat differently; pilot expertise minus 1 may be used as ship's boat expertise as applied to interplanetary vessels under 100 tons; thus, an individual with pilot-3 could also operate a small craft interplanetary vessel as if he or she had a skill of ship's boat-2. The reverse is not true.

Ship's Boat: The individual is familiar with the function and operation of small interplanetary craft collectively known as ship's boats. These craft range in size from five to 100 tons, and include shuttles, lifeboats, launches, ship's boats, and fighters.

The small interplanetary craft carried as auxiliaries or boats on

larger ships, or serving the needs of bases and stations, are distinctly different from the large vessels which ply the space lanes. Ship's boat expertise reflects a distinct experience and training in the operation of these craft. Pilot expertise minus 1 can be used as the equivalent level of ship's boat expertise.

Referee: Ship's boat skill is used as a DM in handling throws to determine various operations and their results. The following examples should illustrate this concept. Assume a hostile attack on a pinnace (small craft) flown by a character with ship's boat-2. Throw 10+ for the pinnace to escape on contact and avoid the attack; DM −2 based on the skill. Throw 8+ to avoid being hit by enemy fire if the escape attempt fails; DM −2, again based on the skill. Alternate these throws until either escape succeeds or the craft is hit. If the pinnace is hit, throw 5+ for it to be crippled and boarded; 4− for the craft to be destroyed; no DMs apply to this throw for damage type.

Similarly, assuming bad weather (storms, wind, etc.) at a planetary surface landing point, throw 9+ to land safely; +2 per level of expertise above 1.
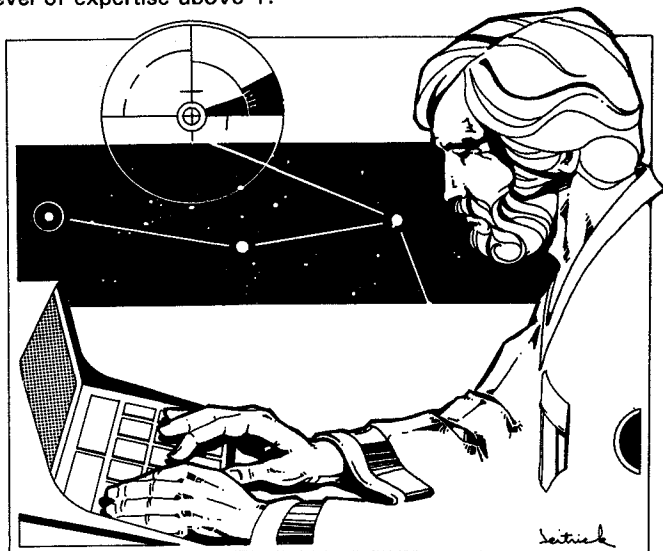
Steward: The individual is experienced and capable in the care and feeding of passengers: the duties of the ship's steward.

The responsibility for the welfare of passengers aboard a starship falls on the ship's steward. Although anyone can be hired as a ship's steward, this skill represents training in the various duties necessary, and serves as an advantage when attempting to get such a job.

Referee: Steward skill represents a general awareness of cooking, personal care and attention, and other areas of experience which will make passengers and crew happy and content with their conditions of passage.

Streetwise: The individual is acquainted with the ways of local subcultures (which tend to be the same everywhere in human society), and thus is capable of dealing with strangers without alienating them. This skill is not the same as alien contact experience.

Close-knit subcultures (such as some portions of the lower classes, trade groups such as workers, and the underworld) generally reject contact with strangers or unknown elements. Streetwise expertise allows contact for the purposes of obtaining information, hiring persons, purchasing or selling contraband or stolen goods, and other shady or borderline activities.

Referee: After establishing throws for various activities desired by the characters (such as the name of an official willing to issue licenses without hassle: 5+; the location of high quality guns at low prices: 9+), allow streetwise as a DM. If streetwise is not used, impose a DM of −5.

Tactics: The individual has training and experience in small unit tactics (up to and including units of 1000 troops, or individual spaceships). This skill is not to be confused with strategy, which deals with the reasons for the encounter and the intended results of the encounter; strategy is the realm of the players, rather than the characters.

When small units encounter hostile forces (in battle, or while adventuring), tactical skill provides an advantage toward winning, or at least reducing the disaster of defeat.

Referee: Because tactical skill is an intangible, the exact results in battle are left to the referee to implement as necessary or prudent. It might influence the type and amount of information available to the character in the miniature figure resolution of a battle which uses hidden movement, or can be a DM in crucial situations.

Tactical skill should be considered by the referee when the character is applying for military-type employment.

Vacc Suit: The individual has been trained and has experience in the use of the standard vacuum suit (space suit), including armored battle dress and suits for use on various planetary surfaces in the presence of exotic, corrosive, or insidious atmospheres.

Non-breathable atmospheres or hostile environments can be easily overcome by use of protective equipment, but the danger of minor mishaps becoming fatal remains great. A basic throw of 10+ to avoid a dangerous situation applies whenever any non-ordinary maneuver is attempted while wearing a vacc suit (including running, jumping, hiding, jumping untethered from one ship to another, or other such activity). Allow a DM of +4 per level of expertise. When such an incident occurs, it may be remedied by any character with vacc suit skill (including the character in danger) on a throw of 7+; DMs: per level of expertise, +2; if no expertise, −4. Battle dress and combat armor are special forms of armored vacc suit and require at least vacc suit-1 to wear at all.

Vehicle: The individual is skilled in the operation, use, and maintenance of a specific type vehicle commonly available in society.

The character immediately selects one vehicle from one of the following groups and gains one level of skill in that specific type. The groups available are: Aircraft (select Helicopter, Propeller-driven Fixed Wing, or Jet-driven Fixed Wing), Grav Vehicle, Tracked Vehicle, Wheeled Vehicle, and Watercraft (select Small Watercraft, Large Watercraft, Hovercraft, or Submersible). In the case of Aircraft and Watercraft, other similar vehicles within the group may be operated by the individual at skill level minus 1. Vehicle skill is used by characters for operation and as a DM against accident, and may also be used for assistance in repairing and maintaining a vehicle.

OTHER SKILLS

The above list of skills is certainly not exhaustive. Additional skills may be encountered in other areas of **Traveller**, expecially for additional weapons or career types.

Creating New Skills: The chapter on experience indicates methods by which an individual can learn additional skills after he or she begins actively adventuring. Those rules also cover the requirements for creating a new skill not otherwise detailed in the **Traveller** rules. For example, if a new weapon is developed (perhaps a laser pistol), a new skill would be required to enable its use.

Default Skills: Often, some characters will have no skills appropriate to a given situation. A journey across a vacuum plain may be called for, and no one has vacc suit skill. In such cases, the referee may indicate that all individuals not otherwise skilled have vacc suit-0. A level of 0 for a skill indicates that the individual can undertake ordinary activities, but is not experienced enough to try dangerous activities or fancy actions. Level-0 indicates an orientation to the skill by an experienced person; it should not be taken as a stepping stone to level-1. Skills appropriate for level-0 are: air/raft, ATV, forward observer, steward, vacc suit, and weapons.

Maximum Skills: As a general rule of thumb, a character may have

no more skills (or total of levels of skills) than the sum of his or her intelligence and education. For example, a character with UPP 77894A would be restricted to a total of 13 combined skills and levels of skills. This restriction does not apply to level-0 skills.

MUSTERING OUT BENEFITS

In addition to the skills acquired while actually in service, the following skills and substantial rewards can be acquired through the mustering out procedures.

Retirement Pay: Any character who leaves the service at the end of the fifth or later term of service is considered to have retired, and receives retirement pay. This pension is paid at the beginning of each year, effective upon leaving the service, and may be collected at any class A or B starport. The table indicates the rate of pay, which is dependent on the character's total terms of service. Service beyond the eighth term adds Cr2000 per additional term. Retirement pay is not available to characters who have served in the scout or the other service.

Travel Allowances: The mustering out procedure makes a variety of benefits available which may generally be called travel allowances. Such allowances take three basic forms: money, passages, and Travellers' Aid.

Money: The cash table indicates specific amounts of money which become available. Some portion of the money should be considered severance pay or life's savings, the remainder is a travel allowance.

Passages: The skills and benefits table includes passages, or tickets, for travel. They are acquired in blank, and represent one passage, or trip, between one world and the next world visited by the starship. They are available in three forms: high passage, middle passage, and low passage. Passages may be retained and used as needed, or they may be cashed in at 90% of their face value.

—*High Passage* includes first class accommodations and excellent cuisine, and allows up to one ton of baggage. High passage costs Cr10,000 when purchased.

—*Middle Passage* includes second class accommodations (although still of reasonably good quality) and passable food and drink, and allows up to 100 kilograms of baggage. The passenger is expected to tend to his or her own affairs (maid service, laundry, cleaning, etc.) during the voyage. Middle passage costs Cr8000 when purchased, and is subject to stand-by conditions; the ticket holder may be bumped if a high passenger appears (the middle passage ticket being returned in such cases).

—*Low Passage* involves travel in cryogenic capsules (cold sleep, or suspended animation), and the traveller is unconscious for the course of the journey. A character does not age while in cold sleep. Because of the intrinsic dangers of this method of travel, a basic throw of 5+ applies when the journey is over and the low passenger is revived. Failure of the throw results in death; a DM of +1 is allowed if there is an attending medic-2 or better, DM −1 if the low passenger has endurance of 6 or less. Low passage costs Cr1000 if purchased, and includes a baggage allowance of 10 kilograms.

Travellers' Aid: The Travellers' Aid Society is a private organization which maintains hostels and facilities at all class A and B starports in human space. Such facilities are available (at reasonable cost) to members and their guests.

Travellers' Aid Society membership may be acquired upon mustering out while using the benefits table. Once this benefit is achieved, further receipt of the benefit has no effect; membership may be achieved only once per character. Receipt of membership in the Travellers' Aid Society upon mustering out may be construed as a reward for heroism or extraordinary service to the Society, rather than an offical benefit of the service.

Membership in the Society may also be purchased. Such purchase involves avoidance of a "blackball" (throw 4+ to avoid), and (if accepted) payment of an initiation fee of Cr1,000,000. Only one application per person is allowed. Membership is for the life of a character, and is not transferable. The Travellers' Aid Society invests its membership fees and other income; it uses its capital and return to provide benefits to its members. Every two months, it pays dividends in the forms of one high passage to each member. This passage may be used, retained, or sold.

Material Objects: The mustering out procedure makes two types of material objects available: weapons and starships.

Weapons: The benefits table indicates as results blade or gun; in such cases, a character may choose any weapon in the category. If, while mustering out, the same benefit is received again, the character has the option of taking another example of the same weapon, selecting a different weapon, or taking the benefit as +1 in skill in the weapon previously received. For example, the benefit blade entitles the character to select any blade weapon, and he chooses cutlass. On the next benefit roll, he again receives blade as a benefit. At this point, he could select a different blade (perhaps foil), choose cutlass again (giving him two cutlasses), or elect to take expertise in the weapon he has already received (giving an expertise of cutlass-1). Expertise may only be taken in a weapon received as a benefit.

Starships: Two types of starships are available as mustering out benefits: type S scout/couriers and type A free traders. Each is more fully explained in Starships.

The type A free trader is a 200-ton cargo vessel equipped to handle both freight and passengers. Receipt of this ship as a benefit confers possession of the ship, but also liability for the monthly payments (about Cr150,000) for the next forty years. Fuel, crew, and other expenses must also be handled by the character. If the ship benefit is received more than once, each additional receipt is considered to represent actual possession of the ship for a ten-year period. The ship is thus ten years older, and the total payment term is reduced by ten years. It is possible for a character to own a ship, free and clear, by successively rolling the ship benefit five times (once to obtain it, and four times to pay off the four ten-year sequences of payment). The ship is also forty years old.

The type S scout/courier is a 100-ton dispatch vessel of a type very common within human space. It is the policy of the scout service to make available such surplus scout ships to selected individuals on a reserve basis. The vessels are (hopefully) put to good use while they are not required in service, and both the ship and its pilot are available for recall to duty when needed. Only one scout ship may be acquired by a character; further receipt of this benefit results in no further effect. Possession of the scout ship is at the pleasure of the scout service, and it cannot be sold or mortgaged by the character. The ship may be used for travel, limited commerce, or pleasure. Fuel is free at scout bases. Maintenance is free at the scout bases at class B starports. The character is responsible for all other costs (berthing, upkeep, and crew costs) as the ship is being used.

Characteristic Alterations: Finally, the skills and benefits tables makes provision for some characteristic alterations. These tend to be increases in education or intelligence, and are applied to the character immediately.

A NOTE ON GENDER AND RACE

Nowhere in these rules is a specific requirement established that any character (player or non-player) be of a specific gender or race. Any character is potentially of any race and of either sex.

FORMATS

Characters may be referred to in a variety of ways. The simplest involves an identification of the character's occupation or name, followed by the UPP (universal personality profile). For example, a non-player character may be introduced as Arlent Streen, businessman, 895678.

When more detail is needed, or if one wishes to be more precise, the following format should be used. The first line indicates rank,

service, UPP, age, and can include name and noble title if desired. The second line shows terms served in the prior career, and current credit balance for the individual. The third line shows skills (and may take as many lines as are required). The last lines show personal possessions of any importance for the character. Other details may be recorded as well.

1. Navy   557AF7   Age 34
    4 terms   Cr0
    Computer-1, Gunnery-1, Vacc
    suit-1
    Travellers' Aid Society Member
2. Marine   968837   Age 22
    1 term   Cr10,000
    Gambling-1, Cutlass-1, Grav Vehicle-1
3. Army Lieutenant Colonel   B77C84   Age 34
    4 terms   Cr0
    SMG-4, Auto Pistol-1, Rifle-1, Gambling-1, Tactics-1,
    Sword-1, Grav Vehicle-2
    2 High Passages, 1 Submachinegun
4. Scout   5A5757   Age 28
    2½ terms   Cr0
    Electronics-1, Gunnery-1, Jack of All Trades-1,
    Mechanical-1, Pilot-1
    Type S Scout Ship
5. Merchant Second Officer   B67A83   Age 46
    7 terms   Cr0
    Carbine-1, Bribery-2, Electronics-1, Gunnery-1,
    Mechanical-1, Medical-2, Hovercraft-1
    3 Low Passages, 1 Carbine
6. Other   6C7969   Age 34
    4 terms   Cr0
    Auto Rifle-1, Brawling-1, Streetwise-1, Jack of All
    Trades-1
    1 High Passage, 1 Auto Rifle.

MERCHANT CAPTAIN ALEXANDER JAMISON

The following example is given to illustrate the process of character generation. Actual die throws are shown in brackets, as are comments on the application of game rules. Die modifications are labelled DM.

Alexander Lascelles Jamison. Having just finished school, Jamison sets out to win his fortune in the universe. Taking stock of himself and his personal qualities [generate all six personal

characteristics; he rolls, consecutively, 6, 8, 8, 12, 8, 9] he soon decides that his UPP of 688C89 adapts him best for the merchant service. He visits his local starport, checks out the situation [required roll of 7+ to enlist, with a DM of +2 allowed for his intelligence of greater than 6; he rolls 5 (+2=7)], and just barely manages to convince a merchant captain to let him sign on.

First Term: During his first term of service [survival roll required is 5+, with a DM of +2 allowed for intelligence; he rolls 11 (+2=13)] he faces no great dangers, merely the humdrum of day-to-day events. His application for a commission [required roll of 4+, DM of +1 allowed for intelligence; he rolls 7 (+1=8)] is a mere formality. As a 4th officer, he proves hard-working and efficient [promotion roll required is 10+, with a DM of +1 for intelligence; he rolls 10 (+1=11)], and is quickly promoted one rank. 3rd Officer Jamison clearly feels that he has found his place in life, and decides that he would like to continue in service (reenlistment roll of 4+ required, no DMs; he rolls 7) and reenlists. He has become eligible for four skills during this term of service (two for the initial term, one for obtaining a commission, and one for being promoted). The work as 4th officer was, at times, strenuous (Table 1, roll 1 = +1 strength) but he certainly developed his muscles. While learning the details of his job and dealing with people (Table 1, roll 5 = blade combat) he learns to handle a dagger. Routine operations (Table 2, roll 2 = vacc suit) require that he learn to handle himself in a vacuum suit. Finally (Table 2, Roll 5 = electronics), he takes an elementary course in electronics.

Second Term: The rapidly maturing Jamison suddenly finds himself faced with some of the dangers of the merchant service [survival throw required is 5+, with a DM of +2 allowed for intelligence; he rolls 3, which is the lowest it is possible to roll and still survive (+2=5)], possibly a pirate raid. He does stay alive, however. His continued efficiency [promotion throw of 10+ with a DM of +1 for intelligence; he rolls 12 (+1=13)] gains him his desired promotion to 2nd officer. He signs on for a third term of service (reenlistment throw of 4+ required, no DMs; he throws 6) and is accepted. He is eligible for two skills this term (one for service and one for his promotion). He goes on a physical fitness kick (Table 1, roll 3 = +1 endurance) and learns to better defend himself (Table 2, roll 4 = gun combat) using the small body pistol.

Third Term: Jamison's third term is rather uneventful [survival throw of 5+, DM of +2 for intelligence; he rolls 9 (+2=11)]. Unfortunately [promotion roll of 10+ required, DM +1 for intelligence; he rolls 8 (+1=9)], he fails the examination for 1st officer by two points, and does not receive a promotion. Determined to succeed, he reenlists (reenlistment roll of 4+ required, no DMs; he rolls 10). He is eligible for one skill (Table 2, roll 5 = electronics) and studies an advanced course in electronics to increase his knowledge.

Fourth Term: Things go right in the fourth term for Jamison. Facing little danger [survival throw of 5+ required, DM +2 for intelligence allowed; he rolls 7 (+2=9)], he also passes his 1st officer exam [promotion throw of 10+ required, DM +1 allowed for intelligence; he throws 12 (+1=13)] easily, receiving his promotion and an automatic pilot-1 expertise. Reenlisting again, he begins a fifth term of service (reenlistment roll of 4+ required, no DMs; he rolls 7). He is eligible for two skills this term. He trains himself in the martial arts (Table 1, roll 5 = blade combat), choosing the cutlass and (Table 2, roll 4 = gun combat) the submachinegun. Finally, this being the end of his fourth term, Jamison is (for the first time) susceptible to aging [saving throws for strength (8+), dexterity (7+), and endurance (8+) are made; he rolls 12, 7, and 9, resulting in no changes].

Fifth Term: Beginning his fifth four-year hitch [(survival roll of 5+ required, DM +2 for intelligence; he rolls 7 (+2=9)], he stands for promotion [promotion roll of 10+ required, DM +1 for intelligence; he rolls 10 (+1=11)] and makes captain. At this point (reenlistment throw of 4+; required, no DMs allowed; he rolls 3), the service falls on hard times, and notifies Jamison that it will no

longer require his services after the current term. He is eligible to retire (with a pension of Cr4000 per year). His service entitles him to two final skills. He studies (Table 4, roll 5 = pilot) to improve his piloting skill, and (Table 3, roll 3 = electronics) continues his interest in electronics. Age also begins to take its toll [throw for strength (8 +), dexterity (7 +), and endurance (8 +); he rolls 9, 6, and 11, resulting in the reduction of his dexterity by one point] with a slight decrease in his health.

Mustering Out: Having completed twenty years of active duty in he merchant service, Captain Jamison is eligible for a variety of service benefits (five rolls on the tables for terms served, plus two by virtue of his rank; in addition, he is allowed + 1 on all rolls on the benefits table). He receives (cash table, roll 4 = Cr20,000) a severance bonus of Cr20,000, [benefits table, roll 5 (+ 1 = 6) = + 1 education] an educational benefit, [benefits table, roll 6 (+ 1 = 7) = merchant ship] possession of a merchant ship, [benefits table, roll 2 (+ 1 = 3) = middle passage] a travel allowance, [benefits table, roll 6 (+ 1 = 7) = merchant ship] credit for participation in the ship acquisition program, [benefits table, roll 6 (+ 1 = 7) = merchant ship] credit for more participation in the ship acquisition program, [benefits table, roll 6 (+ 1 = 7) = merchant ship] and more credit for participation in the ship acquisition program. Jamison has apparently been putting much of his salary and ship profits into a continuing program dedicated to acquiring a ship; now he has one, and thirty years of the forty year payment schedule have already been paid off.

Alexander Lascelles Jamison is now 38 years old, a retired merchant captain, with a pension of Cr4000 per year, and a healthy cash balance. His single middle passage, useless to him as a shipowner, has been coverted to cash (Cr7,200). Considering that the merchants forced him out of the service at the peak of his career, he has some slight resentment against the merchant service.

```
Merchant Captain Alexander Jamison   779C99   Age 38
5 terms                                        Cr31,200
Dagger-1, Cutlass-1, Vacc Suit-1, Pilot-2, Body Pistol-1
Submachinegun-1, Electronics-3.
Type A Free Trader (ten years of payments remaining).
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PERSONAL COMBAT

Pages 4-7 of the charts and tables booklet apply to this chapter.

As adventurers journey through the cities and the wilds of the worlds they visit, they will encounter beings of many kinds, some wild, some intelligent, some violent. At times, the only way such encounters can be dealt with is by force. In order to resolve such encounters, the following combat system is provided.

This **Traveller** personal combat system is as important for what it shows as for what it allows. Any player who understands the system is automatically in a position to make reasonable decisions about when to stand and fight, and when to prudently run away. Understanding the system gives the individual an insight into the probabilities of surviving any specific encounter.

BASIC COMBAT CONCEPT

This combat system applied to situations where a party of adventurers (of one or more characters) encounters a party of people or a group of beasts, and violence is offered by either side. The actual circumstances of each encounter are governed by the referee, in accordance with the rules in the chapter on encounters. Those rules provide for the likelihood of encounters and for the basic reaction of the other party in response to the encounter.

Combat is based on successive attacks by each character involved (blows if brawling, swings with blade weapons, and shots with guns). A basic throw of 8 + is required in every case to obtain a hit; that throw is subject to die modifications (DMs) for such considerations as range between the two parties, attacker and defender expertise in the weapons they are using, the types of weapons

used, surprise, and other factors. If a hit is obtained, wounds are inflicted based on the type of weapon which made the hit.

Each combat round lasts 15 seconds. Combat continues until one party is vanquished, flees, dies, or surrenders.

ENCOUNTERS

Specific encounters with beings of various types are called for by the referee, by pregenerated encounter tables (detailed in the chapter on encounters), or by the situation. Each encounter can be defined by the questions Who or What? How Many? Why? How? When? and Where?

Who or What? The referee should detail the identity of the encountered individuals (Who? in the case of intelligent beings; What? in the case of beasts). For individuals, the referee should know the UPP (from the chapter on character generation), plus any skills, weapons, and other data necessary for the encounter. Such data can be generated on the spot, derived from pregenerated lists or tables, or simply faked, depending on how important it is. For beasts, the referee should know the details of the animal (from the chapter on animal encounters), including wound and death points, weaponry, armor, and reactions. The data can be taken from animal encounter tables or generated on the spot.

How Many? The number of encountered individuals or animals should be determined. In some cases, an encounter table may indicate a precise number, or a die roll may be called for.

Why? The referee should determine a reasonable motivation for the encounter. For people, it may range from rowdyism or robbery, to protection of territory; for animals, it may involve search for food, fear, bad temper, or protection of young.

How? The referee should determine the details of the encounter, to include specific situation, transport available, and relative disposition of each side.

When? The precise time should be determined, which in turn affects lighting, weather, and other conditions.

Where? The referee should determine the specifics of terrain, including terrain type (generally already known), specific type of terrain within the terrain type (including details of possible cover and concealment), and any other pertinent facts.

The referee should not present all of this information to the players in one lump. They should be told precisely what they can see or otherwise determine. As the encounter progresses, additional details may unfold.

COMBAT PROCEDURE

1. Determine the facts of the encounter.
   A. Which party has surprise?
   B. Initial encounter range?
   C. Escape or avoidance?
2. Begin combat round.
   A. Individual movement status.
   B. Individual targets and attacks.
      1) Attacker's DMs.
      2) Defender's DMs.
   C. If attack succeeds, determine wounds inflicted at end of the round.
   D. Roll for morale if unit has taken 25% casualties.
   E. Begin a new combat round (go to 2 above).
3. When combat ends, attend to the wounded and regroup forces.

INITIAL ENCOUNTER PROCEDURE

Once an encounter occurs, and it appears to require violence, the combat procedure is used to determine the resolution of combat. Surprise, encounter range, and escape or avoidance are determined and executed only once per encounter. The combat round is performed cyclically until the combat is concluded.

Surprise: Surprise is possible for either party, and the element
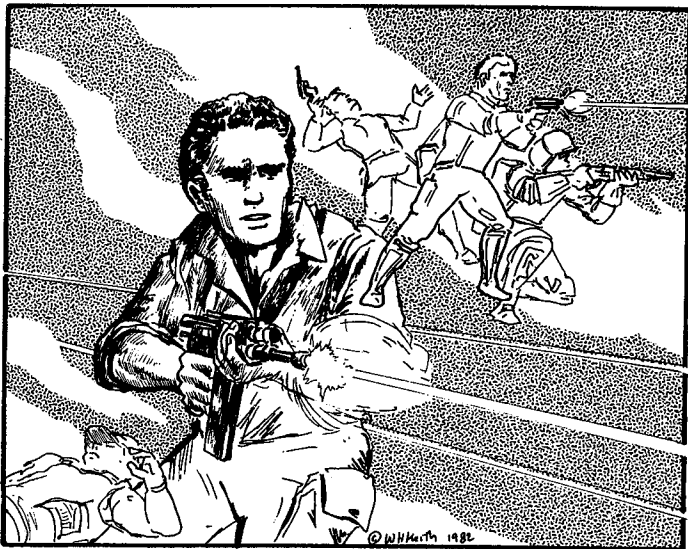
of surprise gives an advantage both in attacking and in avoiding the enemy. Roll one die for each party: if one party has a die roll of three or more greater than the other party, the higher rolling party has achieved surprise. DMs are allowed for each party depending on expertise and situation, as shown in the surprise DM table.

Only one party can achieve surprise, and it is possible that neither party will achieve surprise. If no surprise is achieved, both parties are considered to be aware of each other at the range of the encounter.

A party with the element of surprise may elect to avoid contact with the other party; see Escape and Avoidance below.

A party with the element of surprise may attack with surprise swings, blows, and shots until surprise is lost. The endurance rule contains the definition of surprise blows. Suprise is lost when a member of the other party gives the alarm in some manner. All un-silenced shots will alert the enemy to an attack; silenced pistols, laser weapons, and all guns in vacuum do not make any noise when fired. Any character who is hit but not rendered unconscious will make sufficient noise (probably a scream) to raise the alarm. If the alarm is not raised in this manner, there is a chance (throw 9 + for it to occur) that an unattacked comrade in the defending party will see the person fall and give the alarm. Surprise continues until it is lost, and may thus continue indefinitely. Once surprise is lost, normal combat begins.

Because all attacks (shots, blows, and swings) are made simultaneously, all members of the attacking party may each make one attack as a surprise if the party has surprise. If surprise is not lost, each member of the party may make another surprise attack. This continues until surprise is lost. Because the attacks are simultaneous, everyone completes their surprise attacks even if one of them results in the loss of surprise.

Range: Encounters initially occur at any one of five ranges: close, short, medium, long, or very long. The specific initial range of an encounter is dependent on the referee's specific statement, or on a two-dice roll using the encounter range table. Throws on the range table are subject to DMs from the terrain DM table. In essence, the DMs take into account the altered probabilities of specific encounter ranges in differing terrain types. An encounter at close range is much less likely on a prairie than in a city, for example. Determine the DM from the terrain DM table and apply it to a two-dice roll on the encounter range table. The result indicates the range at which the two parties encounter. The distance equivalents of the ranges used in combat are given in the range table.

Escape and Avoidance: Encountering parties may attempt to escape from, or avoid contact with, an encounter. A party which has achieved surprise may always avoid an encounter by so stating.

Non-player character parties which have surprise and are out-numbered will avoid an encounter on a throw of 7 + (no DMs). If two parties encounter without surprise, either may attempt to escape immediately (before any combat or contact occurs). Roll 9 + to escape (DM allowed based on range: − 1 if close or short range, + 1 if medium range, + 2 if long range, + 3 if very long range). A non-player character party will attempt to escape at the option of the referee, based on the situation. Animals operate under different rules, as explained in the chapter on animal encounters.

Once contact or combat begins, a party may leave the field of battle only through movement.

THE COMBAT ROUND

Combat is resolved in rounds, each representing approximately 15 seconds of real time. Within each round, each individual character, non-player character, and animal is allowed an opportunity to move and to attack. Each may be attacked by one or more enemy characters, non-player characters, or animals. Once all individuals in the battle have been provided the opportunity to attack, the combat round is over, and the next combat round begins.

Generally, all individuals perform their movement first, followed by their attacks.

MOVEMENT

For movement, distances are measured in range bands, each representing approximately 25 meters. The range band table gives the size of each of the combat ranges in range bands. For example, a character four range bands away from another character is at long range with respect to the other character.

In order to provide a simple display of ranges in an encounter, it is suggested that they be mapped out on a line grid. Ordinary lined paper serves this purpose quite well. Each band on the grid represents one range band. At the beginning of an encounter, markers representing each of the members of the encountering party and those encountered are placed in bands separated by a distance corresponding to the encounter distance. In subsequent rounds, characters may move to close or open the range.

Close and short range are each less than a complete range band in size. To indicate that two characters are at close range, place their markers touching each other. All other characters in the same range band are at short range.

Characters may move one band per combat round if walking or two if running; animals may move faster, as covered in the chapter on animal encounters.

The line grid is intended to provide a simplified way of taking care of range determination and sacrifices some realism for the sake of play ease. The referee may choose to expand this system to a square or hexagonal grid in order to take maneuver and actual position into account.

Before each combat round, each character must state his or her movement status. The four possible movement statuses are evade, close range, open range, and stand. In addition, the individual may be walking (at ordinary speed), running (at double speed), or riding in a vehicle.

Evade: A combatant, at any range, may state evade as a status. The person may not make any attack (no swings, blows, or shots are allowed) during the combat round and may not use his weapon to parry or block (see Expertise); he or she receives an advantageous DM in the defense, based on range from the attacker (− 1 if at short or close range, − 2 if at medium range, − 4 if at long or very long range).

Close Range: A combatant may elect to move closer to the enemy during the combat round. Normally characters may walk, moving one range band per combat round, or run (or ride animals or vehicles) at approximately double speed. Running is an expenditure of energy and is counted as a combat blow (reducing total endurance points and prohibiting the character from making any swing or blow

attacks that round); see the endurance rule. Moving from short to close range is counted as moving one range band

Open Range: A combatant may move away from the enemy by opening range in much the same manner as he would close range. However, he may move from close range to one band away in one move without running.

Stand: A combatant may elect not to move.

All movement is performed simultaneously. If parties consist of more than one member, each member may decide what his movement will be for the round. Any character who moves more than 20 bands away from the nearest enemy character is out of range and has escaped.

COMBAT RESOLUTION

Combat is resolved in a series of attacks represented by dice throws made by the combatants. A series of such throws (where each participating individual capable of combat action performs it or elects not to) is a combat round. Combat rounds continue until the battle is resolved with defeat of one party through rout, death, or surrender.

Basic Required Throw: During each combat round, each combatant selects a member of the opposing party as a target. A basic throw of 8+ is required to hit the target. A hit then calls for determination of wounds inflicted.

The basic throw of 8+ is subject to a variety of applicable die modifiers, including armor/weapons relation, range, strength of attack (combat or weakened blows), movement status, attacking and defending expertise, and other aspects. The weapon matrix indicates weapon/armor relation; the range matrix indicates range effects; the weapon table indicates the effects of strength and dexterity and of weakened blows. Other DMs are called for by later sections of these rules.

All DMs to the basic throw to hit are cumulative, being added together and then applied to the basic throw. It is important to remember that adding negative numbers (DMs) is subtracting $(3+1=4; 3+ -1=2; -3+ -1=-4)$.

Roll two dice and modify by the DM created; if the modified result is 8 or greater, the attack has achieved a hit on the target. If a hit is achieved, the wound column on the range matrix must be consulted to determine the extent of the wound.

Wounding and Death: The wound column indicates the amount of damage inflicted on the target if a hit is achieved, and depends on the type of weapon used (not the strength of the character or of the blow). The abbreviation used in the wound column is a capital D, meaning die or dice. The number before the D indicates the number of dice to be thrown: thus 3D means that the wound has inflicted hits equal to the throw of three dice.

Wound points are applied to the target's (defending character's) strength, dexterity, and endurance on a temporary basis. Each die rolled (for example, each of the two dice in a result of 2D) is taken as a single wound or group of hits, and must be applied to a single characteristic. The wounded player may decide which physical characteristic receives specific wound points in order to avoid or delay unconsciousness for as long as possible.

The first wound received by any character, however, can be sufficient to stun or daze and is handled differently. This first wound is applied to one of the three physical characteristics (strength, dexterity, or endurance) determined randomly. If that characteristic is reduced to zero, then any remaining hits are then distributed to the other physical characteristics on a random basis. As a result, first blood may immediately incapacitate or even kill.

When any one characteristic is reduced to zero by wounds, the character is rendered unconscious. When two have been reduced to zero, the character is seriously wounded. When all three have been reduced to zero, the character is dead. Once a characteristic has been reduced to zero, further points may not be applied to it; they must be applied to other (non-zero) characteristics.

Unconscious characters (with at least one characteristic reduced to zero) recover consciousness after ten minutes (40 combat rounds) with all three physical characteristics temporarily placed at a value half way between full strength and the wounded level. The individual is considered to have sustained minor wounds. For example, a character with a strength of 8 who is wounded to a strength of 4 (and rendered unconscious through the zeroing of another characteristic) becomes strength 6 when he regains consciousness, and remains so until recovered. Round fractions against the character. A return to full strength for the character requires medical attention (a medical kit and an individual with at least medical-1 skill) or three days of rest.

Unconscious characters with two characteristics reduced to zero are considered seriously wounded and recover consciousness after three hours. Their characteristics remain at the wounded level (or 1, whichever is higher). Recovery is dependent on medical attention (a medical facility and an individual with medical-3 skill; recuperation to full strength without medical attention is not possible).

For example, in a firefight, three adventurers (each with UPP 777777) are hit by rifle fire. A rifle inflicts 3D hits. The attacker is unlucky against Adventurer One and rolls 1, 1, 1. Because this is One's first wounding in the combat, all three hits are applied against one characteristic, and the referee, rolling randomly, applies the hits against strength. Adventurer One is temporarily reduced to UPP 477777 for wounding purposes only. Adventurer Two fares less well. The attacker rolls 6, 3, 4. Again, because this is Two's first wounding of the combat, all hits are applied against one characteristic (a die roll applies them against his strength). Adventurer Two's strength is reduced to 0, absorbing the first die and 1 hit from the second; the remaining hits from the second die and all of the third die are applied randomly to his other two physical characteristics (two more die rolls apply 2 hits to endurance and 4 hits to dexterity). Two's temporary UPP is now 054777; he is unconscious. Adventurer Three fares worst of all. The rifle fire die rolls are 6, 6, 6. All hits are randomly applied to his dexterity, reducing it to zero after absorbing the first die and 1 hit from the second. The remaining hits from the second die and all of the third die are applied randomly again, both against his strength; the remaining 5 hits from the second die and 2 hits from the third die reduce strength to zero. The remaining 4 hits from the third die are applied to his only remaining characteristic, endurance. Adventurer Three is seriously wounded with a temporary UPP 003777.

THE EFFECTS OF CHARACTERISTICS

Personal characteristics can affect combat, being the source of die modifications based on weapons and the duration of the battle. Wounds do not affect characteristics as they are used to influence blows, swings, or shots. For example, a still-conscious character with strength reduced from 9 to 7 would still function as if he had strength 9. However, once wounds bring a characteristic to zero, the individual is unconscious, and characteristics are of little use.

Strength: The efficiency of various blows and swings (but not of shots) is dependent on personal strength. The weapons table indicates both a required strength level and an advantageous strength level for all blade and brawling weapons. A character using a specific weapon who does not have strength equal to or greater than the required strength level for that weapon is subject to the negative DM (applied to the basic throw to hit) stated in the weapons table. For example, a character with strength 5 does not meet the required strength of 7 for the cutlass, and if using that weapon is subject to a DM of −2.

A character of great strength, equal to or greater than the advantageous strength level stated for a specific weapon being used, is eligible for a positive DM (applied to the basic throw to hit) given in the table. For example, a character with strength 11 or greater is allowed a DM of +2 when using the cutlass.

Dexterity: The accuracy of shots is dependent on the dexterity of the character firing the weapon. In a manner similar to the effect of strength on swings and blows, the weapons table indicates the required and advantageous dexterity levels for guns, and shows the positive and negative DMs which should be applied to the basic throw to hit.

Endurance: The number of blows and swings which may be made and their impact are dependent on endurance. Shots are unaffected by endurance, and an individual may make as many shots as ammunition is available. For this purpose, all blows and swings may be classed into one of four classes: surprise, combat, weakened, and special.

Surprise blows and swings are completely unrestricted; as long as the attacking character retains the element of surprise, he or she may make surprise blows and swings without limit (but only one per combat round).

Combat blows and swings are the ordinary attacks made in the course of battle after surprise is lost. A character may make a number of combat blows and swings which does not exceed his endurance; a character with endurance 9 may make 9 combat blows. Once this allowance has been used up, the character may not make any more combat blows until he has rested for at least thirty minutes.

Weakened blows and swings are those attacks made after the combat blow and swing allowance has been used up. Each weakened blow or swing is subject to the negative DM indicated in the weapons table. Any number of weakened blows and swings may be made. To conserve strength, a character may elect to make any blow or swing weakened, and thus not have it counted against his endurance limit.

Special blows and swings are allowed in situations in which strength would not normally be a factor, such as against an unconscious opponent. Special blows and swings are not weakened, and may be made at any appropriate time without affecting the endurance limit.

Note that a character is allowed only a specific number of swings and blows by his endurance characteristic, and that only one blow or swing may be made per combat round. The number of blows and swings is based on the individual's endurance at the beginning of the combat encounter; wounds suffered during the encounter do not reduce the total possible swings and blows, but wounds suffered prior to the encounter which reduce endurance will reduce the allowance accordingly. The total allowance for swings and blows applies to all such attacks, regardless of whether the character shifts from brawling to blade combat or back. Gun combat is not affected by endurance.

EXPERTISE

A character's expertise or skill in a weapon can affect personal combat in both the attack and the defense.

Attacking: The level of expertise in a specific weapon is used as a positive DM on the basic throw to hit. If the character changes weapons, then the expertise for the new weapon is used in combat.

Parrying: A character may use his expertise level in his brawling or blade weapon as a negative DM when engaged in brawling or blade combat (i.e. when using a brawling or blade weapon against an enemy also using such a weapon). The character is considered to be blocking or parrying his enemy's blow. Obviously, only blows or swings may be blocked, not shots. A long gun such as a rifle or carbine (but not a pistol) may be used to parry; if so, it is treated as a brawling weapon (a cudgel). A weapon may be used both to attack and parry in the same round.

Untrained Weapon Usage: Any character using a weapon in which he or she has no training is subject to a penalty of -5 when attacking and $+3$ when defending. All player characters automatically have an expertise of zero (for example, carbine-0) in all weapons shown in this book. This zero value is sufficient to avoid the no-expertise penalty, but it is not enough to provide a positive DM. Player characters selecting their weapons should consider the potential benefits of their strength and dexterity levels and any DMs that might be available for those characteristics.

WEIGHT

Characters are restricted in the total weight which they may carry, and may suffer negative effects if they carry enough weight to become encumbered. Individuals carrying sufficient weight to become encumbered have their UPP values temporarily reduced; these reduced UPP values are used when computing wounds and unconsciousness.

Normal Load: Any character may carry a load equal to his or her strength characteristic, in kilograms. A person with strength 12 could carry 12 kilograms. Weapons and other materials are given weights in grams and kilograms. Load is calculated by totalling the weight of all relevant items. Clothing, personal armor, and minor items such as holsters, scabbards, and belts are not counted. Other items such as tools, communicators, instruments, rations, and calculators are described in the chapter on equipment, and their weight constitutes part of the total load.

Double Load: A character may carry up to twice his or her strength in kilograms. Someone with strength 6 could carry 12 kilograms. Encumbered persons are treated as if their strength, dexterity, and endurance are one less than normal. For example, a character with a UPP 788953 carrying 12 kilograms of load would be treated as 677953 until such time as at least 5 kilograms have been shed.

Triple Load: A character who is part of a military force (mercenary unit; combat unit; troop unit) may carry up to triple his or her strength in kilograms, subject to a reduction of 2 in strength, dexterity, and endurance.

Different Gravity: Worlds vary in size and density, and their gravity varies in proportion. World sizes are explained in the chapter on worlds. A world of size 8 is assumed to have normal gravity. Subtract the size of the world on which the adventurers are from 8 and multiply the result by 12.5%. This indicates the additional load that the character is capable of carrying, in kilograms.

For example, on a world identified as size 4 ($8-4=4$; $4 \times 12.5\% = 50\%$) a character can carry an additional 50% load without being considered encumbered. A world with size 10 ($8-10=-2$; $-2 \times 12.5\% = -25\%$) reduces the allowable load by 25%.

World sizes assume that the world has normal (Earth) density; different densities of worlds are possible through the use of a density constant K (generally assumed to have a value of 1; determined by the referee). When a density constant K is in use, multiply the world size by K to determine the true gravity factor, and use that in determining load sizes.

MORALE

A party of adventurers which sustains casualties in an encounter will ultimately break or rout if it does not achieve victory.

At the point in time when 25% of a party is unconscious or killed, the party must begin making morale throws. For an average party, 7 + is the throw to stand, or not break and run. Valiant parties may have a higher throw. DMs are allowed: + 1 if the party is a military unit; + 1 if a leader (leader skill) is present; + 1 if the leader has any tactical skill; − 2 if the leader is killed (for two rounds at least, and until a new leader takes control); − 2 if casualties (unconscious and dead) exceed 50%.

TYPICAL ACTIONS

It is impossible to accurately predict all possible actions which can occur in combat. This situation is one reason why a referee is desirable when combat is to be resolved.

The typical actions table in the combat charts lists a wide variety of possible actions which are covered by these rules. If other actions are called for, the referee must adjudicate their results.

WEAPONS USAGE

The following are important to the implementation of weapons use.

The Combat Charts: The combat charts contained in the charts booklet provide the information required to resolve combat between individuals and groups.

Standard Weapons: An array of standard blade weapons and guns is provided on the combat charts; these weapons are further detailed and illustrated in the section on combat equipment.

Non-Standard Weapons: A variety of non-standard weapons are possible, and may be implemented within this combat system. In general, such weapons are similar to those in the system, and are differentiated only in terms of a positive or negative DM. For example, a pocket knife is inferior to a dagger, and may be treated as a dagger minus 1. Dagger minus 1 is subject to a DM of − 1 in addition to all other DMs called for by the combat system. Similarly a target pistol might be expressed as an automatic pistol plus 1. Many animal weapons (claws, teeth, etc.) are treated as + 1 or − 1 in the chapter on animal encounters.

Non-standard armor (especially for animals) is treated in the same way as non-standard weapons.

Square Grid Activity: Many deck plans, floor plans, or other maps for **Traveller** are drawn with a square grid, usually representing squares of 1.5 meters each. If grids of this or similar scales are used, then changes should be made to the range band system. Walking speed is 8 squares per combat round. Running is 16 squares per combat round. Greater speeds are in multiples of 8 squares per combat round. Specific activities such as opening doors or hatches each take one combat round, during which time the individual should be treated as evading.

COMBAT EQUIPMENT

The weapons and armor used by a character constitute his or her primary means of achieving goals once logic and persuasion have failed. Weapons are also essential for self-defense. These various weapons, weapon accessories, and armor are described below. Weights are given in grams; costs are given in credits (Cr). The technological level at which the weapon is first produced is shown after the abbreviation TL; tech levels are explained in the chapter on worlds.

Brawling Weapons: Brawling generally involves found or easily located weapons which are already at the site of the brawl. Brawling weapons are effective only at close and short range. Such weapons are classified as clubs, cost nothing, and generally weigh from 500 to 3000 grams (one die times 500 grams). Pistols may be used as clubs when brawling. Bottles may be used as clubs (once, then they become dagger minus 1). Animals are equipped with their own weapons, generally specified in the encounter tables which specify and define the animal.

Blade Weapons: The following edged weapons cover the range of blades which are available. Blade weapons are effective only at close and short range.

Dagger (250 grams; Cr10; TL 1): A small knife weapon with a flat, two-edged blade approximately 200mm in length. Daggers are usually carried in a belt sheath, and less frequently are concealed in a boot sheath or strapped to the forearm. Daggers are usually the last weapon of defense, and worn constantly. Each weighs 250 grams; that weight, however, does not count against the weight load of the character as the weapon is worn constantly and comfortably.

Blade (350 grams; Cr50; TL 3): A hybrid knife weapon with a heavy, flat two-edged blade nearly 300mm in length and a semi-basket handguard. Because of the bulk of the handguard, it is generally carried in a belt scabbard.

Foil (500 grams; Cr100; TL 3): Also called the rapier, this weapon is a light, sword-like weapon with a pointed, edged blade 800mm in length and a basket or cup hilt to protect the hand. Foils are worn in belt scabbards.

Cutlass (1250 grams; Cr100; TL 3): A heavy, flat-bladed, single-edged weapon featuring a full basket hilt to protect the hand. The cutlass is the standard shipboard blade weapon and usually kept in brackets on the bulkhead near important locations; when worn, a belt scabbard is used. Blade length varies from 600 to 900mm.

Sword (1000 grams; Cr150; TL 1): The standard long-edged weapon, with a flat, two-edged blade. It may have a basket hilt or hand protector. A scabbard to carry the sword may be attached to the belt or to straps (or a sash) over the shoulder. Blade length varies from 700 to 950mm.

Broadsword (2500 grams; Cr300; TL 2): The largest of the sword weapons, also called the two-handed sword because it requires both hands to swing. The blade is extremely heavy, two-edged, and about 1000 to 1200mm in length. The hilt is relatively simple, generally a crosspiece only, with little basketwork or protection. When carried, the boardsword is worn in a scabbard attached to the belt; less frequently, the scabbard is worn on the back, and the broadsword is drawn over the shoulder.

Polearms: The following polearms are generally available. In most cases, they will be in the hands of non-player characters encountered in the process of an adventure. Polearms are effective at close and short range.

Bayonet (250 grams; Cr10; TL 3): A knife-like weapon similar to a dagger or blade. When not attached to a rifle, a bayonet is treated as a dagger (or blade), carried in a belt scabbard, and requires dagger (or blade) skill for use to advantage. When attached to the muzzle of a rifle (only, not carbine or auto rifle), it transforms the gun into a polearm, and increases the length of the arm by 200mm.

Spear (2000 grams; Cr10; TL 0): A long (3000mm) polearm with a pointed tip, usually of metal. Often made by the soldier himself, the spear is quite inexpensive.

Pike (3000 grams; Cr40; TL 1): A long (3000 to 4000mm) polearm with some form of flat blade tip. Pikes are commonly carried as weapons by tech level 1 troops.

Halberd (2500 grams; Cr75; TL 2): A quite elaborate polearm featuring a pointed, bladed tip. This weapon may be considered to be a combination between a battle ax and a spear. Halberds are often carried by tech level 2 guards. Length: 2500mm.

Cudgel (1000 grams; Cr10; TL 0): A basic stick used as a weapon. Easily obtained from standing trees or through the use of an unloaded long gun such as a rifle or carbine (laser weapons are too delicate to be used as cudgels). Length: 1000 to 2000mm.

Guns: The following guns are generally available on worlds of sufficient tech level; their availability is restricted, however, by the law level of the specific world. Law levels are explained in the

chapter on worlds. Guns vary in effective range depending on their specific type; range limitations are shown on the combat charts.

All of the guns shown in this list (with the exception of the revolver) are auto-loading weapons. Each automatically reloads the gun's chamber with a new cartridge after each shot. Only when the weapon's total capacity is exhausted must the shooter reload the gun with a new magazine. Although the revolver is not auto-loading, it also contains a quantity of ammunition and need not be reloaded until its ammunition capacity is exhausted.

Unless noted otherwise, the weapons are semi-automatic; each fires one bullet or shot with each pull of the trigger. Automatic rifles and submachineguns are full-automatic with a burst control which allows firing four shots with each pull of the trigger. Full automatic fire allows special effects with higher hit probabilities and potential for group hits as detailed in the section on special considerations.

The section on special considerations also provides details on reloading weapons which have run out of ammunition.

Body Pistol

Pistol

Body Pistol (300 grams loaded; Cr 520; TL 7): A small, non-metallic semi-automatic pistol designed to evade detection by most weapon detectors. It fires 5 gram projectiles at a velocity of 500 to 600 meters per second. A magazine containing six cartridges is located in the pistol handle. Body pistol ammunition is not interchangeable with the ammunition for any other types of guns.

A body pistol can be fitted with a silencer.

Length: 100mm. Weight, unloaded: 250 grams (a loaded magazine weighs 50 grams). Base price: Cr500 (one loaded magazine: Cr20).

Automatic Pistol (1000 grams loaded; Cr210; TL 5): The basic semi-automatic handgun, firing 9mm caliber bullets (each weighing approximately 10 grams) at velocities from 400 to 500 meters per second. A magazine containing 15 cartridges fits into the handle of the pistol. Automatic pistol ammunition is interchangeable with submachinegun ammunition (although magazines are not).

An automatic pistol can be fitted with a silencer and a detachable shoulder stock.

Length: 175mm. Weight, unloaded: 750 grams (loaded magazine weighs 250 grams). Base price: Cr200 (loaded magazine: Cr10).

Revolver (1000 grams loaded; Cr155; TL 4): An older variety of handgun, the revolver fires 9mm bullets with characteristics similar to those fired by the automatic pistol, but not interchangeable with them. The revolver is a repeating handgun; it fires one shot with each pull of the trigger. It is not, however, semi-automatic, depending on finger pressure to do the reloading. No magazine is used: six cartridges are inserted into the revolver individually. Reloading takes two combat rounds, or one combat round if the individual foregoes the benefit of evasion.

A revolver can be fitted with a silencer and a detachable shoulder stock.

Length: 200mm (some versions may be shorter or longer). Weight, unloaded: 900 grams (weight of six cartridges: 100 grams). Base price: Cr150 (six cartridges cost Cr5).

Submachinegun (3000 grams loaded; Cr520; TL 5): A small automatic weapon designed to fire pistol ammunition. Magazines holding 30 cartridges are inserted into the weapon forward of the trigger guard or in the pistol grip, depending on the design.
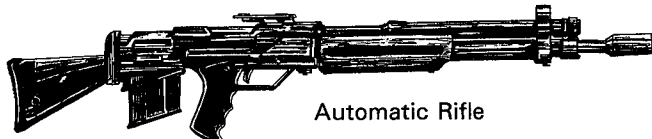
The gun fires four rounds per pull of the trigger. Submachinegun ammunition (but not magazines) is interchangeable with automatic pistol ammunition.

Most submachineguns are equipped with slings to allow ease of carrying.

Length: 450mm. Weight, unloaded: 2500 grams (loaded magazine: 500 grams). Base price: Cr500 (loaded magazine: Cr20).

Carbine

Automatic Rifle

Carbine (3125 grams loaded; Cr210; TL 5): A short type of semi-automatic rifle firing a small caliber round (a 6mm bullet weighing 5 grams) at a velocity of 900 meters per second. A magazine containing ten rounds is inserted into the underside of the carbine, ahead of the trigger guard. Carbine ammunition is not interchangeable with any other type of ammunition.

In essence, a carbine is a short rifle, firing a cartridge of smaller, lighter caliber. The carbine is a preferred weapon for individuals who otherwise do not handle firearms. Its light weight makes it convenient and efficient. A sling usually allows the carbine to be carried on the shoulder, out of the way.

A carbine may be fitted with telescopic or eletronic sights, and with a folding stock.

Length: 750mm. Weight, unloaded: 3000 grams (loaded magazine weighs 125 grams). Base price: Cr200 (loaded magazine: Cr10).

Rifle (4500 grams loaded; Cr220; TL 5): The standard semi-automatic military arm, firing a 7mm, 10 gram bullet at a velocity of approximately 900 meters per second. Longer and heavier than a carbine, it is also more effective. Standard equipment includes provisions for attaching a bayonet and telescopic sights, and a shoulder sling.

A twenty-round magazine is attached to the front of the trigger guard. Rifle ammunition may also be used in automatic rifles; rifle and auto rifle magazines are interchangeable, and weigh the same.

A rifle can be fitted with either telescopic or electronic sights, and with a folding stock.

Length: 1000mm. Weight, unloaded: 4000 grams (loaded magazine weighs 500 grams). Base price: Cr200 (loaded magazine: Cr20).

Automatic Rifle (5500 grams loaded; Cr1020; TL 6): A highly refined and tuned version of the rifle, capable of full automatic fire as well as semi-automatic shots. Normally, the automatic rifle fires in bursts of four bullets for each pull of the trigger. It may be switched to semi-automatic fire at the end of a combat round, after all firing, in which case it is treated as a rifle until switched back. Ammunition and magazines are identical to those used for the rifle.

The automatic rifle is equipped with a sling (which allows the weapon to be slung from the shoulder while carried in the ready to fire position), a bipod, and a muzzle brake to steady the gun while firing.

Some versions of the automatic rifle are available which use 100 round belts of ammunition (not usable in rifles, however). Such belts cost Cr120 (the equivalent of six loaded magazines) and weigh 2500 grams. Reloading a new belt requires three combat rounds.

Length: 1000mm. Weight, unloaded: 5000 grams (loaded magazine: 500 grams; 100-round belt: 2000 grams). Base price: Cr1000 (loaded magazine: Cr20; complete 100-round belt: Cr120.)

Shotgun (4500 grams loaded; Cr160; TL 4): The basic weapon for maximum shock effect without regard to accuracy. The shotgun has an 18mm diameter barrel and fires shells containing either six 7mm bullets or one hundred and thirty 3mm pellets. In each case, the projectiles weigh a total of 30 grams. Velocity for the projectiles is about 350 meters per second. A cylindrical magazine containing 10 shells is inserted under the barrel and parallel to it; cartridges are then fed automatically into the shotgun for firing. Reloading consists of replacing the cylindrical magazine and takes two combat rounds. One shot is fired for each pull of the trigger.

Magazines measure approximately 350mm long by 20mm in diameter and are quite clumsy to carry.

Shotguns are equipped with a sling for carrying. They may be fitted with a folding stock.

Length: 1000mm. Weight, unloaded: 3750 grams (loaded magazine: 750 grams). Base price: Cr150 (loaded magazine: Cr10).
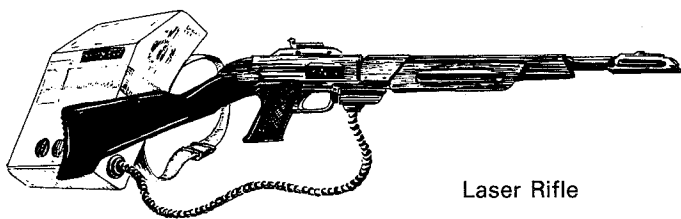
Laser Rifle

Laser Carbine (8000 grams, including power pack; Cr3500; TL 8): A lightweight version of the laser rifle, firing high energy bolts using current from a backpack battery/power pack. The laser carbine fires a 2mm beam of energy, aimed by integrated optic sights. The power pack is capable of producing 50 shots before it requires recharging. Recharging requires at least eight hours connected to a high energy source. The laser carbine is connected to the power pack by a heavy duty cable.

Length: 800mm. Weight of carbine: 5000 grams. Weight of power pack: 3000 grams. Base price: Cr2500 (extra power pack: Cr1000). Cost Of recharge, at commercial rates: Cr200.

Laser Rifle (10 kilograms, including power pack; Cr 5000; TL 9): The standard high energy weapon, firing high energy bolts in the same manner as the laser carbine. Heavier than the laser carbine, the laser rifle is also capable of longer sustained action, and is constructed somewhat more sturdily. The power pack can provide 100 shots before recharging. As in the laser carbine, the laser rifle is connected to the power pack by a heavy duty cable. Power packs are not interchangeable between the two weapons.

Length: 1000mm. Weight of rifle: 6000 grams. Weight of power pack: 4000 grams. Base price: Cr3500 (extra power packs: Cr1500). Cost of recharge, at commercial rates: Cr300.

Accessories: The following special accessories are generally available for the various weapons.

Telescopic Sights (800 grams; Cr200; TL 6): High-quality telescopic sights for attachment to rifles and carbines, for increasing their accuracy, especially at longer ranges. A rifle equipped with such sights has a DM of +4 to hit at long and very long ranges. Note that this DM is in addition to other allowed and required DMs.

Telescopic sights are delicate, however, and may be jarred out of alignment by any violent action (such as being left untended in a moving truck, a close explosion, or being dropped) on a throw of 7 +. When the sights go out of adjustment, the basic throw to hit should not be revealed to the firer, and he or she will always miss.

Electronic Sights (1500 grams; Cr2000; TL 9): Electronic sights with image enhancement and low-light capabilities are available to provide the capability to see and hit in the dark. Electronics are treated like telescopic sights for damage and reliability, and function similarly.

Silencer (600 grams; Cr200; TL 6): Devices are available which will muffle or eliminate the sound of the guns firing, but so far they have proven practical only when applied to body pistols, revolvers, and automatic pistols. A silencer attaches to the muzzle of the pistol, increasing its total length and making it impossible to holster until the silencer is removed. Silencers are not interchangeable; one must be purchased for each specific model of pistol used.

Length: 100 to 300mm. Weight: 500 to 700 grams. Base price: Cr200.

Shoulder Stocks (1000 grams; Cr 75; TL 5): It is possible to produce a shoulder stock which may be attached temporarily to a pistol or revolver, resulting in a crude carbine arrangement and some greater accuracy at longer ranges. The overall length of the pistol is increased by the length of the stock, and the pistol cannot be holstered. Attaching the stock (or detaching it) requires five combat rounds.

Length: 350mm. Weight: 1000 grams. Base price: Cr75.

Folding Stocks (500 grams; Cr100; TL 6): Carbines, rifles, and shotguns can be equipped with folding stocks which make it possible to reduce the overall length of the weapon by 300 mm.

Weight: adds 500 grams to weapon. Base price: Cr100.

Armor and Protection: The following items of armor and personal protection are generally available. The weight of personal armor and clothing is assumed to be part of the character's clothing load and is not affected by the weight rule. Only one form of personal armor may be worn, except that reflec may always be worn under clothing or armor.

Jack (Cr50; TL 1): A natural or synthetic leather jacket or body suit covering the torso and upper arms and legs. Jack is somewhat better than ordinary clothing or bare skin when defending against blades; it is worthless against guns.

Mesh (Cr150; TL 7): A jacket or body suit made of natural or synthetic leather and reinforced with a lining of flexible metal mesh, similar to chain mail but lighter and stronger. Mesh reduces or stops penetration by blades and has some effectiveness against guns; it is ineffective against laser fire.

Cloth (Cr250; TL 6): A heavy duty body suit tailored from ballistic cloth. The fabric absorbs impact energy, distributing the blow over the body of the target and possibly resulting in bruising. Nevertheless, cloth armor is almost the best and the most versatile armor available.

Reflec (Cr1500; TL 10): Reflective material on a plastic base can be tailored into a body suit which is ineffective against most weapons, but superior in defense against laser fire. Unlike other forms of armor, reflec is worn under other clothing. Reflec is expensive and often difficult to obtain.

Ablat (Cr75; TL 9): Ablat is a cheap alternative to reflec, and is fashioned from a material which will ablate (vaporize) when hit by laser fire. The ablation of the material carries away the energy of the laser, and protects the wearer. Continued fire against ablat degrades its effectiveness, but the armor is cheap and easily replaceable. Ablat also has some value against other forms of attack.

Vacc Suit (Cr10,000; TL 8): The personal vacuum or space suit is designed to protect the individual from vacuum, tainted, or noxious atmospheres, and some radiation situations. It carries its own communicators, oxygen tanks for six hours, and other basic survival appurtenances. Use of a vacc suit requires vacc suit-0 or better. It acts as cloth armor when subject to attacks. Vacc suits are relatively bulky, and weigh 10 kilograms; the weight counts against personal weight allowances. This weight is reduced 2 kilograms per tech level as the suit gains increasing sophistication. For example, a TL 10 vacc suit weights 6 kilograms, and a vacc suit at tech level 13 + adds no apparent weight.

Combat Armor (Cr20,000; TL 11): Combat armor is a complete vacc-suit-like array of metal and synthetic armor. Combat armor is strictly military and not available on the open market; it is issued
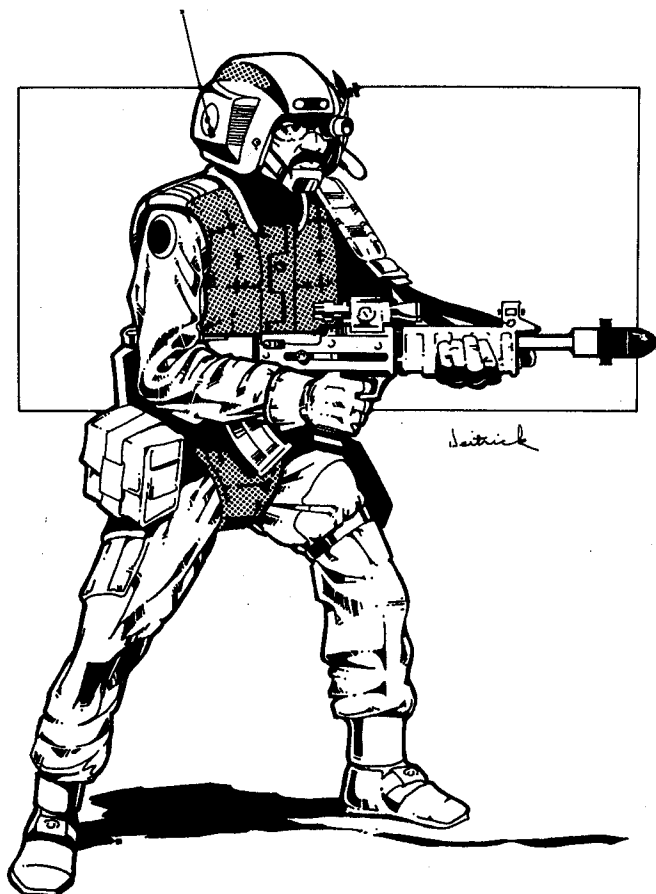
to troop units and elite mercenary battalions. Before combat armor can be worn, the user must have vacc suit skill-1 or better.

Battle Dress (Cr200,000; TL 13): The ultimate in individual protection, battle dress is an advanced and powered version of combat armor. Battle dress enhances the strength and senses of individuals wearing it with variable-feedback personal controls, servo-powered limbs, and various kinds of electronic assistance. The individual wearing battle dress is effectively doubled in strength and given unlimited endurance (for lifting, carrying, and fighting purposes; not for wounds received) and receives a DM of +2 for surprise.

SPECIAL CONSIDERATIONS

The following are important to the use of weapons.

Drawing: Weapons are usually carried holstered or slung, unless the characters specifically state the contrary. When drawing, a character attempting to use a holstered or slung weapon in a combat round is subject to a DM of −3. When two or more people draw against each other (assuming surprise is not a factor), each rolls two dice and adds his or her dexterity; the character with the highest modified throw thus achieves surprise for the purpose of a first shot.

Minor Accessories: Holsters, magazine carriers, belts, scabbards, cleaning kits, and other accessories are available for 10% to 20% of the base price of the weapon. They have effectively no weight (being included in the personal clothing group). Shoulder holsters conceal pistols in public; otherwise, pistols are openly carried in hip holsters.

Throwing Blades: Daggers, blades, and bayonets may be thrown at a target at short range. Throw 18+ to hit; DM +dexterity, +blade skill, −target evasion DM if evading. If a hit is achieved, the wound is 2D. Retrieval of thrown blades requires one combat round at close range with the target.

Polearms (spears, pikes, and halberds) may be thrown using the above procedure, but the thrower must have a strength characteristic equal to triple the weight of the thrown weapon, in kilograms.

Throwing a blade or polearm counts as a combat blow or swing.

Full Automatic Fire: Submachineguns and automatic rifles fire four round bursts instead of single shots. The higher ammunition usage results in the hit probabilities shown on the table (auto rifle uses the rifle row on the table when firing single shots). In addition, automatic fire allows rolling to hit twice against the same target. Finally, the group hit rule applies against companions of the target.

Group Hits By Automatic Fire: Regardless of the designated target for automatic fire, non-evading individuals adjacent to the target are also attacked by the burst of automatic fire. No more than two adjacent targets may be attacked, but each is the subject of a roll to hit with a DM of −3, and all other appropriate DMs.

Group Hits By Shotguns: Each shot by a shotgun may attack up to three individuals adjacent to the original target, provided they are in a group (herd, pack, band, etc.) and are each human-sized or smaller. In addition, when firing against flying targets (winged animals, flying vehicles) within range, a DM of +2 is allowed.

Coup De Grace: Any gun or blade may be used to administer a *coup de grace* and kill an unconscious or unstruggling individual (person or animal) at close range in one combat round if the character using the weapon so states. Ammunition is expended, but no die rolls are necessary. A coup de grace may be administered with hands or brawling weapons using special blows, but die rolls must be made.

Reloading: Technically, guns reload themselves after each shot. However, when the magazine capacity of a gun is exhausted, then the shooter must reload the gun with a fully loaded magazine. Unless otherwise stated, the process of reloading a gun with a full magazine takes one combat round, during which time the shooter is treated as evading.

Revolvers do not use magazines, and so take two combat rounds (one combat round if not simultaneously evading) to reload. Laser carbines and laser rifles do not use cartridges; their power packs must be recharged upon being exhausted. Such a laser weapon may be returned to service by replacing the power pack. Recharging a spent power pack requires approximately an hour at a power source.

Empty magazines are, of course, reusable. Ammunition for such magazines can be purchased for approximately half the price of a full magazine. The tedium of reloading empty magazines requires that it be done at leisure, rather than in combat. The process takes several minutes for each magazine.

Laser rifles and laser carbines require recharging of their power packs at a power source. When done commercially, there is a cost of Cr200 or Cr300 for the service. Generally, such power packs can be recharged at a ship's power plant at no cost.

Armor: With the exception of reflec, no armor may be worn with another type of armor. If reflec is worn in conjunction with another armor type and the wearer is attacked, the better type of armor provides the DM.

Darkness and Night: Poor lighting conditions may restrict the ability of an individual to see and attack. Total darkness restricts engagements to close and short range. Gun attacks at greater than short range are subject to DM −9. Partial darkness (moonlit night, distant illumination, or other weak light sources) reduces visibility range to medium, and attacks with guns are subject to DM −6.

Electronic sights eliminate negative DMs due to darkness and poor lighting.

Cover and Concealment: Cover is any solid object between an attacker and defender capable of protecting the defender from a weapon attack. Concealment is any object that prevents viewing or sighting of the defender. Cover may also be concealment; concealment is not necessarily cover.

An individual under cover cannot be attacked; an individual in concealment cannot be attacked unless the attacker has some reason to shoot into the area.

Individuals who attack from cover become visible and may themselves be attacked; because they retain partial cover they are eligible for a defending DM of − 4. Individuals who attack from concealment provide reason to believe they are present and may be attacked; because they remain partially concealed, they are allowed a defending DM of − 1.

Zero Gravity: Virtually all weapons have recoil (except laser carbines and laser rifles) and in a zero-G environment this recoil can disorient or render helpless individuals not trained to compensate for it. When fighting in a zero-G environment, any individual has a chance of losing control of his or her movement/position each combat round. Throw 10 + to avoid losing control. DMs: − 4 if firing a weapon. + 5 if using a handhold, − 6 if performing a swing or blow, + 2 if dexterity 9 +, additional + 2 if dexterity 11 +. Using a handhold reduces dexterity (for the above DMs and for required or advantageous dexterity) by − 4.

Individuals who lose control may not fire until they have reoriented themselves and regained control. Roll 10 + in each subsequent combat round; DMs as above except handholds and weapons may not be used.

ANTIQUE EQUIVALENTS

Most standard gun weapons available to travellers are based on weapons available in the 1980s. While technology will certainly progress in the centuries that come, it will also remain a fact that one of the surest ways to injure or kill an adversary is to subject him or her to a large dose of kinetic energy; the simplest way to deliver that energy to someone is with bullet impact. The guns noted below are used as the basis for the weapons described, although some changes have been made in weight and power. Individuals interested in the capabilities and parameters of the weapons can use this information as a springboard.

Body Pistol:	Walther PPK .380.
	OMC Back-up .380.
Automatic Pistol:	S&W Model 59 9mm.
	Auto-Mag .44 Magnum.
Revolver:	S&W M66 .357 Magnum.
	Colt Python .357 Magnum.
Carbine:	Ruger Mini-14 5.56mm.
	Armalite AR-180 5.56mm.
Rifle:	Springfield M14 7.62mm.
	Belgian FN FAL 7.62mm.
Automatic Rifle:	Rifles in heavy barrel, full-automatic versions.
Shotgun:	Remington M1100 12 gauge.
Submachinegun:	UZI 9mm.
	Sterling L2A1 9mm.

Some weapons such as the laser rifle and laser carbine are not currently available to 1980s technology. Referees may feel free to create other weapons (for example, a laser pistol) to suit the needs and desires of their own **Traveller** campaigns.

TRAVEL

Page 8 of the charts and tables booklet applies to this chapter.

Travellers travel. They move between worlds as well as on and over their surfaces. The concept of space travel is vital to **Traveller**, if only because it allows adventurers to move from place to exotic place in search of new, interesting, rewarding, or important activities.

Space travel between worlds is the most important type of travel undertaken by characters. Space travel can be of two types: interplanetary travel between worlds within a star system and interstellar travel between star systems. Starships and spacecraft are the carriers of goods, cargos, and passengers; individual passages may be purchased, the ships may be hired or chartered, and for the very rich, ships may be purchased.

Travel has its interests, rewards, and drawbacks. New worlds to be encountered, explored, or avoided are just as far as the next interstellar jump. Situations ranging from commercial ventures, to quests after unknown artifacts, to military expeditions are easily found.

INTERPLANETARY TRAVEL

Worlds orbiting the same star are accessible by interplanetary travel on ships operated by local entrepreneurs, or with a variety of small craft. But interplanetary travel takes long periods of time; since most stellar systems have only one major world, interplanetary travel is infrequent.

The diagram of a typical interplanetary journey shows the procedure used for moving between worlds in the same star system. The travel formulae can be used to determine time required (if distance and acceleration are known), acceleration required (if distance and time are known), and distance travelled (if time and acceleration are known). All formulae use the MKS (meters, kilograms, seconds) unit system, and assume that the ship is undertaking a journey from rest, that it accelerates continuously to the midpoint of the trip, and then decelerates to rest again. For ready reference, several travel times and distances have been pre-calculated for ready reference.

Interplanetary travel usually involves the individual's own vessel or a charter. Scheduled service is rarely available.

INTERSTELLAR TRAVEL

Worlds orbiting different stars are reached by interstellar travel, which makes use of jump drive. Once a starship moves to a safe distance from a world, it may activate its jump drive. Jump drives are rated from 1 to 6: the number of parsecs which can be travelled in one week. Making any jump takes about one week, regardless of the distance travelled. Transit time to 100 diameters from a size 8 world (world sizes are explained in Worlds) takes five hours at 1G.

Commercial starships usually make two jumps per month. They spend one week in jump, followed by one week in the star system, travelling from jump point to local world, refuelling, marketing cargo, finding passengers, leaving the starport, and proceeding to a jump point again. The week in the system usually provides some time for crew recreation and for wandering around the planet.
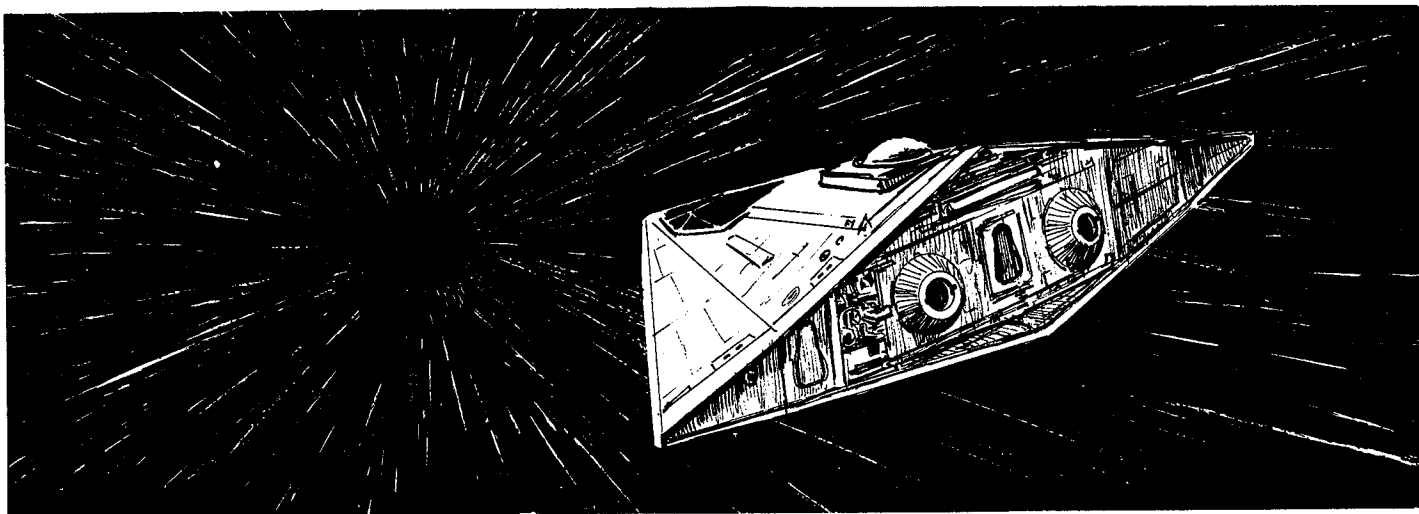
Non-commercial ships usually follow the same schedule of one week in jump and one week in a system. If haste is called for, a ship may refuel immediately and re-jump right away. This allows the ship to make one jump per week, but makes no provision for cargo, passengers, or local stops.

Interstellar travel is priced on the basis of accommodations; prices cover a trip from starport to starport, encompassing one jump, regardless of length. There are four types of passage:

High Passage — The best method of travel is called high passage, which involves first class accommodations and cuisine. High passengers have the services of the ship's steward, entertainment, and complete attention to their comfort. There is a baggage allowance of up to 1,000 kilograms. High passage costs Cr10,000.

Middle Passage — In order for starships to fill their staterooms with passengers, middle passage is offered on a standby basis, in the event that not enough high passages are sold. While middle passengers occupy staterooms normally similar to those occupied by high passengers, they do not receive the service or entertainment accorded the higher paying passengers. In addition, the quality of the cuisine is rather low. Baggage totalling 100 kilograms is allowed. Middle passage costs Cr8,000.

A middle passenger may be "bumped" and the stateroom taken by a late arriving high passenger; the middle passenger's ticket is returned, but no other compensation is made. (The bumped individual could, of course, then buy a high passage and in turn bump some other middle passenger if the extra cost seemed worth it).

Working Passage — A starship captain with a crew shortage may hire an individual to fill the vacant position, paying not money but passage in return. Working passage may not continue for more than three jumps, or the individual is considered to have been hired for standard salary. In order to be hired for working passage, the individual must have some expertise in the position for which he or she is hired (jack-of-all-trades may be substituted if necessary). Baggage totalling 1,000 kilograms is allowed. Working passage is without cost to the individual.

Low Passage — Transportation while in cold sleep (suspended animation) is possible at relatively low cost to the passenger. The passenger is placed in a low passage berth before the ship takes off and travels the entire journey in a state of suspended animation. He does not age and requires very little life support. Unfortunately, the low passage system involves some intrinsic dangers to the passenger, and he runs some risk of not surviving the voyage. Throw 5+ for each passenger when he is revived after the ship has landed. DMs: attending medic of expertise of 2 or better, +1; low passenger with an endurance of 6 or less, -1. Failure to achieve the throw to revive results in death for the passenger. Refunds or civil liability if a low passenger fails to survive the trip are not allowed. A player character who travels low passage and survives should keep records on the discrepancy between his chronological age and physical age; a character does not age physically while in low passage. Low passage costs Cr1,000 and includes a baggage allowance of 10 kilograms.

Stowaways — Stowing away on a starship is a fifth form of passage, and the least advisable. Sneaking aboard a starship in order to gain passage to the next world is illegal, if only because it operates to the detriment of the starship owner's economic standing. It is also often a violation of various customs regulations. A basic throw of 4+ per day applies for discovery of a stowaway. Various elaborate schemes may allow DMs to this throw, based on the referee's judgement. Upon discovery, the stowaway must roll for the starship captain's reaction. Reactions of 6- will result in spacing; the stowaway is forced out the air lock without a vacc suit. Otherwise, reactions are determined by the referee.

LESSER KNOWN ASPECTS OF SPACE TRAVEL

As interstellar travel has developed, the field has developed its own dangers and customs. The following are just a few.

The Low Lottery: It is customary for the captain to contribute Cr10 out of each low passage towards a lottery. Each low passenger guesses the number of low passengers who will survive the trip. If the winner does not himself survive, the captain receives the money. The ship's steward administers the lottery.

Since low passengers are typically without funds (who would travel low if there were a choice?), the low lottery provides some chance for the individual to have funds upon arrival at the destination.

The Travellers' Aid Society: Individuals who have decided that they wish to pursue a life of travel and adventure may elect to join the Travellers' Aid Society, in order to take advantage of its facilities and passage dividends. Members of the Travellers' Aid Society receive, as a dividend of membership, one high passage every two months. The high passage may be used, retained for later use, or sold for 90% of its cash value.

Membership in the Travellers' Aid Society may be acquired as a mustering out benefit on the benefits table in the navy and marine careers or purchased at a cost of Cr1,000,000. Upon application, the individual is evaluated by a membership committee (throw 4+ to avoid a blackball). Only one application per person is allowed. Membership is for the life of the character and is not transferable.

Hijacking: Starships can be easy prey for hijackers. Starship crews maintain constant guard against hijackers, and the ship's computer can run an anti-hijacking program which denies access to control areas to potential hijackers. Passengers are required to check all weapons (except blades and daggers) into the ship's locker; they are returned at the end of the voyage. Still, there is a chance of an attempted hijacking, for ransom or to steal the multi-million credit

vessel. Roll three dice for 18+ to indicate a hijacking attempt (this throw does not apply if all passengers are player characters). When an attempt occurs, randomly determine the number of hijackers, their identities, characteristics, and weapons, and implement their attempt at some point during the voyage. They will gain complete control of the ship only after defeating all other individuals on the ship. If the anti-hijacking program is functioning, the hijackers will be able to enter the bridge (gaining access to the controls) only on a throw of 5−.

The results of hijacking range from release of passengers without harm through marooning on uninhabited worlds to spacing and death.

Skipping: Most starships are purchased on credit, and monthly payments against the multi-million credit debt are staggering. The owner or captain may decide to steal the ship himself instead of remaining under that load. Passengers have no way of knowing if a specific ship is in such a status. Throw 12+ to determine that a commercial ship is of this type. Ships which have skipped are subject to repossession attempts if detected by the authorities. Such attempts may range from formal service of papers through legal injunctions to armed boarding parties. On each world landing, throw 12+ to avoid a repossession attempt; apply a DM of +1 per 5 parsecs distance from the ship's home planet, to a maximum of +9. If the ship has called on the same world twice within the last two months, apply a DM of −2.

Piracy: A starship may be attacked by pirates while entering or leaving a system. Similar encounters may involve customs agents or military vessels, including blockades. The ship encounter table later in this rules indicates the procedure.

Gas Giants: Most star systems include in their family of planets one or more gas giants. Gas giants are large worlds with hydrogen or methane atmospheres, valuable sources of fuel for starships.

In order to refuel from a gas giant, a ship must move into orbit around it, and then dive deep into its atmosphere with open fuel scoops. The procedure (called skimming) takes approximately eight hours, and results in fuel tanks filled with unrefined fuel.

Ocean Refueling: Ships can refuel from the water oceans of any world with a non-zero hydrographic percentage. The process calls for the ship to land in or near an ocean and then fill its tanks from the local water supply. It takes approximately four hours and results in fuel tanks filled with unrefined fuel.

STARSHIP MALFUNCTIONS

A starship can malfunction. The two major malfunctions are drive failure and misjump. The primary influencing factors are unrefined fuel and lack of maintenance.

Refined fuel is available at starports at about Cr500 per ton; unrefined fuel is available at starports for Cr100 per ton, or can be skimmed from gas giants for free. In addition, water can be taken

—WISEMAN & MORRISON

from oceans or lakes on worlds and used as unrefined fuel. Military and quasi-military starships often use unrefined fuel because it is more readily available, and because their drives are specially built to use it. Commercial ship sometimes use unrefined fuel because it is cheaper.

Starships require continuing maintenance as they operate, and an annual maintenance overhaul to keep them in top running order. Ships which are undercrewed and do not carry enough dedicated or full-time skilled engineers and those which avoid or delay their annual maintenance run the risk of malfunction.

Drive Failure: Each week, throw 13+ for drive failure; apply the following DMs: +1 if using unrefined fuel (and not equipped to do so), +1 per engineer missing from the crew list, +1 per month past annual maintenance overhaul date. If a malfunction occurs, then throw 7+ for each drive in use (jump, maneuver, power plant) to determine which actually fail (if any). Failed drives cease operation completely; maneuver drives will no longer thrust, jump drives will fail and indicate that they cannot support jump, and power plants stop delivering power. Batteries will provide life support and basic lighting for 1D days. Throw 10+ per day spent attempting repairs to fix them temporarily, with DM +engineering skill of attending engineers. More complete repairs must be made at a starport by qualified personnel.

Misjump: Each time the ship engages in a jump, throw 13+ for a misjump. Apply the following DMs: +1 if using unrefined fuel (and not equipped to do so), +5 if within 100 planetary diameters of a world, +15 if within 10 planetary diameters of a world. If the result is 16+, then the ship is destroyed.

A misjump is an unpredictable random jump. Throw one die to determine the number of dice thrown (1 to 6); throw that number of dice to determine the distance of the misjump in hexes. Then throw one die to determine the direction of the misjump (one of the six directions possible on the hex grid). Finally, throw one die to determine the number of weeks spent in jump space before the ship re-emerges at its new location.

Upon emerging from misjump, determining position and of travelling to an inhabited world becomes paramount.

STARSHIP ECONOMICS

Page 9 of the charts and tables booklet applies to this chapter.

The operation of starships in interstellar commerce requires an understanding of the economics which governs trade between the stars. Prices and returns on effort and investment are controlled by the supply and demand which exists in the commercial system. Because starships are so expensive, many of the prices in this section are expressed in megacredits (abbreviated MCr); a megacredit is one million credits.

STARSHIP PURCHASE

Bank financing is available to qualified individuals for the purchase of commercial starships. After a down payment of 20% of the cash price of the starship is made, the shipyard will begin construction of a specific vessel. Upon completion, the vessel is delivered to the buyer, with the bank paying off the purchase price to the shipyard. Because the bank now holds title to the ship, the price must be paid off in a series of monthly payments to it. Standard terms involve the payment of 1/240th of the cash price each month for 480 months. In effect, interest and bank financing cost a simple 120% of the final cost of the ship, and the total financed price equals 220% of the cash purchase price, paid off over a period of 40 years.

In addition, the bank will insist that the purchaser submit an economic plan detailing the projected activity which will guarantee that monthly payments are made. Unless a character has some form of guaranteed income (perhaps large rents from property he owns), this condition will generally rule out purchases (at least financed
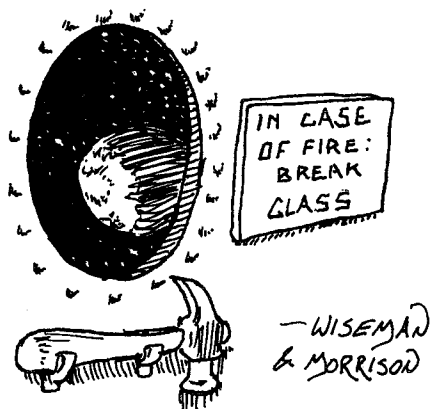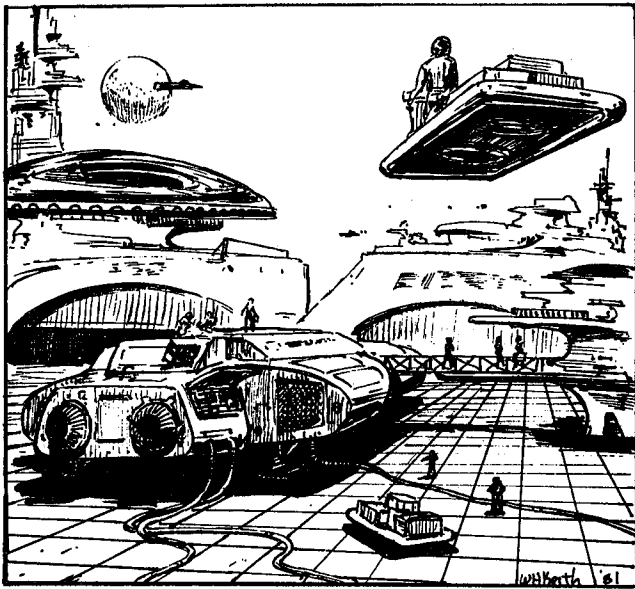
purchases) of yachts, military vessels, or exploratory vessels.

Subsidies: The government may subsidize larger commercial vessels (built on type 600 hulls or larger), primarily to assure consistent service to specific worlds. These subsidized merchants are generally assigned a specific route connecting from 2 to 12 worlds of varying characteristics. The route will generally be determined before a subsidized merchant is purchased, to allow tailored design features as may be necessary. When a subsidized merchant is ordered, the character himself must make the 20% down payment, with the government assuming responsibility for the payments upon delivery, and taking 50% of the gross receipts of the ship while in service. The character is responsible for all expenses and costs of operation.

Subsidized merchants are subject to mobilization for use as auxiliaries in the event of emergency or hostilities. At the end of 40 years, the vessel is completely paid off, and full title passes to the character, but the vessel remains subject to mobilization in case of government need.

STARSHIP EXPENSES

There are five basic expenses (in addition to the bank payment, if necessary) associated with starship operation:

1. Fuel. Starship fuel costs Cr500 per ton (refined) or Cr100 per ton (unrefined) at most starports. Fuel consumption is based on formulae related to the size of the starship power plant and jump drive.

2. Life Support. Each occupied stateroom on a starship involves an overhead cost of Cr2000 per trip (two weeks) made. Each occupied low passage berth incurs an overhead cost of Cr100 per usage. The normal limit is one person per stateroom, travelling couples or groups usually taking adjoining staterooms. Military vessels or chartered ships may use a double occupancy system (two persons per stateroom), but this requires twice the normal cost.

3. Routine Maintenance. Annually, a starship should be given a complete overhaul in order to insure that it is kept in good working order. Such maintenance costs 0.1% (1/1000th) of the cash price of the ship, and requires two weeks at a class A or B starport. The owner must make provision for payment of the maintenance fee when it comes due. Crew members generally take their vacations at this time, but must still be paid. The ship owners must make provision for the expected loss of revenue while the ship is out of service.

4. Crew Salaries. Crew members must be paid monthly. Non-player characters must be paid using the standard crew salary schedule (with suitable modifications for expertise or seniority,

generally +10% for each level of expertise above level 1). Player characters may bargain for better pay rates, or they may elect to accept worse. In addition, player characters may participate with the owner-captain and accept shares in the proceeds of the ship's activities.

Characters who take working passage are not paid, receiving passage, room, and board instead (but continuous working passage for more than three trips results in automatic hiring and receipt of salary). The starship captain is usually the pilot or navigator, and serves as owner-aboard, drawing his pay from the profits. Not all crew positions are required on all ships, and some ships will have more than one person performing the same function. For example, a large liner may have more than one steward.

5. Berthing Costs. Landing fees, handling costs, facilities use charges, and other starport fees are a common practice, and such costs must be paid as they occur. The average cost is Cr100 to land and remain for up to six days; thereafter, a Cr100 per day fee is imposed for each additional day spent in port. In some locations this fee will be higher, while at others local government subsidies will lower or eliminate it.

REVENUE

Ships generate revenue from cargo, passengers, and mail.

Cargo: Starships may inquire at a starport about the number, sizes, and destinations of cargos awaiting transportation. The referee should determine all worlds accessible to the starship (depending on jump number), and roll for each such world on the cargo table. Then he should roll to determine the number of major, minor, and incidental cargos available on the world of origin; modifiers take into account the world of destination. After rolling for the number of cargos, roll one die for each cargo to determine its size. Multiply the die roll for major cargos by 10, minor cargos by 5, and incidental cargos by 1 to determine the number of tons in each. For example, if a ship is on a population 6 world, going to a population 3 world with a tech level 3 less than the current world, the referee rolls one die for major cargos; he rolls a 4 (+2 from the table, −4 for the low population of the destination, +3 for the tech level difference), giving five major cargos. He then rolls one die for each cargo and multiplies each result by 10 to determine their individual tonnages. Each cargo is a distinct shipment and cannot be subdivided, but the ship may accept or reject specific cargos based on the best fit within the cargo hold. All cargos are carried at Cr1,000 per ton. Starship owners may purchase goods locally and ship them at their own expense, speculating that they can later sell at a profit.

Passengers: After a starship has accepted cargo for a specific destination, passengers will present themselves for transport to that destination. The passenger table is used to determine the number of passengers desiring passage to the announced world based on the origin world's population and on the destination world's population and travel zone status. Roll the dice specified (for example, 3D − 1D indicates that three dice are rolled, and the result of another one die roll is then subtracted). Apply any indicated DMs.

Passengers will pay the standard fare for the transportation class they choose: Cr10,000 for high passage, Cr8,000 for middle passage, and Cr1,000 for low passage. Passage is always sold on the basis of transport to the announced destination rather than on jump distance.

Differences in starship jump drive capacity have no specific effect on passage prices. A jump-3 starship charges the same passage price as a jump-1 starship. The difference is that a jump-3 ship can reach a destination in one jump, while the jump-1 ship would take three separate jumps (through two intermediate destinations, and requiring three separate tickets). Higher jump numbers also may make otherwise inaccessible destinations within reach. But for two ships of differing jump numbers going to the same destination in one jump, each would charge the same cargo or passage price.

Mail and Incidentals: Subsidized merchants may receive mail delivery contracts, usually as an adjunct to their established routes. Five tons of ship cargo capacity must be committed to postal duty on a full time basis, the ship must be armed, and a gunner must be a part of the crew. The starship is paid Cr25,000 (Cr5,000 per ton of postal cargo area) for each trip, regardless of the actual mail tonnage carried. Such tonnage will not exceed 5 tons per trip.

Other ships may be approached to deliver private messages, at times through the ship's owner or captain and at times secretly through a crew member. Private mail is usually intended for delivery to a specific point (such as the Travellers' Aid Society building or a tavern keeper) and is generally accompanied by a Cr20 to Cr120 honorarium. Throw 9+ for a private message to be awaiting transmittal and determine randomly which crew member is approached to carry it. Serving as a carrier for private mail also serves as an introduction to the recipient as a reliable person.

TRADE CUSTOMS

The following are standard procedures in interstellar commerce:

Delivery: Goods taken on in orbit are delivered when placed in orbit around the destination. Goods loaded on a planetary surface are delivered when off-loaded on the surface of the destination. This custom applies to cargo, passengers, and mail.

Shuttle Service: At any location with a class A, B, or C starport, shuttles routinely operate between orbit and world surface. Typical shuttle fares are Cr10 per ton of cargo and Cr20 to Cr120 per passenger.

Charters: Non-starships charter for Cr1 per ton per hour, usually with a 12-hour minimum. Charter price for a starship is computed based on its revenue generating capacity. Starships are chartered in 2-week blocks; the charge is Cr900 per ton of cargo hold plus Cr9,000 per high passage berth and Cr900 per low passage berth. The owner pays all overhead and supplies a crew.

STARSHIPS

Pages 10-11 of the charts and tables booklet apply to this chapter.

Space ships are constructed and sold at shipyards throughout the galaxy. Any class A starport has a shipyard which can build any kind of ship, including starships with jump drives; any class B starport can build small craft and ships without jump drives. Starports are explained under Worlds. The military procures vessels through these shipyards, corporations buy their commercial vessels from them, and private individuals can purchase ships that they have designed through them as well. The major restriction on the purchase of ships is money.

Definitions: The words vessel, ship, starship, non-starship, and small craft are used with special significance when referring to space travel. A vessel is any interplanetary or interstellar vehicle. A ship is any vessel of 100 tons or more. A starship is a ship which has jump drives and can travel on interstellar voyages. A non-starship is a ship without jump drives. A small craft is any vessel under 100 tons; all small craft are incapable of jump.

SHIP DESIGN

Most vessels are constructed from standard design plans which use time-tested designs and combinations of features. Shipyards work from these plans which cover every detail of construction.

Naval Architecture: Small design corporations can design plans for any type vessel once given the details of what is desired. The design procedure is followed to determine what is available and allowed, and the results are presented to a naval architect firm. They produce a detailed set of design plans in about four weeks for a price of 1% of the final ship cost; they can be hurried to finish the job in two weeks if paid 1.5%. When plans are received, the shipyard may be commissioned to produce the vessel desired.

Standard Designs: There are a number of standard design plans

available that have been in use for a long time and can be obtained for a nominal fee (Cr100 for the set). Standard starship plans available are: 100-ton scout/courier, 200-ton free trader, 200-ton yacht, 400-ton subsidized merchant, 600-ton subsidized liner, 800-ton mercenary cruiser, and 400-ton patrol cruiser. Standard plans are also available for the following small craft: 20-ton launch, 30-ton ship's boat, 30-ton slow boat, 40-ton pinnace, 40-ton slow pinnace, 50-ton modular cutter, 95-ton shuttle, and 10-ton fighter. Other standard plans may be available at various localities.

Standard designs are easier to produce; their prices reflect a 10% reduction in normal pricing. The details of the standard designs are shown at the end of this chapter. Standard design vessels are often available used (10 to 40 years old) at reductions in price ranging from 10% to 40% as indicated by the referee.

Construction Times: Time required for building any vessel depends primarily on the hull. The drive potential table indicates construction time for each tonnage of hull; any hull over the indicated tonnage requires the next higher construction time. The standard hulls table gives shorter construction times for those hulls; they are more familiar to the shipyard and easier to build.

Costs and Payments. A shipyard will insist upon a 20% down payment with the order for the vessel, and a demonstration that proper financing is available to cover the balance when due.

REQUIRED STARSHIP COMPONENTS

Starships are constructed on the foundation of a hull, into which are fitted the drives and power plants, the fuel tankage, life support equipment, computers, controls, armaments, and other fittings that adapt the ship to its intended function. The total tonnage of installed fittings cannot exceed the tonnage of the hull.

The Hull: Hulls are identified by their mass displacements, expressed in tons. As a rough guide, one ton is equal to 14 cubic meters (the volume of one ton of liquid hydrogen). When hulls are constructed, they are divided into an engineering section for the drives and the main compartment for everything else. All drives and power plants must be located in the engineering section, and only drives and power plants may be placed in that section. All other ship components, including fuel, cargo hold, living space, and computer, must be located in the main compartment.

The standard hulls table shows six hulls which are available at reduced prices and construction times. Any other hull must be produced on a custom basis at a cost of MCr0.1 per ton; minimum price MCr20. Construction times for custom hulls are shown in the last column of the drive potential table.

Hulls vary in their requirements for drives and power plants based on tonnage. Any specific drive will be less efficient as the tonnage it must drive increases. The drive potential table lists 24 standard drive types, identified by the letters A through Z (omitting I and O to avoid confusion with numerals 1 and 0). Also listed are various tonnage levels for hulls; any tonnage exceeding a listed level should be read at the next higher level. Correlating hull size with drive letter indicates drive potential. For maneuver drives, this potential is the Gs of acceleration available. For jump drives, the potential is the jump number (Jn), or jump range in parsecs. For power plants, it is power plant rating (Pn). For example, a 200-ton hull equipped with maneuver drive-A can produce 1G acceleration; an 800-ton hull equipped with jump drive-D can produce jump-2.

The Engineering Section: Drives are installed in the engineering section. A non-starship must have a maneuver drive and a power plant. A starship must have a jump drive and a power plant. A maneuver drive may also be installed. In all cases, the power plant must equal or exceed the higher of the maneuver drive and the jump drive letter. The drives used are described in price and mass in the drives and power plants table; their tonnage may not exceed the tonnage of the engineering section of the vessel.

It is important to note from the drive potential table that some drives will not produce results in some tonnages of hulls; these
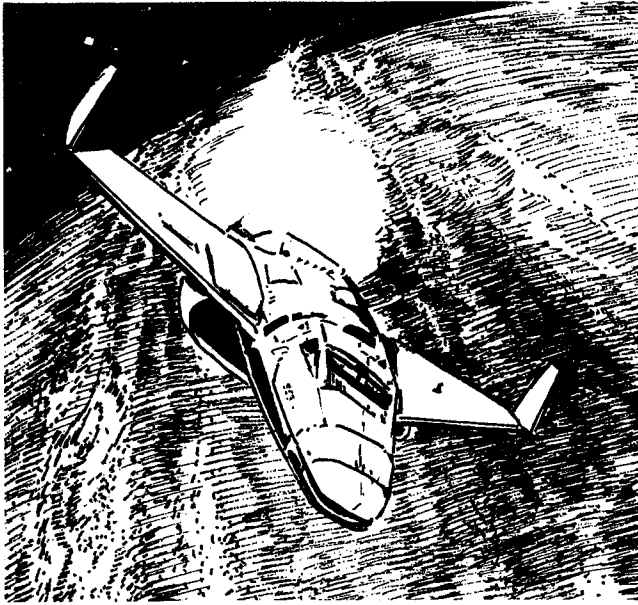
combinations are indicated by a dash instead of a number on the table. The drives and power plants table also indicates that some drives will not fit into some hulls. During the design process, it may also turn out that after fitting a set of drives and power plant into a hull, there may be insufficient tonnage remaining for fuel, basic controls or life support.

Drive ratings greater than six are not available from the equipment shown here.

The Main Compartment: The ship's main compartment contains all non-drive features of the ship, including the bridge, computer, staterooms, low passage berths, cargo hold, fuel tanks, armament, and other items.

A. The Bridge: All ships must allocate 2% of their tonnage (minimum 20 tons) to basic controls, communications equipment, avionics, scanners, detectors, sensors, and other equipment for proper operation of the ship. The cost for this bridge is MCr0.5 per 100 tons of ship.

The basic controls do not include the ship's computer, which is installed adjacent to the bridge. A computer is identified by model number; the computer table indicates price, tonnage, capacity, and tech level available. In general, larger computers are better in combat situations. In addition, the model number indicates the highest level of jump possible for a ship. For example, a ship must have a Model/4 computer before it can perform jump-4 in addition to the jump drive rating installed.

CPU refers to the computer's central processing unit, indicating the capacity to process programs; storage refers to the additional capacity available to hold programs in readiness for processing. Programs themselves are classified by size, using a point indicator to specify how much of the CPU or storage capacity is required for that program to fit into the computer. The number (and exact types) of which are on hand, in storage, or in the CPU is important in the operation of the starship, especially in combat.

Computer software (programs) must normally be acquired separately by purchase (or they may be written by a character with computer expertise). Each computer model as originally furnished includes a basic software package of commonly used programs. This package is selected by the purchaser from the list of available programs; the computer model (1 through 7) indicates the credit value which may be selected. For example, Model/1 allows a package with a value of MCr1, while Model/6 allows a value of MCr6.

There are two bis (meaning second, or improved) models of computer available. Each is treated as the next higher level for

jump support, but as the next lower level for software selection. Thus, the Model/1bis can support jump-2, but has a software package value of only MCr1.

Fire control equipment is required if weaponry is to be installed. Each installed turret requires one ton of displacement committed for fire control equipment.

Original design plans often include reserve tonnage for later use in installing fire control equipment, or for upgrading computers.

B. Staterooms: Quarters for the crew and passengers are provided in the form of staterooms containing sleeping and living facilities. Each stateroom is sufficient for one person, displaces 4 tons, and costs Cr500,000. In some starships (such as exploratory vessels, military ships, and privately-owned starships), double occupancy is allowed, but no stateroom can contain more than two persons due to strain the ship's life support equipment. A commercial ship must have one stateroom for each member of the crew.

C. Low Passage Berths: Each low passage berth carries one low passenger, costs Cr50,000, and displaces one-half ton. Low berths also serve well in emergencies, in that they can provide suspended animation facilities for characters when medical care or rescue is not immediately available.

Emergency low berths are also available; they will not carry passengers, but can be used for survival. Each costs Cr100,000 and displaces one ton. Each holds four persons who share the same revival die roll.

D. Fuel: Total fuel tankage for a ship must be indicated in the design plans. There is no cost, but capacity does influence how often the ship must refuel. At a minimum, ship fuel tankage must equal $0.1MJn + 10Pn$, where M is the tonnage of the ship, Jn is the ship's jump number, and Pn is the ship's power plant rating. Power plant fuel under the formula (10Pn) allows routine operations and maneuver for four weeks. Jump fuel under the formula ($0.1MJn$) allows one jump of the stated level. Ships performing jumps less than their maximum capacity consume fuel at a lower level based on the jump number used.

E. Cargo Hold: The design plan must indicate cargo capacity. There is no cost, but cargo carried may not exceed capacity.

F. Armaments: Any ship may have one hardpoint per 100 tons of ship. Designation of a hardpoint requires no tonnage, and costs Cr100,000. Hardpoints may be left unused if desired.

One turret may be attached to each hardpoint on the ship. When it is attached, one ton for fire control must be allocated. Turrets themselves are available in single, double, and triple mounts which will hold one, two, or three weapons respectively. Prices for turrets and weapons are indicated on the weapons and mounts table.

Turrets and weapons may be altered or retrofitted. For example, a single turret can have its pulse laser replaced by a beam laser when it becomes available; a single turret can be replaced by a triple turret when it becomes available. Weapons for installation in turrets include pulse and beam lasers, missile racks, and sandcasters. All are used in the space combat system described later in this booklet.

OPTIONAL COMPONENTS

The following are optional components. Where not present, they may be added to a standard design by the purchaser.

Atmospheric Streamlining: The hulls specified are rough deep space configurations incapable of entering atmospheres. They may be streamlined by so indicating in the design plans, at a cost of MCr1 per 100 tons of ship. This streamlining includes fuel scoops which allow the skimming of unrefined fuel from gas giants and the gathering of water from open lakes or oceans. Streamlining may not be retrofitted; it must be included at the time of construction.

Ship's Locker: Every ship has a ship's locker. The actual cost of much of the equipment within the locker is inconsequential when compared to hull and drive costs; the referee should administer what is actually within the ship's locker based on the situation. Typical

equipment carried aboard will include protective clothing, vacc suits, weapons such as shotguns or carbines, pistols, ammunition, compasses and survival aids, and portable shelters.

Ship's Vehicles: A ship may have one or more subordinate vehicles specifed as part of the ship's equipment, and tonnage may be devoted to the permanent stowage or hangarage of the vehicles. The vehicles list indicates those vehicles and small craft commonly available.

Air/rafts, ATVs, GCarriers, and speeders are described in the chapter on equipment. In most cases, vehicles will have ports or bay doors opening to the outside; air/rafts, GCarriers, and speeders can reach orbit, and are often launched to a world surface from orbit. If an ATV is carried, provision must be made to move it to a world surface if the ship is not streamlined (unless the vehicle is intended for use only on worlds without atmospheres).

Small craft are covered later in this chapter. When small craft are carried on a ship, it must have sufficient tonnage to hold each small craft allocated as small craft hangars or compartments.

SHIP CREWS

Each ship requires a crew. On small ships, the crew may be one person; on larger ships, the crew can be quite large. The following basic crew positions must be filled:

Pilot: Each starship and non-starship requires a pilot, who must have at least pilot-1 skill. Small craft require a pilot who must have at least ship's boat-1.

Navigator: Each starship displacing greater than 200 tons must have a navigator. The pilot of a small craft or non-starship can handle its navigation requirements.

Engineer: Any ship with tonnage 200 tons or more must have one engineer (with minimum engineer-1 skill) per 35 tons of drives and power plant. Ships under 200 tons and small craft do not require an engineer, although engineering skill may prove useful.

Steward: If high passengers are carried, then a steward is required. There must be at least one steward (steward skill-0 or better) per eight high passengers on the ship.

Medic: Each starship of 200 tons or more must have a medic (medic-1 skill or better). In addition, there must be at least one medic per 120 passengers carried. Non-starships and small craft do not require medics.

Gunner: One gunner (gunnery skill-1 or better required) may be hired per turret on a ship. Armed small craft require a gunner in addition to the pilot. The gunner position may be omitted if there is no major threat to the ship.

The most skilled member of a section containing more than one crewmember is so designated (chief engineer, etc.) and receives 10% more pay. The chief steward is often titled purser; the chief medic is customarily known as the ship's doctor.

One person may fill two crew positions, if he or she has the skills needed for both jobs. However, because of the added burden, each position is filled with skill minus one, and the individual draws salary equal to 75% of each position. Thus, to fill two positions, the character must have skill level 2 in each, except steward, which requires level 1. No person may assume the duties of more than two crew positions except in the case of an emergency.

Other positions may be created depending on the facilities of the starship. For example, a starship carrying a cutter could have a crew position for cutter pilot (and possibly gunner) in addition to its normal crew positions. Specific jobs (laboratory technician if the ship has a laboratory; contact specialist if the ship is assigned alien contact missions) require crew members to perform them.

For starships of greater than 1000 tons hull mass displacement, the crew should also include a commanding officer (or captain), his executive officer, and at least three administrative personnel. Extremely large starships should have at least 10 crew members for each 1000 tons of mass displacement.
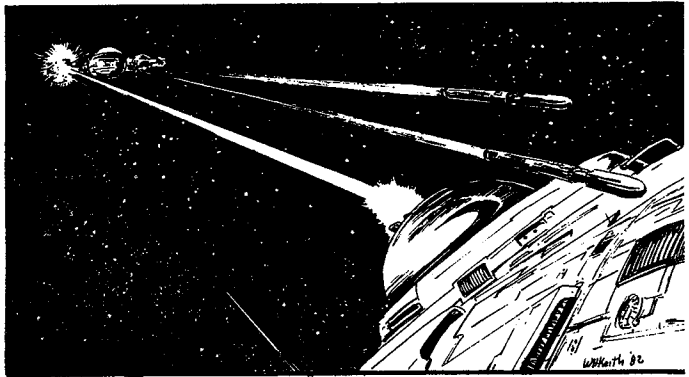
WEAPONRY

The four commonly available weapons types are pulse lasers, beam lasers, missile launchers, and sandcasters.

Pulse Lasers fire short bursts of energy at targets and are more effective at inflicting damage than are beam lasers.

Beam Lasers fire continuous beams of energy and are more effective in achieving hits than are pulse lasers.

Missile Racks are launchers for small anti-ship missiles. A typical missile is a homing-type which constantly seeks the target ship, and is either destroyed by the target's defenses or explodes with resulting damage. Such missiles may also be converted to planetary surface bombs or surveillance drones (mechanical and electronic skill should apply). Individual missiles weigh about 50 kg and cost Cr5,000 each.

Sandcasters are defensive weapons; they dispense small particles which counteract the strength of lasers and protect the ship. The specific particles used are similar to the material used in ablat personal armor; replacement canisters of this special sand weigh about 50 kg and cost Cr400.

DECK PLANS

If the referee or the designer should feel that detailed deck plans for a ship are required, then they may be drawn using square-grid graph paper. The recommended scale for ship interiors is 1.5 meters per square, with the space between decks (floor-to-ceiling height) approximately 3.0 meters. One ton of ship displacement equals about 14 cubic meters. With 3.0 meters floor-to-ceiling, one floor square (1.5 x 1.5 x 3.0 meters) equals 6.75 meters. Two such squares equal 13.5 cubic meters, or about one ton.

When allocating space within the ship for deck plans assume that only a portion of stateroom tonnage is actually in the staterooms; the remainder should be used for common areas and other accommodations for crew and passengers.

A leeway of plus or minus 10% to 20% should be allowed. If the final deck plans come to within 20% of the tonnage of the ship specifications, they should be considered acceptable.

SMALL CRAFT

Vessels under 100 tons are considered to be small craft. There are eight standard designs available; each design plan is available for Cr100. All take approximately twelve months to build. All are streamlined, and can enter atmospheres. All can operate with unrefined fuel; they have fuel scoops which allow them to skim fuel from a gas giant.

Each small craft design is intended to be as useful as possible. As a result, the description covers basic performance of the craft, and indicates price, crew, and other details. Each craft also has a feature called excess space: this interior tonnage may be used by the purchaser for a wide variety of purposes. In effect, when the craft is procured, it is customized by the purchaser for some specific use. Any fitting or combination of fittings shown on the fitting table may be specified for a standard design small craft. The

Launch

Ship's Boat

Slow Boat

Pinnace
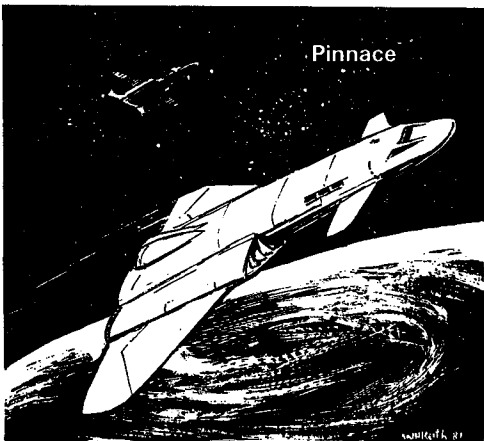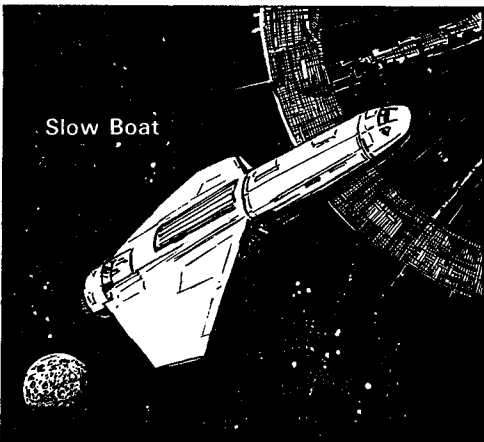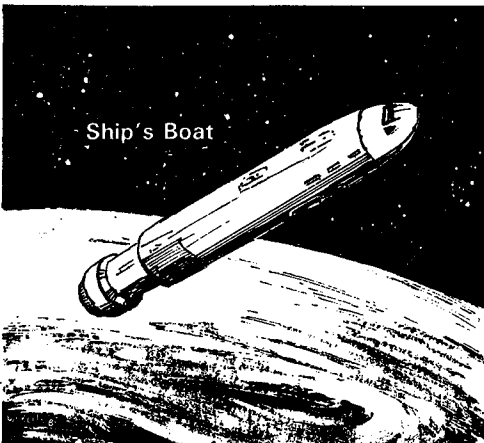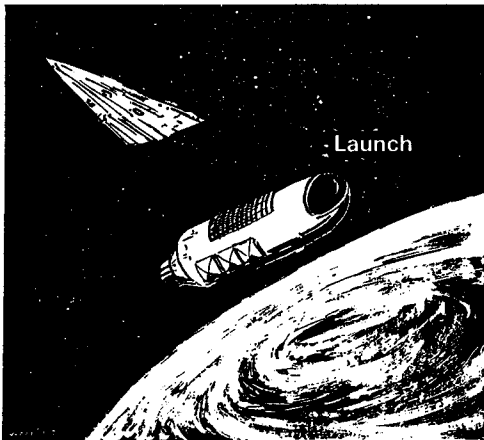
prices, however, are ignored, and are considered to be included in the standard design price. For example, the launch with 13 tons excess space, could utilize that space for 5 tons of fuel, 10 passenger couches, a small craft cabin, and one ton of cargo. In either case, the price of the launch remains MCr14.

Fittings: The fittings table lists items that may be allocated to small craft. Staterooms, low berths, and emergency low berths are the same as those in larger ships. The small craft cabin is a small, one-passenger stateroom for use on longer voyages. It can be used double occupancy on small craft which have no bridge, but the crew will become increasingly uncomfortable. Small craft couches are individual passenger seats; one is required for each passenger if a stateroom or cabin is not provided. Each small craft except the fighter already has two small craft passenger couches installed (the fighter has one). Cargo and fuel tankage are simply allocated; one ton of cargo space carries one ton of cargo, while one ton of fuel tankage carries one ton of fuel. The fuel tankage listed for each small craft supports four weeks of operation. Each added increment of fuel tonnage supports an additional four weeks of operation.

Listed crew for all small craft except the fighter is two: pilot and rider. The craft may be operated by one pilot if desired. The pilot must have ship's boat skill (or may use pilot skill minus one). The rider may be a gunner, a passenger, or a co-pilot. If the craft is armed, but carries no gunner, the pilot may fire the weapon with a DM of − 1 on the weapon.

Computers may be added to small craft, but such computers must be purchased normally. Specific computer restrictions are indicated in the small craft descriptions.

Weaponry may be added to small craft. Each may allocate one ton to weaponry and install up to three weapons. The individual listings indicate specific weapons which are available.

STANDARD SMALL CRAFT

Launch (also called Lifeboat): using a 20-ton hull, the launch is capable of 1-G acceleration, carries 1 ton of fuel tankage, and has a crew of two. A launch may mount missile racks and sandcasters; it may not mount lasers. The maximum computer for the launch is the Model/2bis. The craft has 13 tons excess space available for custom use and costs MCr14.

Ship's Boat: Using a 30-ton hull, the ship's boat is capable of 6G acceleration, carries 1.8 tons of fuel tankage, and has a crew of two. A ship's boat may mount one beam or pulse laser; remaining weapons must be missile racks and sandcasters. The maximum computer for the ship's boat is the Model/3; if the computer is Model/3, lasers may not be mounted. The craft has 13.7 tons of excess space available and costs MCr16.

Slow Boat: Using a 30-ton hull, the slow boat is capable of 3G acceleration, carries 1 ton of fuel tankage, and has a crew of two. A slow boat may mount one beam or pulse laser; remaining weapons must be missile racks or sandcasters. The maximum computer for the slow boat is the Model/3; if the computer is Model/3 lasers may not be installed. The craft has 19.9 tons of excess space and costs MCr15.

Pinnace: Using a 40-ton hull, the pinnace is capable of 5G acceleration, carries 2 tons of fuel, and has a crew of two. It may mount two lasers, and any remaining weapons must be missile racks or sandcasters. The maximum computer for the pinnace is the Model/4. If a Model/3 is installed, only one laser may be mounted; if a Model/4 is installed, no lasers may be installed. The craft has 22.4 tons of excess space and costs MCr20.

Slow Pinnace: Using a 40-ton hull, the slow pinnace is capable of 2G acceleration, carries 1 ton of fuel, and has a crew of two. It may mount one beam or pulse laser; remaining weapons must be missile racks or sandcasters. The maximum computer for the slow pinnace is the Model/3; if the computer is. a Model/3, lasers may not be mounted. It has 31.6 tons excess space and costs MCr18.

Modular Cutter: Using a 50-ton hull, the cutter is capable of 4G, carries 2 tons of fuel, and has a crew of 2. It has 30 tons committed to special detachable modules; the craft has 2.5 tons excess space available for weaponry, computer, and possibly a couch for a third crew member. The cutter may mount up to two lasers; remaining weapons must be missile racks or sandcasters. The maximum computer for the cutter is the Model/4. If a Model/3 is installed, only one laser may be mounted; if a Model/4 is installed no lasers may be mounted. The cutter, without any modules, costs MCr28.

Three interchangeable modules are routinely available for the modular cutter.

The ATV module (which includes an operational ATV) is 30 tons. It can land (and retrieve) an ATV on a world surface from orbit. The module can serve as an ATV storage location, if desired. It costs MCr1.8.

The fuel module, with 30 tons of fuel tankage, serves as a fuel skimming vehicle and storage tank. It costs MCr 1.

The open module is a customizable frame with 30 tons of excess space which can be allocated to passenger couches, fuel, cargo, cabin or staterooms. It costs MCr 2.

Shuttle: Using a 95-ton hull, the shuttle is capable of 3G acceleration, carries 2.85 tons of fuel, and has a crew of 2. It may mount up to two lasers; remaining weapons must be missile racks or sandcasters. The maximum computer for the shuttle is the Model/4. If a Model/3 is installed, only one laser may be mounted; if a Model/4 is installed, no lasers are allowed. It has 71 tons of excess space and costs MCr33.

Fighter: Using a 10-ton hull, the fighter is capable of 6G acceleration, carries 1 ton of fuel, and has a crew of one. It includes a computer Model/1 and can mount only one type of weapon: one laser, up to three missile racks, or up to three sandcasters. The maximum computer for the fighter is the Model/3; if a Model/3 is installed, then no lasers are permitted. It has one ton of excess space and costs MCr18.

STANDARD SHIP DESIGN PLANS

The following ships are standard designs available at almost any shipyard. Each description indicates the ship's performance and details of its design. Design plans for each are available for Cr100; prices shown reflect the 10% reduction in price normally allowed standard designs.

Scout/Courier (type S): Using a 100-ton hull, the scout/courier is intended for exploration, survey, and courier duties, with many in service throughout known space. It mounts jump drive-A, maneuver drive-A, and power plant-A, giving performance of jump-2 and 2G acceleration. Fuel tankage of 40 tons supports the power plant and one jump-2. Adjacent to its bridge is a computer Model/1bis. There are four staterooms and no low berths. The ship has one hardpoint and one ton allocated to fire control. Installed on the hardpoint is one double turret, but no weaponry is mounted. There is one ship's vehicle: an air/raft. Cargo capacity is 3 tons. The hull is streamlined.

The scout/courier requires a crew of one: pilot/engineer. The ship can carry three passengers (up to seven passengers double occupancy) in non-commercial service only. The ship costs MCr29.43 (including 10% discount for standard designs) and takes 9 months to build.

Free Trader (type A): Using a 200-ton hull, the free trader is an elementary interstellar merchant ship plying the space lanes carrying cargo and passengers. It has jump drive-A, maneuver drive-A, and power plant-A, giving performance of jump-1 and 1G acceleration. Fuel tankage for 30 tons supports the jump drive and one jump-1. Adjacent to the bridge is a computer Model/1. There are ten staterooms and twenty low berths. There are two hardpoints and two tons set aside for fire control. No weapons are mounted. There are no ship's vehicles. Cargo capacity is 82 tons. The hull is streamlined.

The free trader requires a crew of four: pilot, engineer, medic, and steward. Up to two gunners may be added. The ship can carry six high or middle passengers and twenty low passengers. The ship costs MCr37.08 (including 10% discount for standard designs) and takes 11 months to build.

Subsidized Merchant (type R): Using a 400-ton hull, the subsidized merchant (nicknamed fat trader) is a trading vessel intended to meet the commercial needs of clusters of worlds. It has jump drive-C, maneuver drive-C, and power plant-C, giving performance of jump-1 and 1G acceleration. Fuel tankage for 50 tons supports the power plant and allows one jump-1. Adjacent to the bridge is a computer Model/1. There are thirteen staterooms and nine low berths. The ship has two hardpoints and two tons set aside for fire control. No weapons are mounted. There is one ship's vehicle: a 20-ton launch. Cargo capacity is 200 tons. The ship is streamlined.

The fat trader requires a crew of five: pilot, navigator, engineer, medic, and steward. Up to two gunners may be added. The pilot operates the launch. The ship can carry eight high or middle passengers and nine low passengers. The ship costs MCr101.03 (including 10% discount for standard designs) and takes 14 months to build.

Subsidized Liner (type M): Using a 600-ton hull, the subsidized liner is a passenger and freight carrier committed to long-haul routes. It has jump drive-J, maneuver drive-C, and power plant-J, giving performance of jump-3 and 1G acceleration. Fuel tankage for 210 tons supports the power plant and allows one jump-3. Adjacent to the bridge is a computer Model/3. There are thirty staterooms and twenty low berths. The ship has three hardpoints and three tons set aside for fire control. No weapons are installed. There is one ship's vehicle: a 20-ton launch. Cargo capacity is 129 tons. The hull is unstreamlined.

The subsidized liner requires a crew of nine: pilot, navigator, three engineers, three stewards, and one medic. Up to three gunners may be added. The ship can carry 21 high or middle passengers and twenty low passengers. The pilot operates the launch. The ship costs MCr236.97 (including 10% discount for standard designs) and takes 22 months to build.
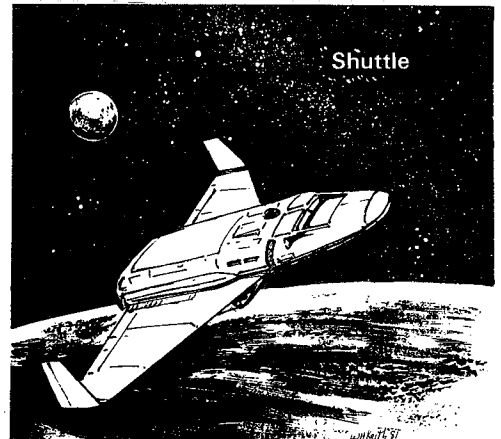
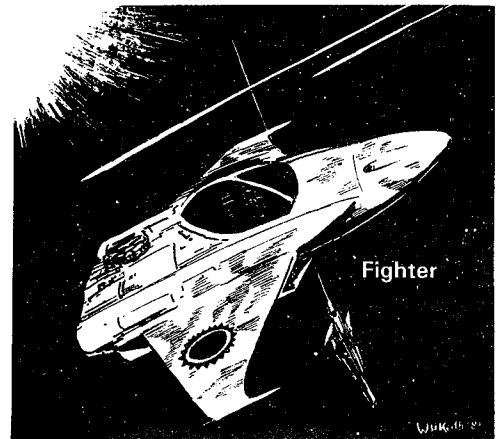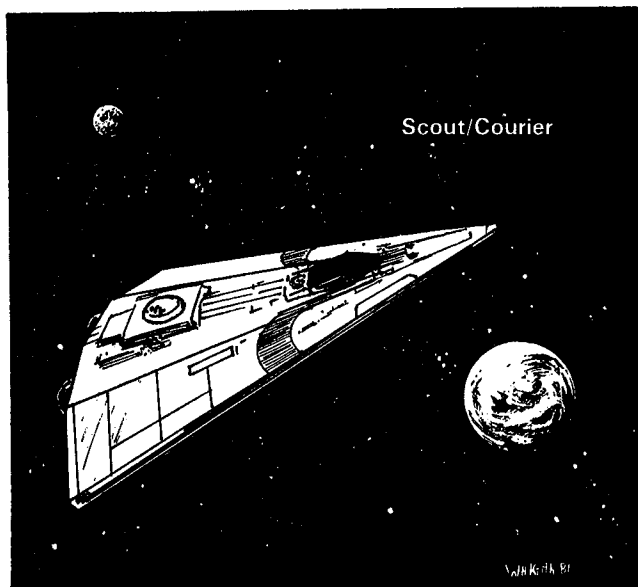**Yacht** (type Y): Built on the 200-ton hull, the yacht is a noble's plaything used to
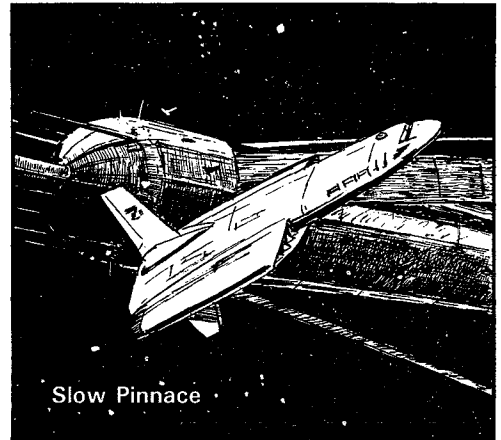
Slow Pinnace
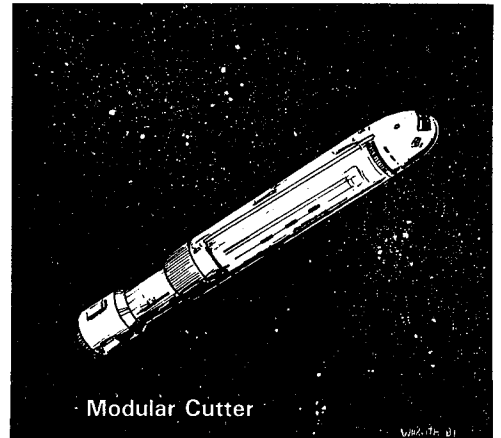
Modular Cutter

Shuttle

Fighter

Scout/Courier

Free Trader

Subsidized Merchant

Subsidized Liner
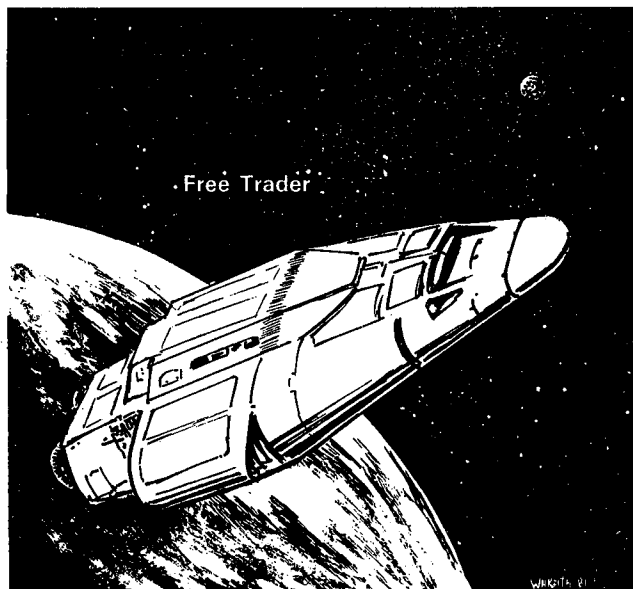
entertain friends and undertake political or commercial missions. It mounts jump drive-A, maneuver drive-A, and power plant-A, giving performance of jump-1 and 1G acceleration. Fuel tankage of 50 tons supports the power plant and allows two successive jump-1s. Adjacent to the bridge is a model/1 computer. There are fourteen staterooms (two have been combined into a suite for the owner) and no low berths. There is one hardpoint and one ton allocated for fire control. No weaponry is installed. There are three ship's vehicles: an air/raft, a 30-ton ship's boat, and an ATV. The ship's boat is fitted to ferry the ATV from orbit to surface and back. Cargo capacity is 11 tons. The yacht is unstreamlined.

The yacht requires a crew of four: pilot, engineer, medic, and steward. Additional stewards, gunners, navigators and other personnel may be added. The steward operates the ship's boat, the air/raft, and the ATV. the ship can carry up to 9 passengers in non-commercial service. The yacht costs MCr51.057 (including 10% discount for standard designs) and takes 11 months to build.

Mercenary Cruiser (type C): Using an 800-ton hull, the mercenary cruiser is built to carry small troop units for corporate or government operations. It has jump drive-M, maneuver drive-M, and power plant-M, giving jump-3 and 3G acceleration. Fuel tankage of 318 tons supports the power plant, provides one jump-3, and holds 48 tons in reserve for its small craft and for long term operations. Adjacent to the bridge is a computer Model/5. There are 25 staterooms and no low berths. The ship has eight hardpoints and eight tons allocated for fire control. Eight triple turrets are installed, but no weapons are mounted. There are five ship's vessels: two modular cutters (with one open module and one fuel module), two ATVs (in ATV modules), and one air/raft. Cargo capacity is 80 tons. The hull is unstreamlined.

The mercenary cruiser requires a crew of eight: commanding officer, pilot, navigator, four engineers, and medic. Vehicle pilots, clerks, troops, and gunners may be added. The ship can carry 17 passengers (42 if double occupancy) in non-commercial service; its primary intended purpose is transport and support of small military (mercenary) units. The ship costs MCr445.95 (including 10% discount for standard designs) and takes 25 months to build.

Patrol Cruiser (type T): Using a custom 400-ton hull, the patrol cruiser is a military vessel used for customs inspections, piracy suppression, and normal safety patrols. It has jump drive-F, maneuver drive-H, and power plant-H, giving the ship performance of jump-3 and 4G acceleration. Fuel tankage for 160 tons supports the power plant and allows one jump-3. Adjacent to the bridge is a Model/3 computer. There are twelve staterooms and four low berths. There are four hardpoints and four tons allocated for fire control. Four
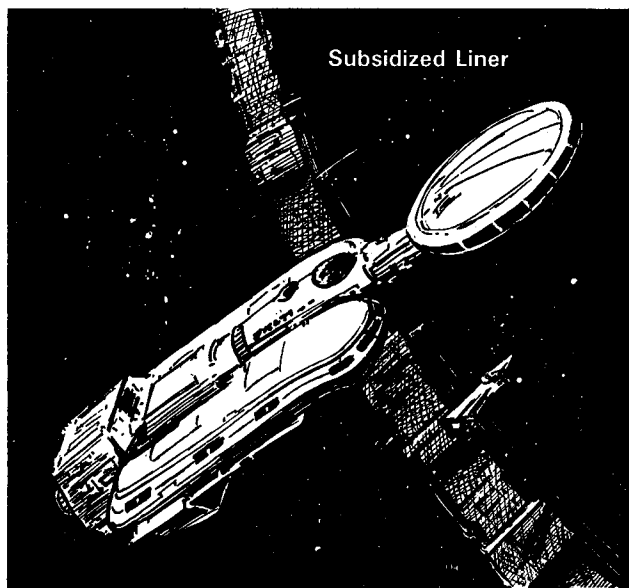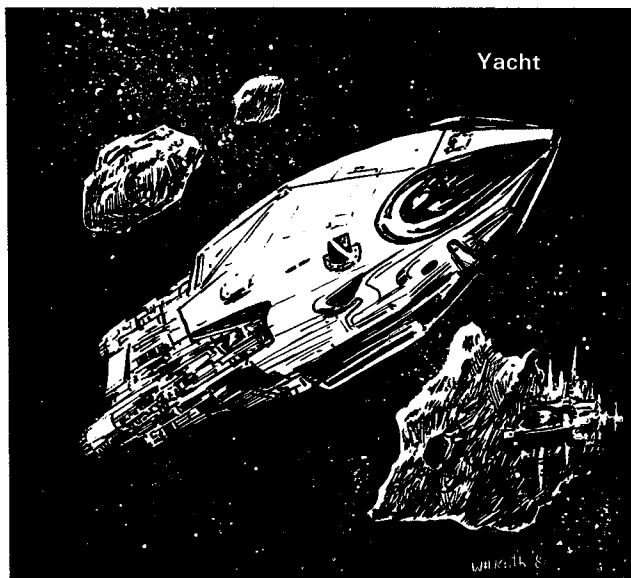
Yacht

Safari Ship

Mercenary Cruiser

Patrol Cruiser

triple turrets are installed: two triple lasers and two missile racks. There are two ship's vehicles: a GCarrier and a 30-ton ship's boat. Cargo capacity is 50 tons. The ship is streamlined.

The patrol cruiser requires a crew of 10: pilot, navigator, three engineers, medic, and four gunners. Eight troops can be added (double occupancy for troops and gunners). The ship costs MCr221.04 (including 10% discount for standard designs) and takes 16 months to build.

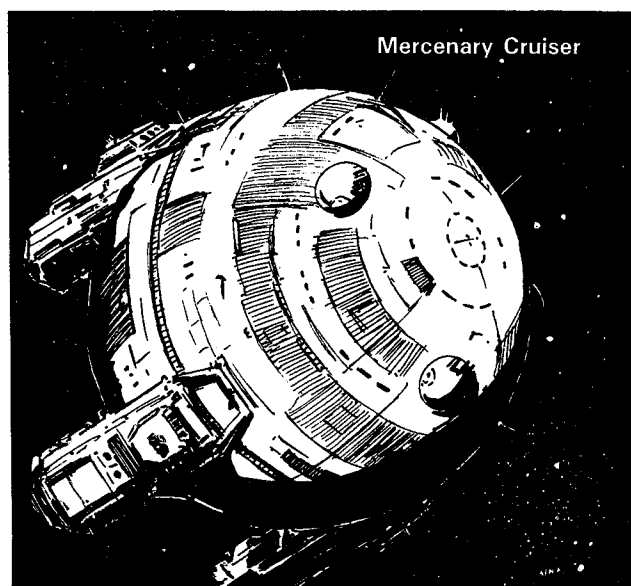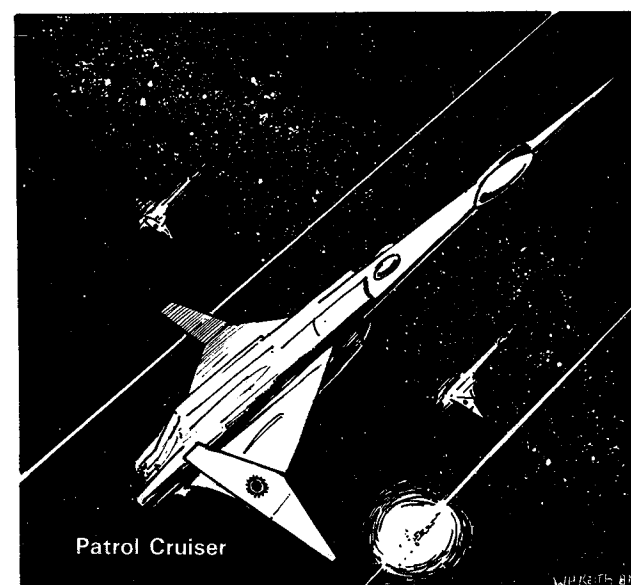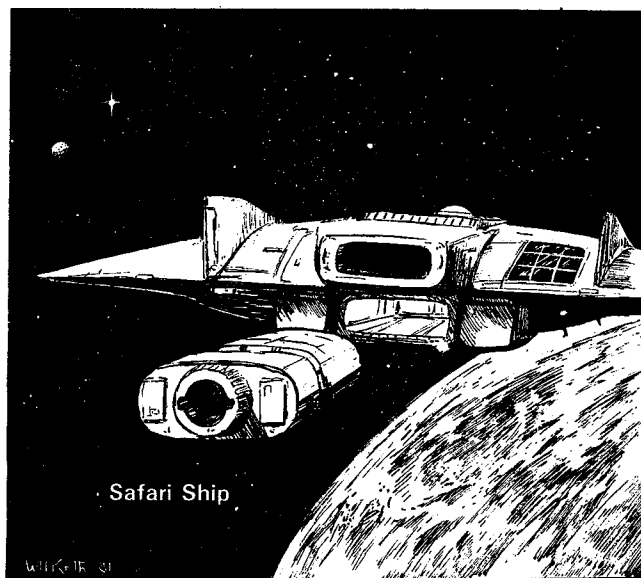**Laboratory Ship** (type L): Using a 400-ton hull, the laboratory ship is a mobile base for scientific analysis and investigation. It mounts jump drive-D, maneuver drive-C, and power plant-F, giving a performance of jump-2 and 1G acceleration. Fuel tankage for 90 tons supports the power plant and one jump-1. Adjacent to the bridge is a model-2 computer. There are twenty staterooms and no low berths. The ship has two hardpoints and two tons allocated to fire control. No weapons are installed. There are three ship's vehicles: two air/rafts and one 40-ton pinnace. Cargo capacity is 23 tons. Laboratory space equals 85 tons. One ton is waste space. The ship is unstreamlined.

The laboratory ship requires a crew of five: pilot, navigator, two engineers, and medic. Gunners and scientific research personnel may be added. The pilot operates the pinnace; the engineers operate the air/rafts. The ship can carry 20 passengers (35 if double occupancy) on a non-commercial basis. The ship costs MCr158.98 (including 10% discount for standard designs) and takes 14 months to build.

Safari Ship (type K): Using a 200-ton hull, the safari ship is an excursion vessel intended for trophy-taking (real or photographic) expeditions to other worlds. It has jump drive-B, maneuver drive-A, and power plant-B, giving a performance of jump-2 and 1G acceleration. Fuel tankage for 60 tons supports the power plant and one jump-2. Adjacent to the bridge is a computer Model/1bis. There are eleven staterooms and no low berths. The ship has one hardpoint and one ton allocated to fire control. A double turret is installed, but no weapons are mounted. There are two ship's vehicles: an air/raft and a 20-ton launch. Cargo capacity is 6 tons. Two 7-ton capture tanks hold specimens, and a 7-ton trophy lounge serves as a hunter's recreation area. The hull is streamlined.

The safari ship requires a crew of five: pilot, navigator, engineer, steward, and medic. A gunner and additional expedition personnel may be added. The pilot operates the launch; the steward operates the air/raft. The ship can carry a party of six (or up to 8 if the crew goes to double occupancy) on expeditions; it does not engage in commercial passenger service. The ship costs MCr81.08 (including 10% discount for standard designs) and takes 11 months to build.

COMPUTERS

Page 13 of the charts and tables booklet applies to this chapter.

The computer installed on a ship controls all activity within and is especially used to enhance weapons fire and defensive activity. It also transmits control impulses for maneuver and jump drives, and conducts the routine operation of all ship systems. What the computer actually does is based on the programs installed and operating at any one time.

Computers are identified by model and specified in terms of their capacity to process and store programs. Models range from Model/1 to Model/7. Capacity is stated as the size of the CPU (central processing unit) and of available storage for programs. All programs in the computer's CPU are processed simultaneously, while programs in storage are available on a revolving basis to replace those in the CPU as needed. For example, a Model/1 computer has a CPU capacity of two and an additional storage capacity of four. The computer might have in it six programs (each of size or space 1): return fire, predict-1, gunner interact, auto/evade, maneuver, and target. Of these six, only two (the capacity limit of the CPU) can function at any one time (in one phase). In the laser return fire phase, both target and return fire programs would be required, and only those programs could be used with this capacity CPU to effect laser return fire. During a laser fire phase, as before, only two programs could be used: target is required, but the player could select between predict-1 or gunner interact for the program to be processed, depending on which would provide the greater benefit.

During the computer reprogramming phase, specific programs may be removed from the computer and others inserted. To continue the example above, both jump-1 and navigation would be required for the performance of an interstellar jump. Both programs would be fed into the computer during the reprogramming phase, but only after sufficient space had been cleared (perhaps by removing the maneuver and auto/evade programs).

THE SOFTWARE LIST

The computer software list indicates the various programs that are available. It shows space required by a specific program in CPU or storage, its price in MCr, and its title. Also shown is a brief overview of its effects. The three right-hand columns indicate various requirements for individual characters producing the programs. Such a course will save money but may have some pitfalls.

Programs in the software list are classified as offensive, defensive, and routine.

Offensive programs are intended to allow the use of weapons mounted on a ship to damage or destroy enemy vessels. They are useful only if the vessel mounts weaponry.

Target identifies enemy vessels and controls all turrets on board ship. It is required for all laser fire and missile or sand launches except anti-missile fire. It provides no DMs of its own.

Predict is a series of five programs which predict the future position of the target and allow insertion of lead into laser fire. Predict applies only to laser fire, and allows an advantageous DM to hit.

Gunner interact interfaces the expertise of the gunner in a specific turret to the hit probability of those lasers hitting the target. The expertise of the gunner becomes a positive DM to hit when using laser fire.

Selective allows a gunner to select either the main compartment or engineering section as the target to receive hits to be inflicted. Each of the three selective programs inserts DMs against the probability of hitting the more restricted target, but hits, if made, are assured of going on the selected portion of the target.

Launch allows missiles to be launched from launch racks and sand to be fired from sandcasters. The target program is also required.

Multi-target is a series of programs that interfaces the ship's detectors and radar with several turrets and allows an attack on more than one target at one time. Each turret may still only fire at one specific target, but different turrets may fire at different targets. This program is required if more than one ship target is fired on in the same phase. The target program is also required.

Double fire allows a ship to draw excess power (if available) from the power plant and thus increase the output of laser weaponry. When this program is functioning, a vessel with a power plant rated at least one letter higher than its maneuver drive (and which has not yet taken damage to reduce the current letter rating to equal to or below the M-Drive letter) can fire a double beam or double pulse with laser weaponry. The normal dice throw to hit is made twice. Each time double fire is used, a throw must be made to determine if overload has occured: for the first phase of such fire, throw 1 + to survive overload; for the second phase, throw 2 +; to survive, and so on; DM − 1 for each turn in which lasers do not fire at all. If the throw to survive is not achieved, a hit is received on the ship's power plant.

Defensive programs are used to protect a starship against enemy action.

Maneuver/evade is a series of six programs which automatically produce minor movement for a ship, thus reducing its chances of being hit by laser fire. Each program has a DM based on pilot expertise (multiply pilot skill by the stated fraction and round down to a whole number). In addition, these programs allow the use of the maneuver drive as required, just like the normal maneuver program.

Auto/evade is similar to maneuver/evade, but performs at a lower level; it allows a defensive DM against laser fire of − 2.

ECM is an electronic countermeasures program which jams and confuses the homing heads of incoming missiles, forcing them to explode prematurely in many cases. During the laser return fire phase, all missiles in contact with the ship are destroyed without damage to the ship on a throw of 7 +.

Return fire allows laser weaponry to fire at enemy ships which have fired at it in the immediately previous fire phase. Use of this program also requires the target program, and DMs produced by other programs (such as gunner interact) are allowed. If more than one enemy ship is fired on, the multi-target program is also required.

Anti-missile allows any or all laser weaponry to fire at enemy missiles which have contacted the ship during the preceding movement phase. The target and multi-target programs are not required. Other programs do not affect the functioning of these programs (with DMs, etc.).

Routine programs are used to operate ship's systems other than weaponry and without regard to violent interaction.

Maneuver is required to allow the use of maneuver drive. In combat it is often replaced by the maneuver/evade program.

Jump is required to allow the ship to perform a jump through

interstellar space. The specific program for the jump distance required must be used. For example, a jump-6 ship which is going to perform jump-3 must use the jump-3 program.

Library is an encyclopedic compendium of information concerning the local stellar region, especially the local sector and subsector. Crew and passengers often refer to this program before disembarking on a world. The referee will often find this a handy method of imparting commonly known information to the players. The note should be made that the library program is not all-inclusive and may be incorrect in some facts.

Generate creates a flight plan which will govern the use of the jump program. The navigator or pilot can input specific co-ordinates into the computer concerning a destination, and the generate program will create a flight plan to take the ship there. In cases where a generate program is not available, starports have single-use flight plans (in self-erasing cassettes) available for all worlds within jump range for Cr10,000 per jump number. The generate program may be used independently and produces the required flight plan, which is then used by the computer when jump is performed.

Navigation controls the jump process after a flight plan has been produced. Flight plans must be fed into the navigation program, which then interfaces with the jump program to actually take a ship to its destination. To actually make a jump, both the jump and navigation programs must be functioning in the computer (the generate program need only run long enough to actually create the flight plan)

Anti-hijack protects the ship against potential takeovers by hijackers. This program constantly monitors conditions within the starship and automatically locks the access doors to the bridge and controls when a hijack situation occurs. Because this system is not foolproof, would-be hijackers may gain access in spite of the program on a throw of 5 or less.

WRITING COMPUTER PROGRAMS

Player-characters can and should seek out new and different computer programs to improve the performance and enlarge the capabilities of their spacecraft. Generally, writing a program requires computer skill and also some skill which relates to the actual task being programmed. The computer software list indicates in two columns the computer skill level required as a minimum to write the program, any other skill required, and the throw per week of work to succeed. Computer skill above the required level is allowed as a DM on the throw to succeed. The other skill required may be possessed by another person helping the programmer.

Fatal Flaws: Any home written program may have a fatal flaw concealed within. This bug may not appear until the program is really needed. The referee should note the potential for a fatal flaw and roll as required (suggested roll: 11 + for the bug to appear).

SMALL CRAFT COMPUTERS

Small craft do not require computers, and ordinarily do not have them. They utilize their weapons with negative DMs of −1 and cannot add in gunner skill when they are used. However, if a small craft adds a computer to its weapon system, then the ordinary computer programming rules apply to it (except that ship's boat skill is needed instead of pilot skill when writing such programs).

USING THE SOFTWARE LIST

The computer software list in the charts and tables booklet shows the basic information required for the use of software.

In space combat, the important information is space required by the specific program, title, and effects. In ship design and construction, the important information is cost in MCr and space required.

To characters interested in writing their own programs, the skills column shows the computer skill required, any other skill also called for, and the throw per week of work required to succeed in writing the program.

SPACE COMBAT
Pages 12-13 of the charts and tables booklet apply to this chapter.

Encounters in space can be routine or they can be extraordinary. In some circumstances, battles may result. Starship battles may be resolved by spaceship combat in accordance with the following rules. These rules serve well in nearly all situations, from simple encounters where a free trader attempts to outrun a pirate or revenue cutter to the complex engagements between starship squadrons of rival systems or empires.

Each game turn represents 1,000 seconds.

TURN SEQUENCE

Starship miniatures battles are resolved in a series of game turns, each representing 1000 seconds elapsed time. Most battles, regardless of the number of ships or players participating, will involve only two sides. These two sides alternate player turns within a game turn. Thus, each 1000 second game turn includes two player turns, one for each combatant side. Each player turn is further divided into several phases which allow specific activity to be performed in a regular, orderly manner.
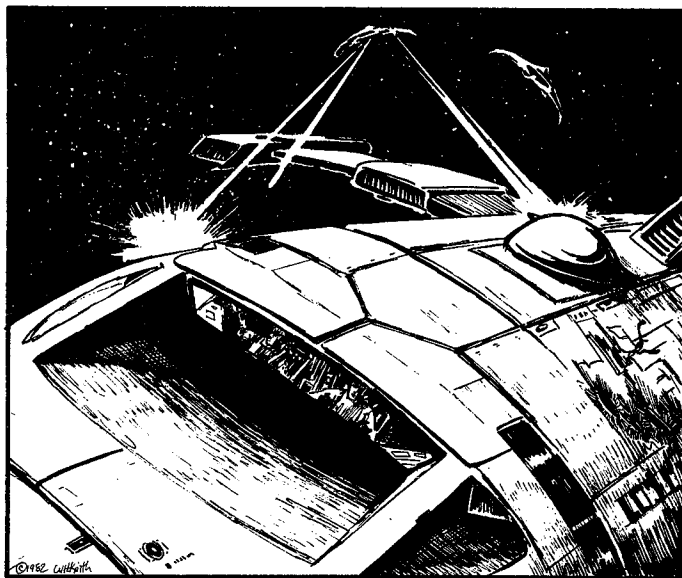
Native vs. Intruder: For convenience, the two sides in the battle are referred to as the intruder and the native. This terminology is intended to avoid possible confusion when one side is called the attacker but is in reality defending. Other terms could (and sometimes should) be used instead.

The sequence of the complete turn is given in the game turn sequence table. Activity must be performed only in the appropriate phases of the game turn or player turn; for example, spacecraft may not move during the laser fire phase, ordnance may only be launched during the ordnance launch phase, and computers may only be reprogrammed in the computer reprogramming phase.

PREPARATION FOR PLAY

Each ship involved in space combat must have a data card prepared for it. This card contains basic information about the ship, serving as a reference for the players during the course of the battle. As damage occurs, it is marked on the card to reduce the ship's abilities in later turns.

Because many starship battles are possible over the course of a **Traveller** campaign, the common 3 x 5 index card has been selected for recording the necessary ship information.

To prepare a data card, note the name and ship type on the top line of a blank 3 x 5 index card. Below the name, on succeeding
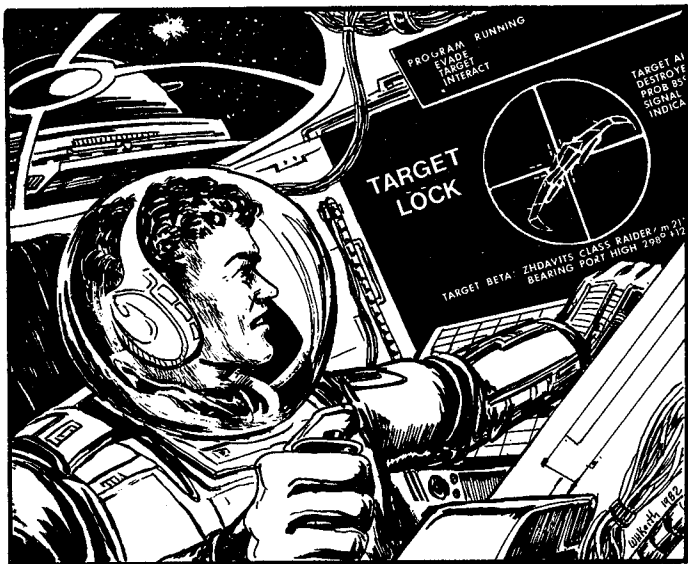
lines along the left side of the card, write the six basic sections of the ship, followed by their values:

1. M-Drive (followed by the drive letter).
2. Power Plant (followed by the power plant letter).
3. J-Drive (followed by the drive letter).
4. Fuel (followed by the fuel tonnage).
5. Hold (followed by the cargo hold tonnage and all vehicles carried).
6. Bridge (followed by the pilot expertise).

Below this data, list all turrets (numbered consecutively starting with T-1). After each turret designation, indicate the armament with which each turret is equipped, using the letters B (beam laser), P (pulse laser), M (missile launcher), and S (sandcaster). A triple turret would have up to three letters indicating the weapons installed in it, while a single turret would only have one. After the letters for the weapons, indicate the skill of the gunner in the turret. Also indicate the number of missiles present in each launch rack.

To the right of the card, indicate the computer model, as well as the CPU and storage capacity. Below that, indicate the computer programs which are carried on board the ship. During the game, these programs will be entered into the computer and will be cycled from storage to CPU and back, so leave room to mark them with a pencil to indicate their status.

The data card example shows how a typical type S scout would be represented, armed with typical weaponry. Data cards must be created for all starships and non-starships. When creating cards for non-starships which were designed and built in accordance with the design rules, the above format applies. The jump drive letter designation is simply left blank. When a data card is made for small craft, the standard format is used, and appropriate items are left blank. Maneuver drives for small craft are labeled with drive letter zero. Computers and programs are listed only if they are actually installed. All weaponry is listed as being in a single turret.

MOVEMENT

Ships move using their maneuver drives; use of the jump drive exits the ship into interstellar space and out of the area of play. In essence, ships depend on their maneuver drives and computer programs to allow them to catch ships they pursue or to escape ships pursuing them.

The referee determines in each space battle the location of the ships or craft involved. Typically, the referee specifies where a ship emerges from jump and how far it must travel before it can perform a jump safely. Further, the referee specifies when enemy ships appear and what their position is.

Ships move in range bands, each about equal to 10,000 kilometers. They may move forward or back, but no side-to-side movement is allowed. Ranges are determined by counting the number of range bands between any two ships; for example, ships in adjacent range bands are at a distance of 1.

Every ship has a velocity, either forward or backward, which equals the number of range bands it moved in the previous turn. (Initial velocities are determined by the referee.) Each turn, a ship may change its velocity by up to its maneuver drive rating and then moves a number of range bands equal to its new velocity. For example, suppose a ship with a maneuver drive-6 is moving forward with a velocity of 4 range bands per turn. During its movement phase, it could speed up to 10 range bands per turn forward, change to 2 range bands per turn backward, or anything in between.

Boarding: If a ship's maneuver drive has been disabled, it may be boarded from any other ship in the same range band with the same velocity.

LASER FIRE

In the laser fire phase of a player turn, the phasing player may fire laser weaponry at enemy targets. The following procedure dictates the order of actions taken by ships using laser fire. Several variables may affect this action.

First, the firing player selects the target at which the turrets of a single ship will fire. All lasers from one turret must fire on the same target; lasers from different turrets may fire on different targets if a multi-target program is running and allows such activity. The firing player then designates the targets for the rest of his ships.

Second, the firing player determines all applicable attack DMs (such as gunnery programs) and sums them to create one specific DM which he will use. Because of differences in ships, he may create one DM for each ship involved. Most attack DMs are the result of computer programs, but some may be forced by ship damage.

Third, the target player determines all applicable defense DMs (such as maneuver/evade programs) and sums them to create a single defense DM to be used against the enemy fire. Defense DMs result from such circumstances as obscuring sand, range, or defensive programs.

Fourth, two dice are thrown, and that result modified by both the attack and defense DMs. If the modified result equals or exceeds 8, a hit is achieved. The dice throw is made once for each firing laser weapon. The total number of hits is noted.

Fifth, each hit received is located on the target ship. Using another two dice throw for each hit, the hit location table is consulted, and a specific effect is obtained and marked on the ship data card.

Laser fire is possible only for the phasing player, and hits are imposed on the target ship immediately. Return fire occurs in the following phase, and may be conducted only by ships which are capable of doing so after this phase.

Pulse Lasers: Pulse lasers are less accurate but more powerful than beam lasers. A pulse laser fires with a DM of −1 to hit; however, if it hits the target suffers two damage rolls instead of one.

Shifting Fire: Each firing ship must allocate its fire to a specific target before any ship has actually fired. Such allocation may be changed (shifted) if the target is destroyed before any weapons on the attacking ship have fired, but such a shift is subject to a DM of −6 in addition to all other applicable DMs.

LASER RETURN FIRE

Laser return fire is conducted by those ships which have been targets for laser fire from enemy weaponry in the preceding laser fire phase. Both target and return fire programs must be in the CPU for return fire to be performed. Laser return fire may only be directed at an enemy ship which fired at this ship. Laser return fire may be made against multiple enemy ships only if the multi-target program is also present.

Anti-missile fire also takes place in the laser return fire phase. It is dependent on the anti-missile fire program. For anti-missile fire to be performed, no target program is necessary. Only missiles in the ship's own range band may be fired upon.

ORDNANCE LAUNCH

During the ordnance launch phase, missiles or sand (or both) may be launched, provided both launch and target programs are running. Additionally, lifeboats or ship's vehicles may be launched (without programs being necessary) as desired.

During the ordnance launch phase, missiles or sand which contacted a target in the preceding movement phase now explode or take effect.

Ordnance must be specified as launched during the launch phase, and only one missile or sand canister may be launched from a launch rack or sandcaster. The launched item does not actually move until the following friendly movement phase. In the following friendly movement phase, ordnance moves. Sand moves at the velocity possessed by the launching ship at the time of launching; missiles move as if they were ships with maneuver drive-6.

Reloading: Each launcher (sand or missile) internally holds three missiles or canisters. This means that a triple turret with three missile launchers has a total of 9 missiles in ready position.

When a launcher's missiles or canisters are exhausted, it may be reloaded by the turret's gunner in one turn. Reloading three launchers would take three turns. A gunner engaged in reloading is unable to fire other weaponry in the turret.

Missile Detonation: Ordnance that impacts a target in a movement phase (enters the same range band) and then survives anti-missile fire detonates in the ordnance launch phase. This detonation will inflict 1 to 6 hits depending on the range at detonation. For each missile, throw one die. The result is the number of hits inflicted; each resulting hit location is determined separately.

DETECTION

Ordinary or commercial starships can detect other ships out to a range of about one-half light-second, or fifteen range bands. Military and scout starships have detection ranges out to two light-seconds, or sixty range bands.

Ships which are maintaining complete silence cannot be detected at distances of greater than half the normal range; ships in orbit around a world and also maintaining complete silence cannot be detected at more than one-eighth the normal range.

Tracking: Once a vessel has been detected, it can be tracked by anyone up to three light-seconds, about ninety range bands.

DAMAGE DEFINITIONS

Once combat results in hits against a vessel, the damage must be implemented. The precise portion of a ship affected by hits is determined from the hit location table. Separate columns are provided for starships, non-starships, and small craft. The following instructions detail the manner in which damage affects ships.

Drives and Power Plants: Each hit achieved on a drive or power plant reduces its letter classification by one. Thus C becomes B, X becomes W, etc. The potential of the drive or power plant is then computed based on its temporary new letter. Note that the letter rating of a power plant must equal or exceed that of a maneuver or jump drive in order for the drive to function.

A drive or power plant which is reduced to the level of the maximum drive potential table where its capabilities are marked with a dash cannot function; a drive or power plant reduced to less than A is destroyed, and must be replaced rather than repaired.

Turrets: Each turret hit incapacitates a turret, preventing it and its weaponry from functioning. In cases where multiple hits occur on a ship with more than one turret, roll dice to determine randomly which turret or turrets are hit. A turret may be hit more than once, while another may not be hit at all.

Hull: A hull hit decompresses the ship's hull. Further hull hits have no effect.

Hold: A hold hit allows potential damage to items in the hold, including ship's vehicles and small craft, as well as cargo. Each hit destroys ten tons of cargo, one vehicle, or one small craft. Roll dice to determine randomly which items are damaged.

Fuel: Each fuel hit punctures a fuel tank and releases about 10 tons of fuel. When sufficient fuel hits have been inflicted to reduce the remaining fuel to less than is required for a jump, the vessel may not make a jump; when all fuel is accounted for, the vessel may not use its maneuver drive or fire its lasers.

Computer: Each hit on the computer increases its chance of malfunctioning. The basic throw for a computer to operate in any situation is 1 +, indicating extreme reliability. Each hit on the computer serves as a DM of − 1 on the throw to operate. Thus, after three hits are inflicted on the computer, a DM of − 3 is applied to the throw of 1 + to operate. The throw to operate is made each time the computer is used (in combat, this is generally once per phase). A computer which does not make its throw to operate malfunctions for the remainder of the phase. A new throw is made at the beginning of the next phase. A computer which has received 12 hits is permanently malfunctioning. Persons with computer expertise may apply their skill levels as DMs on the throw to operate. A computer which is not operating effectively paralyzes a starship.

A computer hit on a small craft which does not have one is treated as a hit on the craft's drives instead.

Small Craft Cabin: A hit on a small craft cabin results in explosive decompression if depressurization has not already occurred. Additional hits have no effect. Persons in vacc suits within the craft are unaffected.

Small Craft Weaponry: A hit on the weaponry of a small craft destroys that weaponry. Additional hits have no effect.

Small Craft Drive: A hit on the drive of a small craft destroys the drive; the craft cannot maneuver, accelerate, or fire its lasers.

Hits as a result of laser fire, laser return fire, or missile detonation are located on the target vessel through the use of the hit location table. Such damage as indicated above is then marked on the ship's data card.

If a select program is being used to influence attacks, the firing player rolls one die for each hit inflicted. On a roll of 1 or 2, he or she picks the hit location, specifying one of the following: maneuver, power plant, jump, fuel, hull, hold, computer, or turret. If the roll is 3 or greater, roll hit location normally.
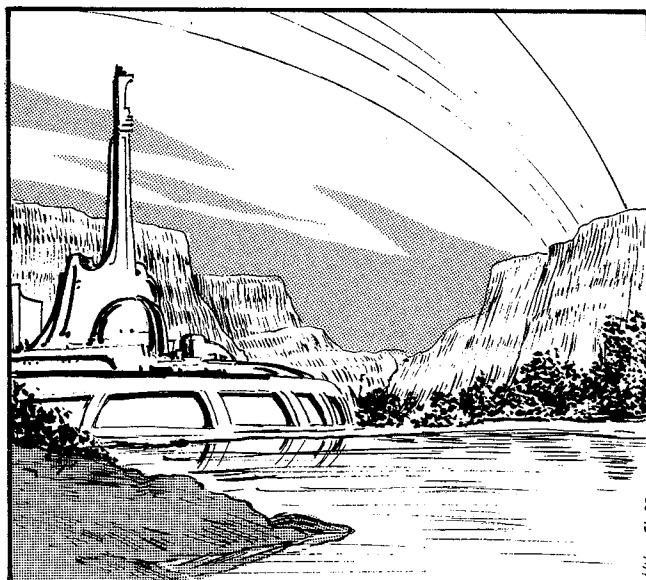
Damage to ships gradually wears away their capabilities, but will not generally destroy them in one shot. The exception to this is the critical hit. If a critical hit is achieved, then the critical hit table is consulted with one die. The result is complete destruction or incapacitation of the indicated item. Unlike ordinary hits, the entire item is destroyed (crew is not necessarily killed, but is rendered unable to function).

SPECIAL SITUATIONS

The following are descriptions of several special situations and how they may be handled when they arise. In addition to the specific instructions given, they also serve as models for dealing with other special situations.

Decompression: Vessels depressurize their interiors before combat whenever possible, the passengers and crew resorting to vacc suits for safety and comfort. This procedure minimizes the danger due to explosive decompression as a battle result. In some cases, selected areas may remain pressurized (perhaps the hold, for the safety of delicate cargo) while other areas are depressurized.

Any number of areas in the ship may be depressurized in the span of one turn (1,000 seconds). Repressurization requires one turn. In practice, the following parts of the ship may be individually pressure regulated: engineering section, hold, bridge, staterooms (all as one group; on some ships, in groups of four or more), turrets (individually). The pilot controls depressurization from the bridge.

Hull hits result in explosive decompression if pressure has not already been lowered. Explosive decompression kills all persons in that section unless a vacc suit is available and put on immediately. Throw dexterity or greater to put on a vacc suit in an emergency; apply DMs of double vacc suit skill.

Abandon Ship: Should circumstances warrant, a ship may be abandoned using ship's vehicles or other methods. Military vessels (including exploratory vessels) can generally board the full passenger and crew complement of their ship's vehicles in one turn and launch them during the ordnance phase, provided those individuals perform no other activity during the turn. If individuals are encumbered by vacc suits, each boards in the first turn on a throw of 6+, boarding in the next turn if unsuccessful.

Non-military vessels require 1D turns to fully load all ship's vehicles. Crew members in the vehicles may elect to abandon ship without waiting for stragglers.

Individuals in vacc suits may abandon ship during the ordnance launch phase providing no other activity is performed during the player turn. Such persons may then be picked up by other ships or vessels. If no one is available to perform a rescue, then an attempt at landing on a local world is possible. A vacc suit can support its occupant for up to 21 one-thousand second turns; an additional air tank set will provide another 21 one-thousand second turns. A typical vacc suit is capable of one turn's acceleration at 1G before it runs out of fuel. A foamed atmospheric re-entry ablation shield (part of the vacc suit kit) can protect the individual while entering the atmosphere of a world if his velocity is no more than one range band per turn. Accident or mishap can occur during the process. Throw 7+ to survive provided all else is performed properly; allow a DM of + vacc suit skill.

Damage Control: Damage inflicted on starships in combat can be repaired or controlled by crew members during the battle. Especially in the case of player characters, expertise or skill in specific fields may be used to remove or repair damage. Usually, a throw of 9+ will repair one hit of damage, with skill serving as a positive DM. One repair attempt may be made per one-thousand second turn. Any part of a ship which has been completely destroyed cannot be repaired.

Repair Parts: Most malfunctioning or damaged items in a vessel can be temporarily repaired from the stock of emergency materials in the ship's stores. Malfunctions usually occur in terms of a specific assembly (ship's computer, jump drive, etc.), and the cost of the repair is based on the cost of the original assembly. After determining the cost of the assembly (from the component cost section of these rules), roll two dice: this indicates the cost of replacement of the item in 10% increments; allow a DM − 2 if the repair installation will be made by ship's crew rather than a shipyard. Because the repair cost can run to 120% in some cases, complete replacement of the item is sometimes cheaper. In the case of minor malfunctions, DMs may be applied to the repair cost throw as considered appropriate. Repair parts cost of 0% is considered to be inconsequential.

STARSHIP ENCOUNTERS

When a starship enters a system, there is a chance that it will encounter any one of a number of different ships going about their business. Very often, the exact encounter is the responsibility of the referee; for routine encounters, or for inspiration, the starship encounter table is provided.

The table classifies each system by the starport within it. Two dice are rolled and modified by the presence of scout or naval bases in the system. If a dash is shown on the table, then there is no encounter. The letter codes indicate the various types of standard design ships described earlier in this book. The referee should examine the specific type of ship involved and determine the precise nature of the encounter. Free traders may want to swap rumors and gossip; scouts may want information; patrol cruisers may want to inspect for smugglers.

The suffix P on any ship type can be construed as pirate; such a ship will probably attack or at least try to achieve a position where it can make the attempt.

It is also possible to encounter a variety of small craft in a system. If an asterisk appears on the table entry, a small craft has also been encountered. Roll one die and consult the standard small craft table. This encounter may occur before or after the large ship encounter.

The referee may want to use the reaction table from the chapter on encounters to determine the precise reaction of any type of ship and crew.
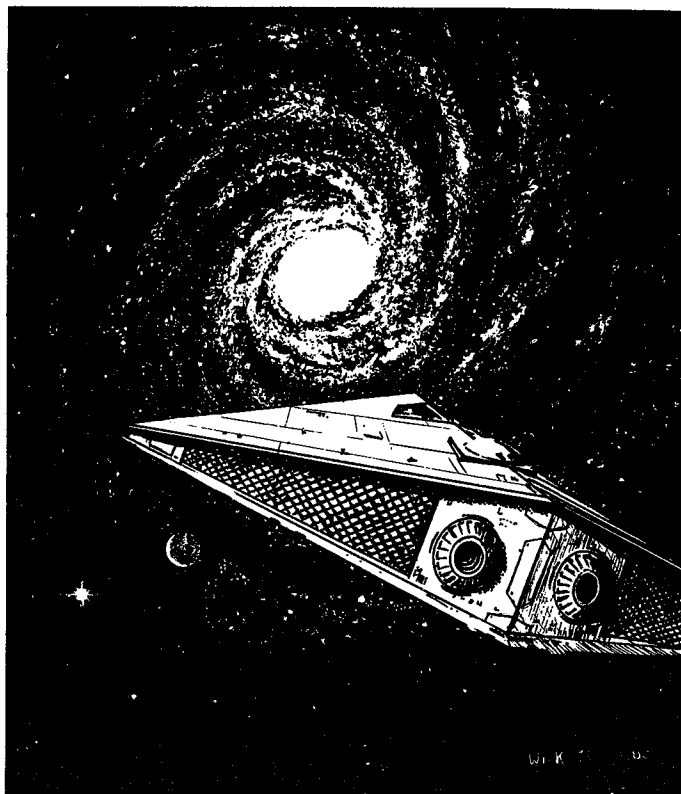
WORLDS

Pages 14-17 of the charts and tables booklet apply to this chapter.

The referee has the responsibility for mapping the universe before actual game play begins. The entire universe is not necessary immediately, however, as only a small portion can be used at any one time. In unsupervised play, one of the players can generate worlds and perform mapping on a turn by turn or adventure by adventure basis.

The universe is mapped in convenient segments, called subsectors. Each subsector is an area of hexagonal cells measuring eight hexes by ten hexes. Since the recommended scale is one parsec (3.26 light years) per hex, the subsector covers an area ten parsecs by eight parsecs. The subsector grid on the back cover of the charts and tables booklet is intended to be photocopied by the referee and filled in as worlds are generated. Additional copies can be made as mapping continues to other subsectors.

Sixteen subsectors (arranged in four rows of four subsectors each) form a sector, probably the largest size practical for a continuing **Traveller** campaign.

Mapping subsectors consists of two sequences: star mapping and world mapping. Star mapping examines each hexagon in the subsector grid and determines if there is a star system present. It also determines the presence or absence of starports, bases, and fuel for starships. All of this information is coded onto the subsector hexes and serves as a guide to the referee and to the players during interstellar travel. World mapping examines the single most important world in each system and determines the basic characteristics for it. This information is retained for use in adventures on the world surface.

STAR MAPPING

In order to create a subsector, the referee uses a blank subsector grid and dice to determine the presence of systems, starports, and bases. The system hex format table shows the coding and placement of information about worlds within a subsector. This format should be used to allow players and referees to note the information that would normally be available to them. The referee may elect to omit some information and only allow it to be inserted after the players have determined it themselves.

World Occurrence: There is a basic one-half chance normally that a world (and its attendant stellar system) will be in a hex. Systematically check each hex, throwing one die and marking the hex with a circle if the result is a 4, 5, or 6. This indicates that a world is present; otherwise, leave the hex blank.

The referee may elect to alter the normal chances of worlds, making them more frequent or less frequent to correspond to specific regions of the galaxy. This is easily accomplished by imposing a DM of + 1 or − 1 on the whole subsector or on broad areas within a subsector.

Starport Type: Many worlds have starports, their presence being essential to interstellar trade and commerce. Each world must be checked for its starport type; throw two dice for each world in the subsector and mark the world with the letter indicated on the system contents table.

The system contents table indicates one specific distribution of starports as a basis for star mapping. Just as the distribution of stars can be altered (as indicated in World Occurrence), the referee is also free to create other starport distributions.

Starports are further described in the starport types table. In many cases, starports will be accompanied by naval or scout bases and will have a wide range of facilities. In nearly all cases, a planet will consider that a starport is extraterritorial and not subject to local law but will also enforce strict entrance and exit controls.

Bases: Stellar systems may have bases for military forces, the navy, the scouts, or for other arms of interstellar government. The system contents table indicates the die throws for specific types of bases to be present at a world, depending on the starport type. If a base is present, it should be marked in the hex in accordance with the world format.

Gas Giants: A star system may have one or more gas giant planets (similar to Jupiter or Saturn). The presence of a gas giant allows streamlined starships to refuel by skimming; this eliminates fuel cost for the vessel and increases profit. It also allows refueling at systems that do not have starports. Refueling in this fashion generally requires a week. Fuel acquired by skimming is unrefined.

Gas giants are relatively common. As indicated on the system contents table, throw 10 + for a gas giant not to be present in the system. If one is present, mark the system's hex in accordance with the world format.

System Name: Each system is generally named for the primary world within. This name should be decided upon by the referee and placed in the hex for identification.

Travel Zones: Most worlds are assumed to be civilized or at least amenable to travellers and visitors. Some, however, are caught in the throes of war, plagued by disease, or simply not ready for interstellar visitors. Such worlds are classified by travel zones to denote such status. In most cases, the referee should indicate travel zones based on the information available. Two such zone types exist: amber and red.

Amber travel zones indicate that travellers should exercise caution when visiting such worlds. The amber code may mean that the citizens of the world are xenophobic, that the political situation is chaotic, or that some other danger exists within the system.

Red travel zones usually indicate that a major danger exists within the system. This danger may be disease and the world is quarantined. The system may be involved in a war, and surface or space battles may be probable. Red travel zones are also used to show a government edict prohibiting entry to the system or world. This may be to protect a local civilization which is still developing and not yet ready for interstellar contacts or to protect valuable resources until the government can mine them.

Communications Routes: Within the subsector, local governments will have established communications or trade routes connecting some (but not all) worlds. These routes serve as a conduit for messages between businesses and between governments as well as between people. They also serve as the basic routes that both liners and large freighters travel. The referee should examine the subsector map and connect key worlds with communications routes. If the subsector is an isolated community, the routes may not leave the map; if it is part of a larger confederation or empire,
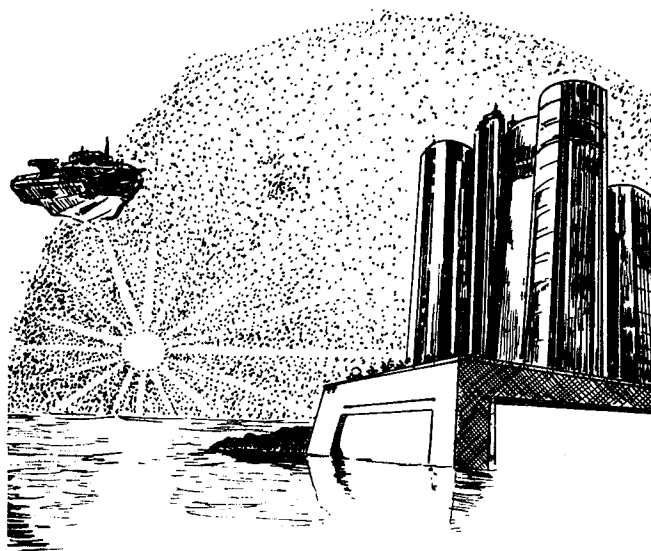
the routes will probably leave the edges to join with other parts of the sector.

Communications routes should be carefully drawn so as to avoid making all parts of the subsector accessible; a subsector should reserve some areas as backwaters for exploration and adventure. Communications routes are drawn as single lines connecting hexes on the subsector grid.

The star map, once generated, shows the distribution of star systems in space and shows their relationships to each other in terms of relative distance and commercial spacelane connections.

WORLD CREATION

The term world refers to the various bodies that are contained in a stellar system; it encompasses planets, satellites, and asteroid belts. For example, the single most important world in a system may not be a planet; it could be a satellite of a gas giant or it could be a planetoid within an asteroid belt.

The worlds contained in the star systems on the subsector map may be further classified in terms of their gross physical characteristics and their effects on persons living on them or travelling to them. These characteristics (starport, six basics, and a technological index) indicate specific facts about a world through the use of single digits (the numbers 0 through 9) and letters (A through Z, omitting O and I as they may be confused with numbers). In most cases, the instructions below concentrate on numbers, reserving letters for use by the referee to describe extraordinary situations.

This world creation process applies only to the single most important world in a star system; additional planets in a system should be generated by the referee as necessary.

The six basic planetary characteristics are generated using two-dice throws, with DMs applied based on other characteristics. After these six are established, a technological index is created from the information they contain and from the world's starport type. Starport type, the six basic characteristics, and tech level establish the basic identity of a world. Additional information can be generated, and should be, to more fully describe a world.

When originally generating a world, a subsector index containing world name, location, universal planetary profile, and other basic data should be compiled. This listing should be available to players who travel through the subsector.

In addition, each world should be allocated at least one page (and preferably several) in a central notebook maintained by the referee. As characteristics are generated, they should be recorded along with the name of the world and its location (generally its subsector and hex number). In addition, the referee should generate other information which may be pertinent; this may include details of other planets in the star system, radiation characteristics of the star, the types of terrain present on the planetary surface, unique encounter tables (prescribed by the section on animal encounters), data on flora and fauna, industrial or agricultural capacity, social structure and government, or possibly actual maps of the planetary surface.

Individual characteristics for worlds are produced by six two-dice throws, modified by circumstances and by previous characteristics. The specific throws are given in the world generation checklist and in formula form below.

Starports (from starport table): The starport type has already been generated when the subsector was mapped, and the information should be noted from the map.

Planetary Size (2D − 2): The digit representing planetary size indicates the diameter of the planetary sphere stated in thousands of miles. This size determines varying gravitational strengths and planetary templates for space combat.

Planetary Atmosphere (2D − 7 + size; if size 0 then atmosphere 0): The atmosphere digit represents the breathing environment encountered on the world. Some atmospheres require protective measures.

Hydrographic Percentage (2D − 7 + atmosphere; if size 0 then hydrographics 0; if atmosphere 0, 1, or A +, then apply DM − 4): Hydrographics represents the percentage of planetary surface (in increments of 10%) covered by seas or oceans. For normal worlds, this will be water; on other worlds (with exotic, corrosive, or insidious atmospheres), it may instead be other liquids or fluids such as ammonia.

Population (2D − 2): The digit indicating population is an exponent of 10. This may be viewed as the number of zeros following a one. Thus, a population digit of 6 indicates a population of approximately 1,000,000.

Planetary Government (2D − 7 + population): The digit representing planetary government indicates a range of possible ruling systems, from anarchy to totalitarianism. The planetary government table gives a brief precis of the general characteristics of each government type. Balkanization is a special result, and indicates that there is no world government; instead several rival territorial governments exist. In such cases, the referee should generate the specific qualities of each territory on the planet separately.

Law Level (2D − 7 + government): The digit representing law level indicates the relative force of law extant on the world. Law level states local restrictions concerning the possession and use of weapons by individuals.

At times, the referee (or the players) will find combinations of features which may seem contradictory or unreasonable. Common sense should rule in such cases; players or the referee should generate a rationale which explains the situation.

Finally, the referee should always feel free to create worlds which have been deliberately (rather than randomly) generated. Often such planets will be devised specifically to reward or torment players.

TECHNOLOGICAL LEVEL

The degree of technological expertise, and thus the capabilities of local industry, depends greatly on the basic characteristics of a world. This technological index is generated based on a one die throw, modified by DMs dependent on planetary characteristics.

Consult the tech level table and compare the appropriate planetary digits with the descriptions; note all DMs indicated and sum them to form one total DM. Throw one die and modify the result, thus determining the local technological level. Note the result in the appropriate records.

World technological levels may vary from 0 to 20, more commonly ranging from 4 to 10. Higher numbers indicate greater capability. The technological level is used in conjunction with the technological level table to determine the general quality and capability of local industry. The tables indicate the general types or categories of goods in general use on the world. In most cases, such goods are the best which may be produced locally, although better goods may be imported by local organization or businesses when a specific need is felt. Local citizenry will usually not be armed with weapons of a type which cannot be produced locally, although police or military may be. Tech level also indicates the

general ability of local technology to repair or maintain items which have failed or malfunctioned.

The technological level tables have several spaces or holes, and such gaps should be filled in by the referee or the players when they discover items or devices of interest.

REFEREE'S NOTES

The purpose of the world generation sequence is to aid the imagination. Even the most imaginative individual soon loses brilliance in the face of creating hundreds of individual worlds. The procedure substitutes die rolls for random imagination, allowing the referee to use that information to determine specific world data. Imagination may be required to explain a tech level 4 civilization in an asteroid belt or a high population world with a participating democracy for a government.

Characteristics for worlds should be construed as guidelines rather than strict limits. For example, a world with a hydrographic percentage of A is 100% ocean; nevertheless, the world would have small islands for a starport.

Starport: The various starport types are intended to provide a variety of facilities for use in trade or survey missions. Starports provide fuel or construction yards.

Bases: The tables provide for scout and naval bases at some worlds. These bases serve as points for scout and naval veterans to renew acquaintances with old friends, to find potential patrons, and to scrounge or buy surplus equipment of use to them. The referee may elect to include other types of bases, perhaps army bases, merchant exploration or trade bases, and defense establishments.

Travel Zones: The use of travel zones is intended to assist in designating areas to avoid and areas to explore. The referee should establish reasons for travel zones.

World Size: The generation tables assume that a world will be a solid matter sphere. Alternatives are possible but are rare enough to require implementation by the referee. These include:

Rosettes: Three or more equal masses (worlds) set at the points of an equilateral polygon and with the correct equal angular velocities about their center of mass will have a stable orbital configuration; no central star is required. Rosettes almost never occur naturally.

Ringworlds: An incredibly strong band may be set rotating about a central star, making a ringworld which uses centrifugal force to provide a simulation of gravity. A ringworld at the distance of Earth's orbit and with a width of 1.6 million kilometers has a usable surface area of about three million Earths.

Sphereworlds: Using materials similar to those in a ringworld and adding gravity generators where necessary for strength and comfort, a spherical shell could be used to completely enclose a star. Such a shell would then trap all stellar radiation for use by the civilization. With a radius of about 93 million miles, the internal surface area would equal about one billion Earths.

Atmosphere: The various atmosphere types require specific personal equipment for survival and protection.

Vacuum or trace atmospheres require use of a vacc suit.

Tainted atmospheres require the use of filter masks.

Very thin atmospheres require the use of compressors to insure sufficient oxygen. Tainted, very thin atmospheres require a combination respirator/filter mask for survival.

Thin, standard, and dense atmospheres are breathable without assistance.

Exotic atmospheres require the use of oxygen tanks, but protective suits are not needed.

Corrosive atmospheres require the use of protective suits or vacc suits.

Insidious atmospheres are similar to corrosive atmospheres, but will defeat any personal protective measures in 2 to 12 hours.

Hydrographics: It is possible that some worlds with vacuum atmospheres may have hydrographic percentages greater than 0. In such cases, the world has ice-caps present; the water will not be free-standing liquid.

Population Density: For comparison, the following population densities are common on twentieth century Earth. Earth on the whole has a population of about three billion (population level 9); this is approximately 5 persons per square mile, or 16 persons per square mile of land area. Europe is populated at about 151 persons per square mile, the equivalent of population level 10. The Netherlands contain 1500 persons per square mile, or about population level 11. Hong Kong has 10,000 persons per square mile, the equivalent of population level 12.

Government: Government types indicate the general type of authority on the world; each listed type should be a clue to the referee in administering details of encounters on the world.

Law Level: Law level is an indication of the relative oppressiveness of the world. The digit is classified on the law level table to show prohibitions against weapons. It is also the throw (law level +) to avoid being harassed or arrested by local authorities.

Tech Level: The technologicl level of a world determines the quality and sophistication of the products of a world. It indicates what precise types of equipment are available and common locally.

TRADE CLASSIFICATIONS

Additional details of a specific world can be expressed by the trade classification and statements about the world. The referee should be ready to establish new classifications when appropriate.

The term trade classification is a general catch-all phrase that covers world attributes which influence trade and commerce and other information that is of interest to travellers. Some trade classifications influence the trade and commerce table.

Agricultural worlds have large portions of their economies devoted to agriculture. They must have an atmosphere of 4 through 9, hydrographic percentage of 4 through 8, and a population of 5 through 7.

Non-agricultural worlds import much of their food from off-planet. While such a world may produce synthetic foodstuffs for local consumption, it probably imports quality foods as luxury items. A nonagricultural world must have an atmosphere of 3 or less, a hydrographic percentage of 3 or less, and a population of 6 or more.

Industrial worlds have large production bases and engage in the manufacture of finished goods. Such a world must have an atmosphere of 0, 1, 2, 4, 7, or 9 (vacuum, trace, or tainted), and a population of 9 or greater.

Non-industrial worlds import much of their finished goods. Non-industrial worlds must have a population of 6 or less.

Rich worlds have good climates and environments and are sought after by most individuals as living places. A rich world must have government type 4 through 9, an atmosphere of 6 or 8, and a population of 6 through 8.

Poor worlds are undeveloped and marginal backwaters. A poor world must have an atmosphere of 2 through 5 and a hydrographic percentage of 3 or less.

Water worlds are totally covered by seas and oceans (a hydrographic percentage of A).

Desert worlds have no standing water (a hydrographic percentage of 0) and atmosphere of 2+.

Vacuum worlds have no atmosphere (an atmosphere of 0).

Asteroid belts consist of small planetoids around the central star of the system. An asteroid belt has a size of 0.

Ice-capped worlds have water present only in the form of ice caps; these are vacuum worlds which would otherwise have no water. An ice-capped world has an atmosphere of 0 or 1 and hydrographic percentage of 1 or greater.

Subsector capital is the term given to the single most important world in the subsector, especially if the entire sector is under one interstellar government. Capital is the term given to a world that

is the seat of an interstellar government. If there are several interstellar governments within a subsector, each will probably have a capital. Capital designations are assigned by the referee.

Other notations are possible as well. The referee may elect to note the presence of prison worlds, exile worlds, preserves or reserves for various purposes, and so on.

ANIMAL ENCOUNTERS

Pages 18-19 of the charts and tables booklet apply to this chapter.

Animals in any ecological system interact with each other, forming food chains, obeying instincts, defending territory, and generally living out their lives. When people enter such an ecological system, they will encounter the animals of the system, prompting natural reactions such as attack or flight.

Although the precise nature of animals may change, and they may prove quite alien to ordinary experience, most will conform to the broad classifications given below. A referee may choose to establish his own ecological system on a specific world, ignoring the encounter system outlined here. This system, however, is intended to allow broad latitude in both animal types and attack/defense mechanisms, while remaining essentially logical and reasonable.

Animal Types: Nearly all animals may be classified into four basic categories: herbivore, omnivore, carnivore, and scavenger. Specific definitions for these terms are provided in a later section of these rules, and differ from the precise scientific definitions in current use. Within each category, a variety of animal types exist, based on specific feeding/hunting habits; examples of this concept are grazers, chasers, and pouncers. Animal encounters may be further classified into various categories and types and specific attack and defense mechanisms determined. The resulting description indicates the actions an animal will take without resorting to such confining labels as bear or tiger. While a referee may well elect to use such names, this system also allows the players freedom to encounter truly alien beasts as well.

Animal Encounter Tables: The referee must create a series of unique encounter tables, one set for each world in the universe (only a few of these are necessary before play begins). Each set consists of one encounter column for each relevant terrain type of the world. Generally, a referee will conceal the exact details of these encounter columns so that persons will only have clues as to the relative abundance or scarcity of specific animals in any specific

area. Once these tables are created, they are used each day to determine if animals are encountered, the specific nature of such animals, and how they react to the adventurers. Hunting for sport or food is possible, and danger posed by animals may be great.

CREATING ENCOUNTER TABLES

Initially, the referee must prepare a blank encounter column for each terrain type on the world. The terrain DMs chart indicates the general types of terrain which might be expected on the worlds to be visited. The referee should determine if the encounter table will use one die or two; two-dice tables are more complex and should be selected for terrain or worlds that will be frequently used, while one-die tables are for worlds or terrain types which the referee does not feel merit detailed representation. The examples of blank encounter tables shown indicate the predetermined sequences of animal categories which should be used in most cases; these sequences may be varied by the referee to fit specific situations or world conditions.

Once the encounter table format has been decided upon, the referee notes the terrain type for the table and consults the terrain types table. Any applicable DMs are recorded. The referee refers to the animal types table and rolls two dice for the animal category involved. The result is the animal type for the entry. The animal attributes table is consulted to determine if the animal has any special attributes, such as flying or swimming. The animal sizes and weaponry table is consulted to determine the animal's size, wound potential, weaponry, and armor. Finally, the characteristics table is consulted to note the animal's predisposition to attack or flee and its speed.

When the encounter table calls for events, the referee should insert an event from those described in these rules, or generate additional events appropriate to the situation.

Animal Types: The animal types table indicates the types of animals which occur within the animal categories on the encounter column.

Special Attributes: Animals which adventurers will encounter will tend to be walkers, but may be flyers, swimmers, amphibians, or even triphibians. Throw two dice and consult the special attributes table. DMs are imposed for various world sizes and atmospheres. Insure that the correct terrain column is used on the table. Four special attribute types are possible on the table:

Flyers: Animals capable of flying through the use of wings, levitating gas sacs, or other mechanisms.

Swimmers: Animals living in liquid and swimming through the use of fins, flippers, jets, or other mechanisms.

Amphibians: Animals living in liquid, but capable of emerging onto land.

Triphibians: Animals living in liquid, but capable of walking on land and flying in the air.

Certain entries on the table are followed by a parenthetical DM which must be applied to the animal size throw; its general effect is to make flyers smaller and swimmers larger. Note the special attribute (if any) on the blank encounter column being filled in. Record any size DM temporarily for use in the size throw to come.

Animal Size: Animals range in size from small (massing about 1 kilogram) to giant (massing 6 tons or greater), and exhibit a variety of characteristics related to size. Throw two dice and consult the weight, hits, and wounds columns of the animal size and weaponry table (rolling only once for all three). DMs are imposed on this throw based on planetary size, the terrain DM chart (by specific terrain type), and as required by special attributes, if present.

Animal size is expressed on the table in kilograms and may be taken as a general indication of size in relation to human beings (humans are assumed to be approximately 100 kilograms). All sizes may be construed to cover a range of plus or minus 20%.

Animal Hits: The hits column indicates the number of hits an
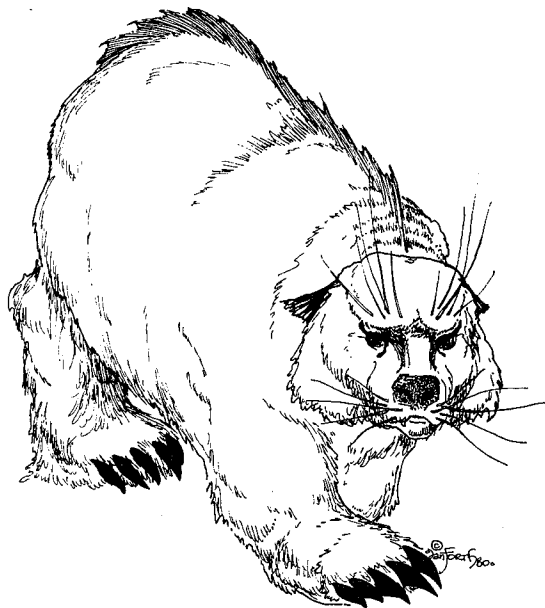
animal can take, expressed as a dice throw. When an animal has received wounds equalling or exceeding the first dice throw, the animal is considered to be unconscious. When it has received wounds equalling or exceeding its total hits, it is dead. If an animal receives wounds equal to twice its hits, it is destroyed and has lost any food or pelt value. For example, an animal listed on the animal size and weaponry table as taking 2D/2D hits would have two dice rolled twice: the first result would be the number of hits required to render the animal unconscious. The second two-dice throw would indicate the additional hits required to kill the animal. If more than twice this combined value is achieved, the animal is completely destroyed.

Animal Wounds: The wounds column indicates the general effect of size on an animal's ability to cause damage when it hits. The formula is noted and applied to the effects of the animal's weapons when they are determined. If, for example, the animal has teeth as its weapons, then the weapons range matrix (in personal combat) states that teeth inflict 1D hits when they hit. A wound alteration of −2D indicates that the referee should roll 2D and subtract that from 1D to determine the actual number of hits inflicted. If the wound alteration is +4D, then the teeth will inflict 1D +4D hits. If the wound alteration is x4, then the teeth will inflict 1Dx4 hits. The result is that of two animals armed with the same weapon, the larger will inflict a heavier wound. For simplicity, the damage dice should be rolled once when the animal is generated; the animal would inflict that number of hits every time it hits. A roll of 0 or less equals 1; an animal always has the ability to do some damage. If the referee wishes to take the trouble, he can roll the proper number of dice every time the animal hits; in this case, a roll of 0 or less would equal 0.

Animal Weaponry: Animals are naturally equipped with weapons which enable them to attack and defend. Familiar terms such as teeth and claws indicate the effects in the combat system, but should also be considered to approximate other equivalent systems if necessary. Entries such as teeth+1 indicate a DM to the combat roll of the weapon, making it more effective. In some cases, unusual weaponry is indicated by the statement as [weapon type], for example as pike. The combat effect may be read from the weapons matrix (and wounding from the range matrix) in the chapter on personal combat. Weapon types should always be considered to be descriptive of result rather than of strict process.

Throw two dice and consult the animal weapons column. Implement DMs as indicated on the table.

Animal Armor: Some animals possess armor protecting them from attack by other animals. Armor is intended to indicate the general effectiveness of the armor, not its specific construction. Entries such as battle+4 indicate DMs to the combat die roll, making the armor less effective.

Throw two dice and consult the animal armor column. Implement DMs as indicated on the table.

Animal Characteristics: Because animals have predispositions to attack or to flee, these details must be noted on the animal encounter table for each specific type presented. These characteristics are noted in the form of three codes in the table: A, F, and S. Each is followed by a number which indicates the throw involved.

A indicates attack predisposition. A7 would indicate that the animal will attack on a throw of 7+. The number 0 indicates a special case, and the animal will attack if it meets certain criteria for its type.

F indicates predisposition to flee. F7 would indicate that the animal will flee on a throw of 7+. The number 0 is a special case, and the animal will flee if certain criteria for the animal type are met.

S indicates speed. S0 indicates that the animal is immobile. S1 indicates normal or ordinary speed; S2 indicates double speed; S3 indicates triple speed; S4 indicates quadruple speed.

The animal characteristics table indicates die rolls to derive these three characteristics.
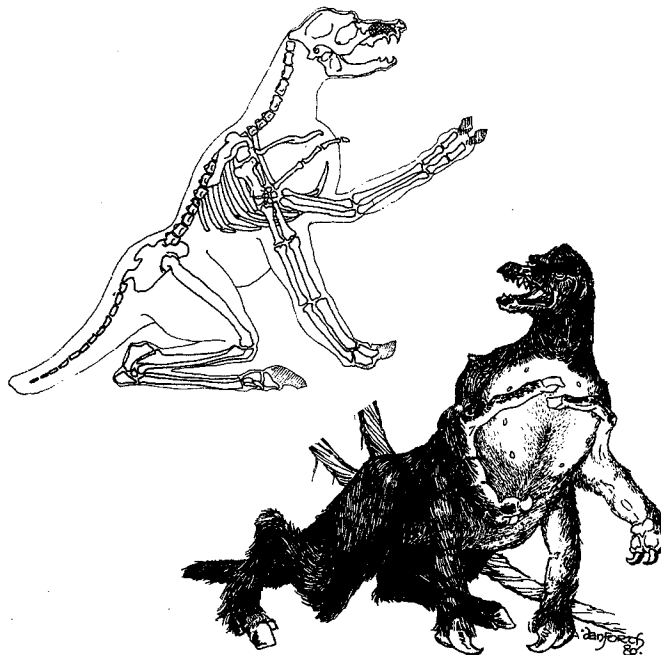
Referee's Additions: The referee may invent new animal characteristics within this system. Larger or smaller animals may be invented, extrapolating from the system presented. Other animal weaponry and armor types may be invented; the easiest to implement are those already found on the weapons matrix, with or without DMs, such as cloth−1 (cloth minus 1), ablat+1, foil, stinger−1, and so on.

Animals may also be provided with more complex motivations than the simple dice rolls for attack and flight. The animal type descriptions later in this chapter will prove helpful in this regard. Carnivores will base their decisions on the sizes of the party and of individuals. Large herbivores will be less likely to flee than small ones, tending to ignore a party unless it approaches too close. Humans may resemble a carnivore's natural prey or a herbivore's natural predator. Any animal may attack if the party threatens its young, nest, territory, or meal. Any animal may flee if startled or if the party appears sufficiently threatening; even the most vicious carnivore is reluctant to risk its life for a meal.

Other responses are possible beyond attack or flight. A carnivore may stalk a party, hoping to attack an isolated member. An armored animal may curl up into a ball or retract its extremitites into its shell. Animals may find certain parts of the group's equipment attractive and fasten themselves to the outside of an ATV or try to eat clothing. There may be responses analogous to that of the skunk or the opossum. An animal may be friendly or want to play; it might even mistake a party for members of the opposite sex.

Common Sense: Airless worlds will almost never have any life of consequence on them; if they do, animal life will still tend to follow the same broad guidelines given above. Still, flyers and liquid breathers will be almost non-existent.

The referee should always be prepared to alter or restrain prescribed procedures if it is felt that they contravene logic or reason.

USING THE ENCOUNTER TABLES

Each day, an adventuring band may possibly have one or more encounters with some animal life forms. As a general rule, the referee will check for an encounter once while the band is travelling and once while the band is halted (for rest, exercise, encampment, or whatever). There is a one-third chance (throw 5 or 6 on one die) that an animal encounter will occur in any of the specified terrain types. Referee-initiated modifications to this frequency may

be instituted to cover greater or smaller probabilities based on planetary or local conditions.

In addition, specific encounters at specific locations are always possible. For example, the referee may already have populated a location (perhaps a ruin) with specific animals. These are not subject to normal random encounter rules.

Procedure: Twice each day, the referee will throw to determine if an encounter occurs. If a band splits temporarily, each portion of the band should be liable for an independent encounter. When an encounter does occur, the correct (based on terrain type) encounter column is then used to ascertain the class, type, quantity, and characteristics of the animal encountered (in some circumstances the encounter column may indicate that a non-animal event has been encountered instead). Any situation which calls for combat uses the personal combat system already presented.

Special Effects: Animal encounters constitute the only general possibility of access that characters have to food, furs, or other valuable items. Guides may be hired or present for the purpose of assisting in the location of specific animals, contributing a DM of +2 or greater to influence encounter throws for a specific type of animal. Animals are usually edible (throw 5+ to be edible, DM −3 if the atmosphere is tainted) provided the planetary atmosphere is between 2 and 9 and the animal does not have a poison weapon. Otherwise, the animal is inedible. From 5% to 30% (throw one die times 5%) of an animal's weight will be edible meat. A person requires one kilogram of meat per day when living off the hunt.

Animal Descriptions: The referee may elect to describe animals in order to allow a better image in the adventurers' minds. The basic system may be used without the aspect, but descriptions such as lion-like, amoeboid, canine, or others may prove useful.

ANIMAL DEFINITIONS

The following definitions more fully detail the meanings of the descriptive terms used for animal categories, types, and events.

Herbivores: Animals which eat unresisting food are generally classed as herbivores. While this is usually construed as covering plant eaters, the definition is extended here to cover the eating of unresisting animals as well. For example, the anteater and the whale eat effectively unresisting animals (ants and krill) and should be classified as herbivores. Herbivores are of three types:

Grazers: Animals which devote most of their time to eating are termed grazers. They may be solitary or grouped in herds. Their primary defense is flight, although such action may result in stampedes which could endanger adventurers in their path. When forced to fight, they will fight fiercely until killed or routed. Typical Terran grazers are the antelope and the moose. The whale (which scoops krill from the sea as it swims through it) is also a grazer.

Intermittents: Herbivores which do not devote full time to eating are termed intermittents. They tend to be solitary and usually freeze when an encounter occurs, fleeing if attacked by a larger animal. Intermittents may, however, attack to protect territory or young. Typical Terran intermittents are the chipmunk and the elephant.

Filters: Herbivores which pass the environment through their bodies are termed filters. Unlike grazers, which move to food, filters move a flow of water or air through themselves in order to gain food. Generally, filters suck, trip, push, or pull anything (even animals) at close range into a digestive sac, inflicting automatic wounds of 1D per 50 kg or less of animal mass (wound alteration should be ignored for filters). Filters are solitary and generally slow-moving. They will attack reflexively (as indicated above), succeeding against adventurers with a throw of 6+. Prompt struggle by adventurers (at a cost of one endurance point each) will secure an escape on a throw of 7+, DM of +2 for each companion assisting at close range. Throw once per combat round, beginning on the round following the attack. A filter can absorb an animal up to twice its own weight. Terran filters are generally aquatic, such as the barnacle.

Omnivores: Animals which eat food without regard to its resistance are termed omnivores. The bear, which will eat fruits and berries as readily as it will hunt for animals, is an omnivore. Omnivores are of three types: gatherers, hunters, and eaters.

Gatherers: Animals which display a greater tendency toward herbivorous behavior are termed gatherers. In most respects, they are similar to intermittents. Typical Terran gatherers are the raccoon and the chimpanzee.

Hunters: Animals which display a greater tendency toward carnivorous behavior are termed hunters. In most respects, they are similar to small or inefficient chasers. Typical Terran hunters are bears or humans.

Eaters: The true omnivore (in the sense that it will eat anything and everything) does not distinguish its food, consuming all that it confronts. Eaters present considerable danger in that they will not avoid adventurers when encountered. A typical Terran eater is the army ant (when an entire swarm is considered to be one organism).

Carnivores: Animals which prey on other animals by attacking and killing them in the face of resistance are classed as carnivores. Carnivores are of five basic types: pouncers, chasers, trappers, sirens, and killers.

Pouncers: Animals which kill their prey by attacking from hiding or by stalking and springing are termed pouncers. Because of the difficulty of coordinating such attacks, pouncers are usually solitary animals. In an encounter, pouncers which have achieved suprise have succeeded in their basic aim and will attack regardless of range. If they do not have surprise, they will sometimes still attack. They will flee if they themselves are surprised. Typical Terran pouncers are cats.

Chasers: Animals which kill their prey by attacking after a chase are termed chasers. They tend to be pack animals. Typical chasers are wolves.

Trappers: Animals which passively allow their prey to enter a created trap wherein they are killed and then eaten are termed trappers. Trappers tend to be solitary and slow but will attack any animal which enters their trap. Generally, any character who is surprised by a trapper at close or short range is then trapped on a throw of 5+. Stuggling to escape (in lieu of making any swings or blows, but costing one endurance point) succeeds on a throw of 9+, DM of +1 for each assisting companion. Companions are subject to capture by the trap while providing assistance. Usually, a trap will not wound or damage a character, but will tend to hold the adventurer to allow the trapper to attempt to kill him. A typical Terran trapper is the spider; less typical is the ant lion.

Siren: Distinct from the trapper, which creates a trap for its prey, a siren also creates a lure to draw prey to the trap. The trap is treated in much the same manner as that of the trapper, but the lure entails additional consideration. In most cases, the lure will be specific to some animal but will be unnoticed by humans. In rare cases (throw 11+), the lure will be universal, perhaps a smell or scent, or a mirage or beautiful configuration which will attract characters into a vulnerable position. Very rarely, the lure will be psionic in nature. Typical Terran sirens are the angler fish (its mouth is the trap) and the venus fly trap.

Killers: Certain carnivores devote much attention to killing, apparently for the act itself, in a kind of blood lust. Killers' reason (such as territorial defense) is replaced by a raw killing instinct. Attacks by killers are fierce and violent. Killers will generally disregard the defender's size as a factor. The typical Terran killer is the shark.

Scavengers: Animals which share or steal the prey of others or that take the remains of kills are classed as scavengers. Scavengers are of four types: intimidators, hijackers, carrion-eaters, and reducers.

Intimidators: Scavengers which establish their claim to food by frightening or threatening other animals are termed intimidators. Their standard procedure is to approach a kill and force other animals

away by appearing to be a threat. A typical Terran intimidator is the coyote.

Hijackers: Scavengers which establish their claim to food by simply taking it are termed hijackers. They rely on their superior strength or size to allow them to hijack food because the other animals present cannot effectively object. A typical Terran hijacker is the lion or the Tyrannosaurus rex.

Carrion-Eaters: Scavengers which take dead meat when it becomes available (often waiting patiently for all other threats to disperse before beginning) are termed carrion-eaters. Most typical of Terran carrion-eaters is the buzzard.

Reducers: Scavengers which act constantly on all available food are termed reducers. They eat the remains of food after all other scavengers are finished with it, consuming bone and other leavings. Terran reducers are all microscopic, such as bacteria.

EVENTS

In addition to animals, the referee may include one or more events in his encounter tables. An event may be almost anything: an unusual animal not covered adequately by the standard format, an interesting terrain feature, weather, even a natural disaster. An event's purpose is to add interest, atmosphere, and perhaps a bit of danger to the adventurers' travels. Events should be tailored to the terrain in which they occur and take into account the nature of the party, its weapons, and its vehicles. A number of sample events are given below. In order to present as many ideas as possible, the descriptions of individual events are short; a referee's complete description of an event may require more information.

Animals: An event is a convenient form to use in describing an unusual animal; the animal's statistics, in standard format, may follow the description, or the event may describe unusual behavior by an animal found elsewhere on the table. An event may also describe the animal's lair or spoor, rather than the animal itself.

Chameleon: These animals are very well camouflaged. If the animal chooses to attack, the encounter will take place at close range and the animal will have surprise; otherwise, there will be no encounter.

Psionic Assaulters: Telepathic carnivores attack the party. All persons are attacked by psionic assault as explained in the psionics rules. During the attack, the creatures will remain hidden within 50 meters of the party, emerging only if most of the party is incapacitated.

Circling Flyers: A number of flyers spot the party and circle above their heads. After about 10 minutes the party will be attacked by chasers. The animals are symbiotic: the flyers spot prey for the chasers and are allowed to share in the feast.

Poisonous Pests: While the party was stopped, tiny (1 gram) creatures have crawled into concealed places within the party's equipment (packs, boots, etc.). They are poisonous and attack when encountered (when a character reaches into his pack, puts on his boots, etc.), doing 3D damage unless the character makes a saving throw of dexterity or less.

Stampede: A herd of grazers, frightened by carnivores, stampedes into the party. They can be turned by loud noises (gunshots, explosions) or laser bolts. Otherwise, they will run straight through the party. Each individual must roll 8+ to avoid 2D accidental damage.

Rutting Season: A large, normally harmless herbivore mistakes the party's ATV for a rival and charges. Throw 10+ each combat round, DM + driver's skill, to avoid a collision. The ATV will be damaged and rendered immobile until repaired on 9+ per collision.

Lair: The party comes upon a large burrow, in which there are five immature pouncers. They are not dangerous, but if the party remains in the area more than a few minutes, the mother will return and attack immediately.

Plants: Although plants will be just part of the scenery, some may be interesting or dangerous enough to qualify as events.
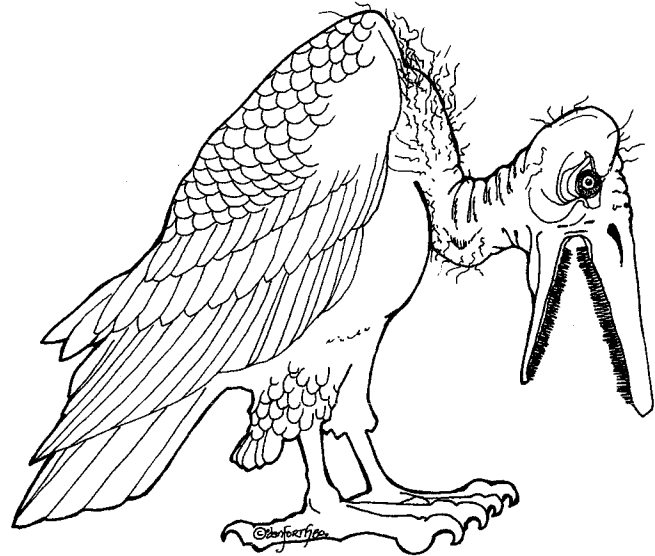
Hallucinogenic Pollen: The party comes upon a field of flowers. The air is filled with their pollen, which will cause strong hallucinations if breathed. The hallucinations, threatening in nature, will continue for about 20 minutes after the party leaves the field.

Carnivorous Plants: Apparently solid ground collapses beneath the lead member of the party and he falls into a circular pit 4 meters deep; the walls are covered with downward-projecting spikes and there is 1 meter of liquid at the bottom. This is a digestive organ grown by nearby trees, and if the character is not rescued within a few minutes, the liquid will begin to digest him.

Weather: Various types of weather may endanger a party or impede its progress.

Dense Fog: The party encounters a low area filled with a dense fog. Visibility is reduced to medium range, and safe travel is reduced to half speed.

Sandstorm: High winds fill the air with abrasive sand particles. Progress will be impossible for 12 hours. Individuals will be buried, and vehicle windscreens will be abraded into translucence.

Rainstorm: A sudden rainstorm reduces visibility and turns the ground to thick mud. Travel is slowed to quarter speed for the day.

Natural Disasters: These make good events if used sparingly. More violent events will serve to warn travellers away from certain terrain types, and enough warning should be given to allow a clever party to escape.

Prairie Fire: A line of fire can be seen on the horizon. The fire is 20 km across and must be detoured around. Animals fleeing the fire will ignore the party unless their escape path is blocked. Detour will take 4 hours; roll for 3 encounters during that time.

Flash Flood: A wall of water rushes along the river bed, sweeping all before it. The party must get to high ground before the flood reaches them. Vehicles roll 10+ to avoid destruction; individuals roll 9+ to avoid being carried several km downstream, suffering 3D points of damage.

Seismic Quake: A seismic disturbance shakes the ground. Each adventurer must throw strength or less to avoid being thrown to the ground, taking 1D points damage.

Terrain Features: Adventurers may encounter variations in local terrain too small to show up on planetary maps.

Broken Ground: The terrain becomes very rough; an ATV must slow to quarter-speed or risk a track breakdown (throw 6+ per hour to avoid).

Oasis: The party approaches an oasis, with a pool of water surrounded by heavy vegetation. Throw 8+ for the water to be

drinkable. If it is not, moisture may still be recovered from reservoirs inside one species of plants.

Crevasse: A deep crevasse blocks forward progress, and 2D hours will be required to detour around it.

Ford: Sandbars in the river create a shallow area, allowing vehicles to cross.

Curiosities: Some events may have no importance whatsoever, merely providing atmosphere to an adventure.

Statues: The party finds a large stone statue, half buried; the torso is human but the head is that of a local carnivore. Natives of the area, if consulted, will state that such finds are common and will give varying opinions of their origin.

Jungle Drums: Distant drums are heard at night; periodically they fall silent and are answered from another direction. If the party investigates, they may be able to discover that these are the mating calls of a large omnivore.

Marsh Gas: Moving lights are seen in the distance, apparently following the party. They may temporarily be mistaken for the running lights of an air/raft.

Vacuum Worlds: Encounter tables for vacuum worlds (or any world without life) must be largely composed of events.

Dust Pool: Micro-fine dust fills a crater. If any character walks through the pool, throw 10+ for a vacc suit malfunction to occur from dust contamination. If dust enters the party's vehicle (carried in on a character's vacc suit) throw 10+ every hour for malfunction of some element of the vehicle's electronic circuitry.

Solar Storm: Increased solar activity makes radio communication impossible for several days.

Magnetic Anomaly: A large underground metal deposit deflects compass readings by up to 60 degrees. Travellers who do not notice this will be steered off course.

Tracks: ATV tracks cross the party's path. If the party follows them in the right direction, they will be led eventually to civilization.

Pressure Tent: The party comes upon a small inflatable shelter. There is breathable air inside, but no heat or light, as the shelter's power pack has run down. If anyone undertakes a lengthy search, the owner's body may be found under a rockslide several hundred yards away.

Greater Complexities: Events may be used to trigger rolls on special encounter tables; for example, if an event describes a forest clearing, a special table may be made up to handle encounters in that clearing. An event may be made specifically applicable to an adventure in which a party is involved; for example, if a party is prospecting the location of a mineral outcropping this could be an event. Events may trigger small adventures, separate from the main adventure; for example, and event could consist of the exploration of a cave previously mapped by the referee.

ENCOUNTERS

Pages 20-21 of the charts and tables booklet apply to this chapter.

Encounters are the prime focus in **Traveller** . Through them, player characters meet and interact with non-player characters (NPCs), events, animals, and other interesting phenomena. The direction and the tone of adventures is inevitably influenced by the types of individuals encountered in the course of the adventurers' travels. There are seven basic types of encounters: routine, random, rumor, legal, patron, adventure, and animal. The referee determines what type of encounter is probable and decides if it occurs. If there is an encounter, the appropriate details are generated, and the encounter is presented to the players. During the course of an encounter, the referee builds the situation, presents any appropriate reactions, and administers any activity that may be called for. In any encounter, the events may lead to friendship, a business relationship, antipathy and violence, or indifference.

Encounters with non-player characters serve as the referee's vehicle for direction and input during adventures. The proper presentation of non-player characters can provide players with transportation, information, or other assistance if reaction are appropriate. Non-player characters can also use violence (or the threat of violence) to redirect activity toward more reasonable goals.

Encounter Tables: A wide variety of encounter tables are useful to the referee as a prod to the imagination and an aid to the efficient management of an adventure. Encounter tables are presented in the set of encounter charts and tables. Other tables oriented toward a specific **Traveller** adventure or campaign may be generated by the referee.

Because of their nature, animal encounters are handled in a separate chapter.

ROUTINE ENCOUNTERS

Adventurers meet ordinary people in the course of ordinary activity. In many cases, adventurers actually ignore the persons (and are themselves little noticed), concentrating on their current activity instead. Personal reactions are rarely of importance, and the encountered individual merely performs his or her duties. For example, an encounter with a store clerk in the course of buying equipment is rarely of importance, and the process usually continues without trouble.

Routine encounters occur as called for by the situation and at the discretion of the referee.

RANDOM ENCOUNTERS

Adventurers, as they travel about on planets, also have random encounters with an unpredictable variety of individuals or groups. Such individuals are themselves performing various tasks, which may complement, supplement, oppose, or be irrelevant to the goals of the adventurers themselves. Some random encounters are mandated by the referee in order to add adventure or spice to a situation.

Random encounters are primarily dictated by the random encounter matrix. Random encounters may occur as frequently as daily; each day the referee should throw to determine if a random encounter has occurred (throw 5+ on 1D for a random encounter). Random encounters may occur only if there is a local population to provide the individuals who will form the encounter.

If a random encounter is called for, throw two dice and consult the random encounter matrix. The result indicates the specific encounter on the random encounter list. The list provided is only an example, and other lists may be generated for specific adventures or situations. For example, if the adventuring group is on a world embroiled in a civil war, the random encounter list might be full of troops, refugees, guerrillas, war profiteers, petty warlords, and members of various factions. The remarks column of the random encounter list indicates details of the group which is encountered. Unless contradicted by the remarks, the group can be assumed to be unarmored, armed only with blade weapons, on foot, and at the tech level of the current world. If the remarks direct, the referee should equip the group with weapons, armor, and vehicles appropriate to the local tech level. Some groups may have leaders; a leader is assumed to be armed with a gun and to be armored consistent with local tech level. In all cases, only military troops and leaders will wear combat armor or battle dress.

Reactions are an important part of random encounters. Once the encounter occurs, the referee should consult the reaction table to determine the specific response to the encounter by the other side.

RUMORS

Information is a valuable commodity to travellers, and rumors are the source of much useful information. The term rumor is a catchword covering a wide variety of presentations of information. Rumors may be newspaper or broadcast information; they may be conversations overheard on public transport or in local eating establishments; they may be bits and pieces brought together by the listener. In any case, the idea of the rumor allows the player

characters to learn of new, exciting, and potentially rewarding (or potentially deadly) situations. In many **Traveller** situations, a rumor is simply information leading to a patron, a job, or a potential treasure; in **Traveller** adventures or campaigns, rumors serve to educate and direct the player characters toward the essential basis of the adventure.

Rumors are faceless. The player character's own decision to act on a rumor makes him or her responsible for the results. There is no one to pin the blame on if the rumor proves false. Rumors are untraceable. No one can definitely point to the source of a rumor and state that it originally began there. Rumors are, in effect, absent patrons, providing information that allows player characters to act and, having once acted, to win or lose on their own merits.

The referee should throw once per week to determine if a rumor is encountered (throw 7 + on 2D for a rumor to be encountered). If a rumor is found, throw two dice and consult the rumors matrix for the specific rumor involved. The rumors list presents a variety of rumor types. The referee may invent rumors once a rumor is dictated by the list; in the case of specific adventures or campaigns, the referee may determine beforehand that some information is of use to the player characters and write out a rumors list for the specific situation.

Rumors are valuable, and once player characters know of their potential, they will seek them out. Ultimately, all rumors should be available to the player characters, but they should be doled out slowly in order to insure each rumor is dealt with and understood (if possible).

LEGAL ENCOUNTERS

The law level of each world determines the degree of permissiveness or oppression which prevails. In additon to stating what weaponry is or is not allowed, law level addresses the problem of harassment by local enforcers or police. Permissive worlds allow individuals to settle their own differences and to protect themselves. The likelihood of the local police bothering anyone is remote. On oppressive worlds, the local enforcers are charged with great responsibility and spend much of their time protecting local law and order. As a result, they are much more likely to stop and question strangers, often reducing this procedure to a simple form of harassment.

The referee should throw once per day for legal encounters (throw local law level or more to avoid an encounter). If an encounter is called for, a local enforcer will stop the adventurers and require identification. The referee should roll for the enforcer's reaction as well, using adverse reactions as an indication of greater harassment and positive reactions as a potential source of rumors, assistance, or patrons.

PATRONS

The key to adventure in **Traveller** is the patron. When a band of adventurers meets an appropriate patron, they have a person who can give them direction in their activities, and who can reward them for success. The patron is the single most important non-player character possible.

A patron will, if he or she decides to hire a band of adventurers, specify a task or deed to be performed, and then finance reasonable expenses for the pursuit of that task. Some tasks are ordinary in nature, such as employment as armed guards or escorts; other tasks may include the location and procurement of items of great value. Generally, a patron's agreement with a band of adventurers will specify that the patron will receive the item he or she is seeking while all other goods or items acquired will belong to the adventurers. Other possible agreements may call for the adventurers to receive shares in the total profit of the venture, from which their current salaries will be deducted.

Whenever the player characters do not have a patron and they are seeking one, the referee should roll once per week (throw 5 +

on 1D for a patron encounter to occur). If one does occur, consult the patron encounters matrix. Before rolling on the matrix, the referee should determine which patron list will be used. Two lists are provided in the encounter tables; in the cases of a specific adventure or campaign, the referee may create a special patron list which will more closely reflect the situation in the game. For example, if the current adventure centers on exploration and survey of a poorly charted subsector, then the range of patrons might include merchants anxious for trade franchises or news of new markets, mercenaries looking for new wars to fight, smugglers in search of goods, and government officials attempting to restrain access to the new area.

The listed patron is usually identified by occupation. The referee should create an appropriate non-player character and decide on a mission that the patron will want completed. The situation is then presented to the player characters, reactions determined, and the game proceeds.

ADVENTURE ENCOUNTERS

Often, the player characters acquire a goal and then proceed to accomplish it. In the course of this activity, they are necessarily thrown into contact with a wide variety of individuals who are somehow related to the mission. Such individuals cannot occur randomly, as they depend on the actions of the player characters and on the details of the situation. Such encounters are called adventure encounters, and are generated by the referee as required.

ANIMAL ENCOUNTERS

Animal life encountered on various worlds may pose dangers to adventurers; animal encounter tables based on world type and terrain type determine the kinds of animals met and their reactions.

REACTIONS

When non-player characters are encountered, their reactions will dictate their activity in terms of business deals, violence, assistance, charity, cooperation, and a number of other actions. When an encounter occurs, throw two dice and consult the reaction table. Dice throws of 2 and 12 exactly are not subject to DMs; any other result is subject to DMs; modified results of less than 3 become 3 and those greater than 12 become 12.

The following general DMs apply; others may be called for by a specific situation. If a character has served 5 or more terms in the army, navy, marines, or scouts, DM + 1. If planetary population is 9 or greater, DM − 1.

Reaction throws are made upon initial encounter, and one throw determines the reaction of an entire group.

Reactions are used by the referee and by players as a guide to the probable actions of individuals. They determine responses to business offers or deals (admin or bribery expertise serves as a DM). Reactions govern the reliability and quality of hirelings and employees. Generally, they would re-roll reactions in the face of bad treatment or dangerous tasks.

Note that the reactions are expressed in general terms and that they require interpretation by the referee. For example, attacks by reacting characters may not be physical; they may instead be verbal or psychological, depending on local law level, the situation, and the appropriateness of the action to the character.

TRADE AND COMMERCE

Page 22 of the charts and tables booklet applies to this chapter.

Although most commercial starships routinely carry cargos as common carriers, charging a flat rate of Cr1,000 per ton for the service, many also engage in speculation by buying goods at low prices, transporting them in spare cargo space, and then selling them for higher prices in markets anxious to have them.

A reasonably comprehensive listing of trade goods and speculation items is presented in the trade and speculation table. Some of the trade goods may provide a smaller return than Cr1,000 per ton but still enough to relieve the burden of shipping empty hold space. All listed trade goods have a specified base price which indicates the absolute value of the goods on a constant scale. The actual value table indicates the price for which such goods may be purchased, by showing a percentage modification to the base price. Upon arrival at a potential market, the selling price may also be determined as a percentage of the base price (not actual purchase price).

PROCEDURE

A trader with cargo space available and free capital with which to speculate may seek out suitable goods to buy and sell. Throw two dice, noting their results consecutively, to create a number between 11 and 66; DM +1 on the first digit if population 9+ or DM −1 if population 5−. A modified throw of less than 1 is 1, and a modified throw of greater than 6 is 6. This throw indicates that the characters have determined this type of trade good is the best item available for their purposes. Throw once per week.

The quantity of goods available is then determined. Throw the number of dice and multiply as shown (3Dx5 indicates the result of three dice multiplied by five). The lot contains this quantity of goods, expressed in tons except in the case of items 51 through 56, which are expressed per each item (the referee must determine

the exact tonnage of these items). Goods are available up to the quantity encountered. Partial purchases may be made if the characters desire; partial purchases require a handling fee of 1%.

The price of goods is determined from the actual value table; a two-dice throw determines the percentage of the base price to be paid. This value multiplied by the quantity of goods in the lot gives the net cost of the items. The actual value table is subject to DMs from character skills, broker's services, and trade classifications.

Broker's Services: Brokers may assist in the sale of goods delivered to a world. Each must be paid his fee even if the seller decides not to sell his goods. Brokers may provide DMs from +1 to +4, at a cost of 5% of the sale per +1 provided (a +1 broker receives 5%; a +4 broker receives 20%). The DM may never be higher than +4. Only one broker may assist with a sale.

Character Skills: If characters are skilled in bribery or admin, they may apply these as DMs for the sale of goods. Only one character may influence a sale.

Trade Classifications: The trade and speculation table indicates purchase and resale DMs based on trade classifications. There are six classifications of interest: agricultural and non-agricultural, industrial and non-industrial, rich and poor worlds. A world may meet the criteria for more than one label (and be poor, non-industrial, for example). In this case, the world is subject to the DMs for each such label when using the trade and speculation table.

TRADE GOODS

The trade and speculation table lists many types of goods, often of general classes which may be of interest to characters for various uses. The goods labels are abstractions, such that a cargo of firearms could potentially be any form from muzzleloading replicas to laser carbines. Should characters wish to divert some part of the cargo to personal use (through payment or pilferage), the exact type of cargo must be determined by the referee.

When determining the contents of a cargo, the players and referee must be certain to correlate the established price of goods with the cost per ton. For example, the base price of a shotgun is Cr150, while a ton of firearms as trade goods has a base price of Cr30,000. A strict weight extension of the shotgun (3.75 kg per shotgun) would indicate 266 shotguns. Extension should be instead based on price, with weight as a limiting factor. Thus one ton of shotguns would contain 200 guns, at Cr150 each. The extra weight can be considered packing and crates. Similar calculations should be made to keep prices in line on other trade goods.

Some goods (those results 51-56 and 66 on the table) are sold individually instead of by the ton. Quantity is expressed in single units; tonnage and base prices must be determined by the players or referee in accordance with established prices and equipment.

EQUIPMENT

Page 23 of the charts and tables booklet applies to this chapter.

The infinity of physical objects in the universe and the variation in their potential costs and values defy classification; it is impossible to note and define them all. The objects below are presented as indications of common qualities and values.

Each listing notes the object's name, followed by its technological level in parentheses, a price in credits, and a basic description. The technological level indicates local technology required to manufacture something with the capabilities listed. Price and weight are for an item manufactured by an interstellar society of tech level 10 to 15; items produced at lower tech levels (including the one mentioned in the description) will probably be bulkier and more expensive. An item with no weight or size given can be carried or worn without difficulty. Additional lines of explanation are given where considered necessary.

This listing may be considered a shopping list for travellers. When they originally outfit themselves for an adventure, each may
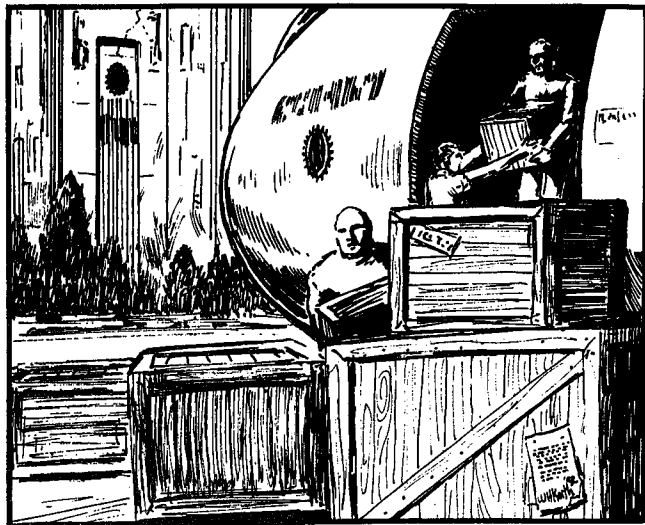
purchase or acquire items from this list in preparation for action or mishap. For the most part, this list does not include weaponry, and all items are generally available for purchase without difficulty on worlds with a sufficient technology level (on other worlds, they may be available as imports at higher prices). Often, the base price for these items will be altered higher or lower using the trade and speculation rules for percentage price changes.

This chapter is divided into the following sections: personal equipment, personal devices, enhanced sensory apparatus, communicators, tools, shelters, food and subsistence, and vehicles. Weapons, armor, and accessories are listed in the chapter on personal combat.

PERSONAL EQUIPMENT

The following are personal survival items often needed by individuals.

Respirator (5) Cr100. A small compressor which allows an individual to breathe in very thin atmospheres (type 3).

Filter Mask (3) Cr10. A filter set which allows an individual to breathe tainted atmospheres (types 4, 7, and 9).

Combination (5) Cr150. A combination filter mask and respirator which allows breathing of very thin, tainted atmospheres (type 2).

Oxygen Tanks (5) Cr500. A complete set of compressed oxygen tanks which allows independent breathing in smoke, dust, gas, or exotic atmosphere (type A and special situations). Two tanks last 6 hours, weigh 5 kg. Refill: Cr20.

Underwater Air Tanks (5) Cr800. Equivalent to oxygen tanks but designed for use underwater. Tanks include regulator and breathing connections. Two tanks last 6 hours and weigh 5 kg. Refill: Cr20.

Artificial Gill (8) Cr4000. Extracts oxygen from water to allow unlimited time submerged. Functions only on worlds with thin, standard, or dense atmospheres (types 4 through 9). Weighs 4 kg.

Swimming Equipment (3) Cr200. Includes swim fins, wet suit, face mask. Weighs 1 kg.

Protective Suit (5) Cr700. Protects against corrosive atmosphere (type B). Protects against insidious atmosphere (type C) for 2 to 12 hours. Weighs 5 kg and is treated as jack armor.

Heavy Protective Suit (5) Cr1400. Protects against corrosive atmosphere (type B). Protects against insidious atmosphere (type C) for 2 to 12 hours. Treated as cloth armor and weighs 7 kg.

Vacc Suit (8) Cr10,000. Worn in vacuum, trace, exotic, or corrosive atmospheres (types 0, 1, and A+). Can be worn in any atmosphere for protection against local contamination or insufficiency. Protects against insidious atmosphere (type C) for 2 to 12 hours. Includes oxygen tanks for six hours and short range (5km) communicators. Attachment points for load-carrying devices such as backpacks, holsters, and tool belts are provided. Weighs 10 kg and treated as cloth armor.

At tech levels higher than 8, vacc suits are improved but similar. For each tech level from 9 to 13, subtract 2 kg from the weight of vacc suits and add 10 km to their communicator ranges.

Cold Weather Clothing (1) Cr200. Protects against frigid weather. Outfit weighs 2 kg and is treated as jack armor.

Cold Weather Clothing (10) Cr800. Protects against frigid weather. Outfit has no apparent weight and is treated as jack armor.

Survival Bubble (9) Cr600. A large (2 meter diameter) plastic sphere with alternating clear and opaque panels, and a small oxygen tank (capable of supporting one person for two hours) for inflation. Access to the interior is through a conforming plastic seal which functions similar to an air lock. The bubble can be used for life support in vacuum (it can be moved by walking on the inside treadmill fashion), and can also be used for protection against weather or as a lifeboat on a sea surface. Weight: 3 kg.

PERSONAL DEVICES

The following is an assortment of devices which individuals may find useful.
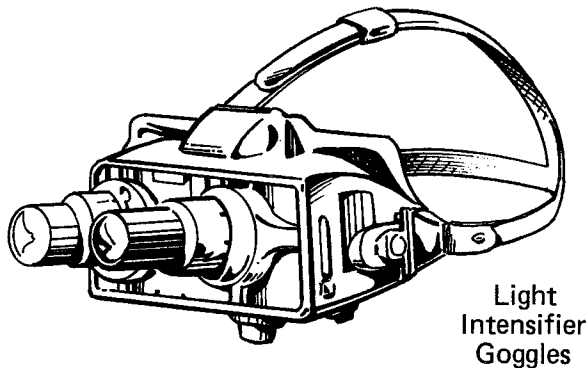
Light
Intensifier
Goggles

Magnetic Compass (3) Cr10. Indicates direction of local magnetic north, if the world has magnetic poles. May be influenced and give false readings in the vicinity of large masses of iron.

Inertial Locator (9) Cr1200. Indicates direction and distance travelled from any pre-set starting location. Accurate to within 0.1% of total distance travelled. Weighs 1500 grams and may be carried on a belt or sling.

Metal Detector (6) Cr300. Indicates presence of most metals, although degree of reaction depends on amount of metal present and on proximity. Weighs 1 kg.

Radiation Counter (5) Cr250. Indicates presence and intensity of radioactivity. Can be preset to give a warning signal if levels of radioactivity raise to dangerous levels. Weighs 1 kg.

Bull-Horn (5) Cr120. Amplifies voice to very long range. Weighs 500 grams but is very bulky and awkward to carry.

Hand Calculator (7) Cr10. Provides basic mathematical calculations. Weighs 100 grams.

Hand Computer (11) Cr1000. Provides services of a small computer (equivalent to Model/1 in computing power), plus serves as a computer terminal when linked to a larger computer (such as on board a ship). Weighs 500 grams.

Artificial Psionic Shield Helmet (8) Cr4000. Acts as a shield against psionic forces, preventing undesirable telepathic influences or psionic assaults. Weighs 1 kg.

SENSORY AIDS

The following items are generally used to allow enhanced vision:

Binoculars (3) Cr75. Allow improved vision at greater distances than would unaided eyes. Availability of binoculars (if used regularly) may provide DM + 1 against surprise in encounter situations. Weighs 1 kg.

Infrared Goggles (6) Cr500. Allows wearer to see heat sources (infrared radiation such as operating heat engines, animals, or people) in the dark. The quality of vision is necessarily distorted as heat sources, not reflected light images, are being viewed. IR goggles may allow darkness penalties in night or combat situations to be reduced or ignored.

Light Intensifier Goggles (7) Cr500. Allows vision by intensifying ambient light, and is usable in anything less than total darkness. LI goggles may allow darkness penalties in night or combat situations to be reduced or ignored.

Torches (1) Cr1. Each lasts about 20 minutes and weighs 250 grams.

Electric Torches (5) Cr10. Each lasts about 6 hours in continuous use and weighs 500 grams.

Gas or Oil Lamp (2) Cr10. Provides about 6 hours light (and heat) and weighs 500 grams. Refills of oil or gas cost Cr2 each.

Cold Light Lantern (6) Cr20. Provides 3 days light (no heat) in continuous use. Recharge of glow stuff costs Cr2. Weighs 250 grams.

Voice Recorder (6) Cr100. Records voice on small tape cassette for later playback or transcription. At tech level 13, recordings are
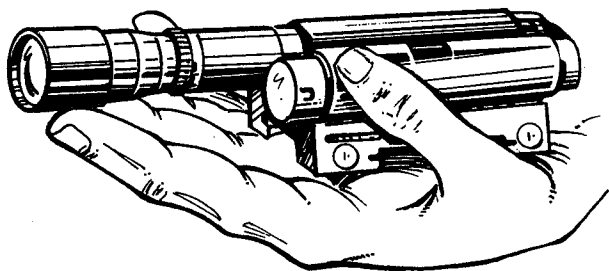
made to holographic crystals of ten hour capacity. Tapes or crystals cost Cr1. Voice recorder weighs 500 grams.

Video Recorder (8) Cr900. Electronic recorder of visual images, either as single frames or sequential motion pictures using integral camera and lens system. Information is recorded on small visual tape cassettes for later viewing. At tech level 13, recording is on holographic crystals. Each tape can hold 60,000 distinct images or one hour of motion pictures; crystals can hold ten times that amount. Tapes or crystals cost Cr2 each. Video recorder weighs 1200 grams.

Text Recorder (10) Cr1200. Keyboard and voice operated recorder of data, including notes, letters, and numbers for later analysis (usually by computer). Information is recorded on small tape cassettes costing Cr3. At tech level 13, data is recorded on holographic crystals instead. Tapes can hold approximately 20 million worlds; crystals can hold ten times that. Text recorder is capable of transcribing voice to text. Weighs 1 kg.

TOOLS

The following tools or tool sets are available:

Carpentry Tool Set (2) Cr300. Includes basic tools necessary to cut, shape, and build with wood. Woodworking may include construction and repair of shelters, buildings, or furniture. Commonly calls for mechanical skill in order to be used properly. Boxed set weighs 25 kg.

Metalwork Tool Set (4) Cr1500. Includes basic tools necessary for metalworking, welding, and shaping. Metalwork may include the construction and repair of shelters, vehicle bodywork, and alteration of metal structural items. Calls for mechanical skill in order to be used properly. Boxed set weighs 50 kg.

Mechanical Tool Set (5) Cr1000. Includes basic tools necessary to repair and alter mechanical devices, including vehicles and guns. Calls for mechanical skill in order to be used properly. Boxed set weighs 20 kg.

Medical Kit (7) Cr1000. Contains drugs, surgical supplies, and diagnostic materials for use by doctors. Calls for medical skill in order to be used properly. Weighs 10 kg.

Electronic Tool Set (7) Cr2000. Necessary tools for basic electronic assembly and repair. May be used with any electronic devices such as communicators, detectors, sensors, and control instruments. Calls for electronic skill in order to be used properly. Boxed set weighs 5 kg.

Lockpick Set (4) Cr10. Allows picking of ordinary locks on a throw of 8 + ; throw once per 15 seconds. Lockpicks are illegal on worlds of law level 8 + ; on such worlds the cost rises to Cr100 or more.

SHELTERS

The following are portable or temporary shelters commonly available:

Tarpaulin (1) Cr10. A canvas or waterproof cloth sheet used for temporary shelter. 2 by 4 meters. Weighs 2 kg.

Tent (2) Cr200. Basic shelter for two persons. Weighs 3 kg. Larger, more elaborate tents weigh and cost more.

Pressure Tent (7) Cr2000. Basic shelter for two persons, providing standard atmosphere. There is no airlock: the tent must be depressurized to enter or leave. Weighs 25 kg.

Pre-Fabricated Cabin (6) Cr10,000. Modular unpressurized quarters for 6 persons. 2 by 6 by 6 meters. Can be carried in the hold of a starship. Weighs 4 tons.

Advanced Base (8) Cr50,000. Modular pressurized quarters for 6 persons, with airlock and atmosphere recirculating system. 2 by 6 by 6 meters. Can be carried in the hold of a starship. Weighs 6 tons.

COMMUNICATORS

A communicator is defined as a radio transmitter/receiver combination capable of operating off an internal power source. It is portable in the sense that it need not be connected to a power supply. It may transmit and receive voice and data. The communicators listed vary primarily in tech level, price, and range. Medium range is the minimum for communication with ships in orbit.

Short Range Communicator (5) Cr225. Capable of ranges up to 5000 meters. Weighs 20 kg.

Short Range Communicator (8) Cr75. Capable of ranges up to 5000 meters. Weighs 100 grams.

Medium Range Communicator (5) Cr750. Capable of ranges up to 50 kilometers. Weighs 70 kg.

Medium Range Communicator (10) Cr250. Capable of ranges up to 50 kilometers. Weighs 400 grams.

Medium Range Communicator (13) Cr250. Capable of ranges up to 50 kilometers. Weighs 100 grams.

Long Range Communicator (5) Cr1500. Capable of ranges up to 500 kilometers. Weighs 150 kg.

Long Range Communicator (9) Cr500. Capable of ranges up to 500 kilometers. Weighs 1200 grams.

Long Range Communicator (14) Cr500. Capable of ranges up to 500 kilometers. Weighs 500 grams.

Continental Range Communicator (5) Cr15000. Capable of ranges up to 5000 kilometers. Weighs 300 kg.

Continental Range Communicator (9) Cr5000. Capable of ranges up to 5000 kilometers. Weighs 1500 grams.

Continental Range Communicator (12) Cr5000. Capable of ranges up to 5000 kilometers. Weighs 1 kg.

FOOD AND OVERHEAD

Food and basic survival may be priced from the following information:

Basic Cuisine on a Daily Basis: Food is available in a variety of forms and qualities. Prices reflect costs per person. Restaurant meals of ordinary quality cost Cr10 per day. Excellent quality meals range in price from Cr20 to Cr50 per person. Travellers' Aid Society facilities provide excellent quality meals to members and guests for Cr20.

Food purchased from vendors for preparation at home costs about Cr5 per day and weighs about 1 kg.

Preserved foods for rations on expeditions may be canned or packaged (Cr20 per day, weighs 500 grams) or dehydrated (Cr25 per day, weighs 200 grams, and is dependent on locally supplied water).

Subsistence on a Long Term Basis: When time must pass quickly, the referee can allow personal survival or subsistence costs at the following values.

Starvation Level: bare minimum of food, Cr60 per month; dismal lodging, Cr60 per month.

Subsistence Level: reasonable food, Cr120 per month; acceptable lodging, Cr180 per month.

Ordinary Level: good food, Cr200 per month; good lodging, Cr200 per month.

High Living: excellent food, Cr600 per month; excellent accommodations, Cr300 per month.

Starships: Passengers and crewmembers have their food and lodging provided, with costs covered by the life support costs necessary for operation of the ship.

VEHICLES

Page 23 of the charts and tables booklet applies to this chapter.

Planetary transportation, whether on the world surface, on or under its oceans, in its atmosphere, or even in orbit, is possible through a wide variety of available vehicles. These various forms of transportation will be required by adventurers as they travel away from the starport of a world. The following are general guidelines for the use of vehicles.

Primitive Transportation: On worlds with low technology levels (0 through 3), the local means of transportation will tend to depend on beasts of burden, animal-drawn carts, and watercraft such as galleys and sailing ships. Prices for such items will depend on local situations: animals and wagons are priced in hundreds of credits; ships are priced in the thousands and tens of thousands of credits.

Local beasts of burden and riding animals will be domesticated herbivores similar to animals in local encounter tables and generally of the 200 to 400 kilogram range or above. It is interesting to note that low passage berths had their origin in the transport of animals, and can carry a 400 kg animal if characters wish to bring along their own riding beasts.

Modern Transportation: The transport vehicles available to a modern technological society include aircraft, grav vehicles, tracked vehicles, wheeled vehicles, and watercraft. Aircraft are further divided into helicopters, propeller-driven aircraft, and jet-propelled aircraft; watercraft are further divided into small watercraft, hovercraft, submersibles, and large watercraft. In addition, interplanetary ships and interplanetary small craft are available.

Transport Skills: The categories of vehicles available parallel the available transport skills for characters. Individuals usually must have skill in a specific vehicle type in order to properly operate that form of transportation. All vehicles within a category can be operated by a person possessing the skill for that category. For example, all tracked vehicles can be operated by an individual with tracked vehicle skill. If a category has divisions (for example, aircraft), then the character may operate vehicles within a specific division with an appropriate skill (for example, jet aircraft), and other divisions within the category (for example, propeller-driven aircraft and helicopter) at the skill level minus 1.

There is some latitude and interchangeability for some of the skills available. All characters are assumed to be able to operate wheeled vehicles (in slow speed, non-dangerous situations) without any skill. Air/raft skill and grav vehicle skill are interchangeable and identical. ATV skill allows an individual to operate both wheeled and tracked vehicles. Pilot skill, in addition to allowing operation of starships and interplanetary ships, can be used to operate small craft (the equivalent of ship's boat skill) at one less than full level.

AIRCRAFT

Aircraft generate lift by passing air over wing-surfaces, either fixed (as in most aircraft) or rotating (as in helicopters). Aircraft are usable only on worlds with atmospheres of 4 + . Although true winged craft appear only at tech level 5 + , engineless gliders may be constructed as far back as tech level 0, becoming fairly common at tech level 3.

Aircraft require frequent maintenance (between uses or daily) in order to insure reliability. The basic throw for a malfunction is 11 + , DM + 1 for each missed maintenance.

The aircraft category has three divisions for the purpose of skill utilization: helicopters, propeller-driven fixed wing aircraft, and jet-propelled fixed wing aircraft. Any character with skill in one division can operate aircraft in a companion division at − 1. For
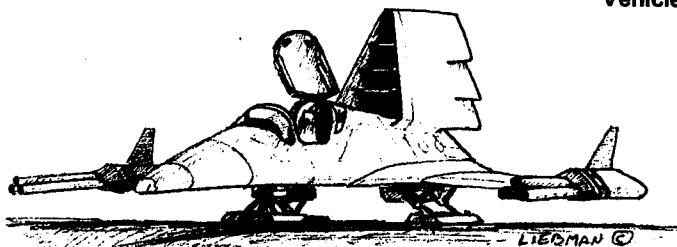
example, helicopter-3 could operate propeller and jet fixed wing aircraft at level-2.

The following are some examples of aircraft.

Primitive Biplane Aircraft (5) Cr20,000, 1 ton. A very small, propeller-driven, early model aircraft. It can achieve a cruise speed of 150 kph, with bursts to a maximum of 200 kph; range is three hours flying time. The biplane's engine depends on chemical fuel. The biplane carries two persons (a pilot and a passenger) and 100 kg of cargo.

Fixed Wing Aircraft (6) Cr1,000,000, 5 tons. A twin jet aircraft monoplane intended for cargo transport. The plane cruises at 600 kph (maximum speed is 700 kph) with a range of 3600 km or six hours. Fuel is standard chemical jet fuel. The craft requires a crew of two (only one of whom needs aircraft skill) and can carry six passengers plus five tons of cargo. Typical wingspan: 15 meters; typical length: 15 meters. Other versions of this aircraft are possible, including seaplanes, and faster, larger, or armed versions.

Helicopter (6) Cr100,000, 1 ton. Single engine rotary wing aircraft capable of vertical take-off and landing as well as maneuverability in tight places. The helicopter can cruise at 200 kph with a top speed of 250 kph; range is 600 km. The helicopter has a crew of one plus seven passengers and 500 kg of cargo.

GRAV VEHICLES

Grav vehicles are the main form of transportation for a high technology society. Above tech level 10, other vehicle types are rarely seen except in a few specialized situations. All grav vehicles are essentially similar in handling characteristics, differing only in performance.

Grav vehicle skill is necessary to operate a grav vehicle. Air/raft skill is a synonym for grav vehicle skill.

Grav vehicles can operate in any environment and are capable of reaching orbit from a world surface (although most cannot do so very rapidly).

Air/Raft (8) Cr600,000, 4 tons. A light anti-gravity vehicle which uses nullgrav modules to counteract gravity for lift and propulsion. An air/raft can cruise at 100 kph (but is extremely subject to wind effects), with some capability of higher speed to about 120 kph. An air/raft can reach orbit in several hours (number of hours equal to planetary size digit in the UPP); passengers must wear vacc suits and interplanetary travel in an air/raft is not possible. Range in time or distance on a world is effectively unlimited, requiring refueling from a ship's power plant every ten weeks or so. An air/raft can carry four persons plus four tons of cargo. The air/raft is unpressurized and usually open-topped.

GCarrier (8) Cr1,000,000, 8 tons. An enclosed military or quasi-military grav vehicle. The GCarrier is an armored air/raft type vehicle intended originally for troop carrier duties. Performance is similar to that of the air/raft, but the vehicle generally has a gun mount and an armored rear hatch door. It requires a crew of one (with air/raft skill) plus a gunner for the craft's weapon, if any. It can carry 14 persons (including the driver and gunner) plus 2 tons of cargo (or assume 250 kg cargo for each person not carried; thus driver, gunner, and 5 tons of cargo).

Speeder (8) Cr1,000,000, 6 tons. A streamlined gravpowered craft intended for high speed transport between points on a world surface. Similar in principle to the air/raft and the GCarrier, the speeder is streamlined and concentrates on speed. It is capable of
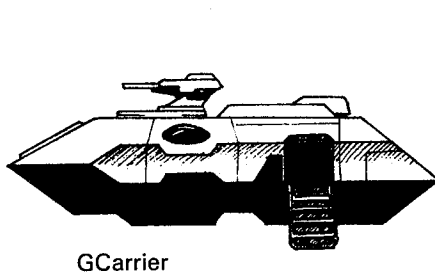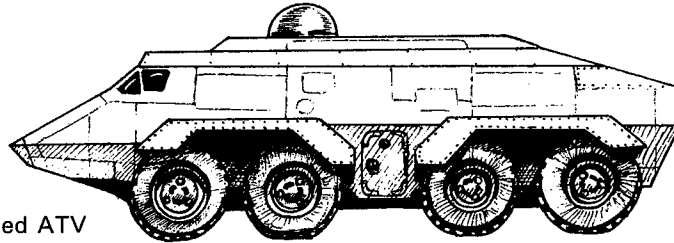
GCarrier

Air/Raft

Speeder

Wheeled ATV

1000 kph cruise speed (maximum speed is 1200 kph) and has a virtually unlimited range. Refueling is required every ten weeks from a ship's power plant. The speeder carries a driver (who operates the craft at air/raft skill minus 1), a single passenger, and 100 kg of cargo. The speeder is capable of reaching orbit within an hour.

Grav Belt (12) Cr100,000, negligible weight if on; 10 kg if turned off. Personal anti-gravity transportation using a single null-gravity module and a personal harness. Performance is similar in speed and range to the air/raft.

WHEELED VEHICLES

Wheeled ground vehicles depend on wheels to ease the friction of travel overland. They depend on relatively smooth and unobstucted terrain (roads, prairies, plains) for optimum operation. Wheeled vehicles include cars, trucks, most road vehicles, and wheeled all terrain vehicles.

Any character can operate a wheeled vehicle at slow speeds and under non-dangerous conditions without wheeled vehicle skill. Racing, long-distance, or long-period operation calls for some wheeled vehicle skill.

When characters use wheeled vehicles, the referee should note specific throws which will govern their use. Throw 12+ for mechanical difficulty or failure, allowing DMs for personal expertise, terrain, and perhaps age and condition of the vehicle. Throw 10+ for terrain difficulty if not on roads or smooth terrain such as plains or prairies, or include such items on animal encounter tables for the current world surface. Local law level can be used as the throw (law level +) to avoid such things as speed traps.

The following are examples of wheeled ground vehicles:

Ground Car (5) Cr4,000, 2 tons. An ordinary self-powered wheeled vehicle suitable for local use in civilized areas or on roads. Typically, a ground car has a range of 1000 km, cruises at 100 kph, and has a maximum speed of 150 kph. If capable of off-road travel at all, speed is generally limited to 10 kph. Fuel for a ground car depends on local tech level and fuel sources; it is usually chemical fuel (hydrocarbons or hydrogen) or electric batteries. Most ground cars require a driver, although at higher tech levels the car will steer itself (and on highly civilized worlds driving under human control is illegal in cities). A car can carry five additional passengers plus luggage. Other models (convertibles, sports models, limousines, trucks, motorcycles, unicycles, vans, etc.) may be available at varying prices. The basic ground car is unpressurized. Ground cars are mass production items manufactured for a specific world; they will tend to malfunction when transferred to a world not similar to their world of origin.

Wheeled All Terrain Vehicle (6) Cr30,000, 10 tons. A wheeled vehicle intended for transport across undeveloped areas. A wheeled all terrain vehicle (abbreviated ATV) has a range of 5000 km,

cruises on roads at 60 kph, and can achieve a maximum speed of 100 kph. Off roads, speed depends on terrain; on open plain, it will approach normal road performance, while in difficult terrain, maximum speed will be 20 kph or less. (Tracked ATVs are somewhat slower than wheeled versions, but are also more reliable in difficult terrain.) An ATV may be powered by a battery recharged from a ship's power plant, or it may contain a small fusion pack, requiring hydrogen or water for fuel. The ATV is designed to serve admirably on many different worlds under widely varying conditions, including vacuum and insidious atmospheres and high or low gravity. An ATV requires one driver. Passengers can number up to 16; the vehicle is fully pressurized and contains complete (though cramped) eating, sleeping, and travel facilities for eight. The vehicle may be lightly armored and can carry a turret mounting a laser or other local combat weapon.

TRACKED VEHICLES

Tracked vehicles depend on continuous tracks to ease the friction of travel overland. They are capable of traversing almost any type of terrain, restricted only by chasms, shear cliffs, and other major barriers. Tracked vehicles are generally slower than wheeled vehicles. Tracked vehicles include all terrain vehicles, armored fighting vehicles, and construction equipment.

Tracked vehicle skill is required to use any tracked vehicle. When characters use tracked vehicles, the referee should note specific throws to govern their use. Throw 11+ for mechanical difficulty or failure, allowing DMs for personal expertise, terrain, and perhaps age and condition of the vehicle. Throw 11+ for terrain difficulty or include such items on animal encounter tables for the current world surface. Note that local law level can be used as the throw (law level +) to avoid such things as speed traps.

Tracked All Terrain Vehicle (6) Cr30,000, 10 tons. The tracked ATV is identical to the wheeled ATV except that it cruises on roads at 40 kph and can achieve a maximum speed of 80 kph. Off roads, speed depends on terrain; on open plain, it will approach normal road performance, while in difficult terrain, maximum speed will be 30 kph or less. Although somewhat slower than the wheeled ATV, it is more reliable in difficult terrain.

WATERCRAFT

The watercraft skill category has four divisions: small watercraft, hovercraft, submersibles, and large watercraft. Any character with skill in one divisions can operate watercraft in another division at −1. For example, a character with small watercraft-2 could operate submersibles, hovercraft, and large watercraft at level-1.

Small watercraft are operable by one person. Typically, they do not exceed 100 tons. Large watercraft call for more than one person; they generally exceed 100 tons.

The following are examples of watercraft:

Motor Boat (5) Cr60,000, 60 tons. Advanced small craft utilizing hydrofoils to allow high speed performance. The motor boat can cruise at 60 kph, with bursts of speed to 100 kph. The boat's engines depend on local fuel sources, such as hydrocarbons or electric batteries. A crew of three operates the craft, which carries eight passengers and 10 tons of cargo.

Submersible (6) Cr2,000,000, 500 tons. Underwater vessels tend to avoid surface weather conditions for safety and convenience. On worlds with large water percentages (especially level A) submersibles ply the routes between underwater domed cities. The submersible is capable of 40 kph cruising underwater and about half that on the surface in good weather. It has unlimited endurance and depends on local energy sources for refueling or recharging. It has a crew of five and provision for ten passengers and 30 tons of cargo.

Hovercraft (7) Cr200,000, 8 tons. Ground effect vehicles are supported on a cushion of air (at about 1 to 3 meters altitude). Usable only on worlds with an atmosphere of 4 or greater, hovercraft are capable of cruise speeds of 60 kph, with bursts of speed to a maximum of 150 kph. Distance between refuelings is 2000 km. Hovercraft may move over both land and water with equal ease, but encounter difficulty with broken ground, precipices, or storms. A crew of one can operate the vehicle. Hovercraft can carry up to 15 passengers plus operator. Cargo capacity is approximately 3 tons. No armor or weaponry is generally provided.
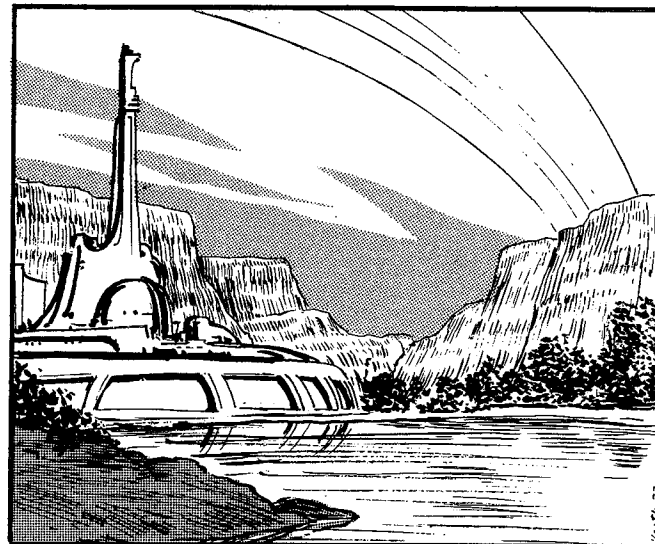
PSIONICS

Page 24 of the charts and tables booklet applies to this chapter.

The powers of the mind are incredible and some day the study of these powers will enable every individual to use them as an active part of his life. Psionics, however, can be frightening to those without the power, and the active or public use of this power is not well received by the general populace or the government. As a result, only a very few individuals ever discover the psionic power that lies hidden in their minds.

The Psionic Institute: In the face of popular and official disapproval, the secrets of psionic science are held by a dedicated group of talented individuals who operate the Psionic Institute. Accurate information about and quality training in psionics are available only through branches of the Psionic Institute, which is wholly devoted to the study of mental powers. Because of the prejudices which exist, the Institute maintains a low profile, and it is quite difficult to locate its facilities. Any world with a population of 9 or greater may have a branch established on it (throw 11 + for a branch to exist; DM +1 per level of population above 9).

Although a branch may exist, it still must be located. Any character may indicate that he is searching for the local branch of the Institute (throw 9 + to find it or information as to its location; DM +1 per level of streetwise expertise and +1 per level of admin expertise). Such a search takes one week. If the search is unsuccessful, the character becomes convinced that a branch does not exist on this world, and gives up the search there.

If the local branch is located, a character may inform his comrades of his success. There is some chance (throw 7 + to avoid) that the branch is some distance away and will require a long trip to reach it.

Branches of the Institute perform two functions: they administer the examination for psionic potential, and they provide training in the use of psionic talents. Both services are provided for a fee.

PSIONIC STRENGTH

The Institute's comprehensive examination provides a measure of personal psionic strength. The process takes two weeks time, and costs Cr 5000. Some charity is available for truly indigent applicants (referee's discretion as to suitability, then throw 10 + to be given a free examination).

The Examination: Each character has a basic potential defined by a two-dice throw. Age constantly lessens this potential, however, unless training is undertaken to use it. A DM of −1 is applied for each block of 4 years age above 18. These blocks correspond to the aging cycles. For example, a character who takes the examination at age 23 is in his second 4-year block, and has a DM of −2. Throw 2 dice and apply the DM. The result is the character's psionic strength rating. The examination may only be taken once per character.

Psionic Strength Ratings: The personal psionic strength rating may range from zero to 11. Ratings of 12 or more cannot be attained naturally once a character has passed beyond age 18; they may be achieved temporarily through the use of psi-drugs. The maximum possible rating is 15.

Psionic strength ratings indicate two things: the maximum level of activity which may be performed and the number of strength points at the character's command for the performance of specific tasks.

Maximum Activity Level: Each type of activity within a psionic field is assigned a level. A character may not perform that activity unless his or her personal psionic strength (unenhanced by psionic drugs) is equal to or greater than the level of the activity.

Available Strength Points: Each type of activity requires the expenditure of psionic strength points for the activity and for the range at which the activity is performed. A character's psionic strength rating is an index of the points which he or she may expend. Expended points are regenerated, over time, by rest and recuperation. Psi-drugs may increase the points which are available to the character.

Aging and Deterioration: An untrained character is subject to a gradual, relentless deterioration of his psionic strength rating. When the aging point occurs (every 4 years), his or her rating is reduced by 1. A trained individual is not subject to reductions in power through normal aging.

If, through aging, permanent injury, or any other cause, a character (trained or untrained) has the sum of his first four characteristics (strength, dexterity, constitution, and intelligence) reduced to less than his psionic strength rating, his psionic strength is reduced to that sum. Psi-drug abuse can also reduce psionic strength.

TRAINING

The Institute will train individuals in the use of their latent talents. Training requires 4 months and costs Cr100,000. Extremely talented individuals (psionic strength ratings 9 or higher) may apply for a scholarship if they cannot otherwise afford training. In

such cases, the Institute will take 95% of the character's assets and waive the remainder of the cost. (Referee: the Institute can, or course, read minds, and will not favorably regard fraudulent or devious applications.)

The Six Possible Talents: Although there are a total of six possible areas of psionic activity, no one person will usually be capable of activity in all areas. In training, a character will learn those areas in which he has ability or potential and those areas in which he has no talent at all.

Roll two dice successively for each of the six talents listed in the talent table. A throw is indicated which must be achieved in order to have ability in that area. A DM must be applied to each throw: the throws may be made in any order, but there is a DM of −1 on the first throw, −2 on the second throw, −3 on the third throw, and so on. A character who is extremely anxious to acquire teleportation should throw for that talent first.

Effects of Training: The training sessions merely acquaint the character with the possibilities of psionic talents and impart a rudimentary control over them. As a result, the character can perform any task of level 1. Experience and hard work will allow the character to learn how to use greater levels of power. The effects of time and experience are given in the descriptions of the specific talents.

Training also instructs the characters in the methods of concealing their powers and in the dangers of allowing common citizens to know of their power. When training is completed, the Institute is incapable of further assisting characters in their psionic development. From that point, all depends on experience and fortune.

It is possible for a character to have a very high psionic strength rating and nonetheless turn out very badly in training, discovering that he has few or no specific abilities. It is also possible to discover that a character has a rudimentary talent in a field but insufficient level to enable him to perform any activity. For example, teleportation requires a psionic strength rating of 5. A character with a psionic strength of 4 who achieves teleportation as a talent is still unable to teleport because he has an insufficient rating. Psi-drugs will increase his strength but not his rating.

Psionic training is not available in the services nor is it available from any source except the Institute.

RANGE

Psionic activity is restricted by the range or distance at which it is performed. A greater number of psionic strength points are required to do psionic tasks at greater ranges.

The range definitions given here apply to psionic activity. It is important to note that the ranges "close" to "very long" are identical to tactical ranges used in personal combat. Psionics have so far proven incapable of interplanetary ranges.

Range refers to simple straight line distance. Psionic activity, at the ranges given, is effectively instantaneous and is not affected by intervening matter in most cases (for example, electromechanical psionic shields do interfere with psionics, but planetary masses or walls do not).

TELEPATHY

Telepathy is the ability to contact other minds directly. In rudimentary forms, it allows the communication of feelings and emotion; in advanced forms it allows the transfer of information. There are several levels of telepathy, which depend on the psionic strength and experience of the user.

Life Detection: The most elementary form of telepathy is the ability to detect the presence of other minds. Life detection enables a character to sense the presence of other minds, the number of minds present, the general type of minds (animal, human, etc.), and their approximate location. Life detection is a level 1 ability and requires 1 psionic strength point to perform (plus any additional cost due to range, if applicable). Activity may last up to 60 seconds. Life detection is reasonably sophisticated and can "ignore" bacteria or unimportant animals in the area. It functions best in detecting intelligent minds. Shielded minds are undetectable (see Shields). If an individual whom the telepath knows is "life detected", he or she will be recognized.

Telempathy: The communication of emotions and basic feelings is accomplished by telempathy. This ability serves well in the handling of animals and beasts of burden, but may also be applied as a psychological weapon against humans. Sending of emotions such as love, hate, fear, and so on may influence other beings (although not necessarily in the manner desired). Telempathy also allows the emotions and feelings of others to be read by a character. Telempathy is a level 2 ability and requires 1 psionic strength point to perform (plus range costs as applicable). Activity may last up to 60 seconds.

Read Surface Thoughts: The most commonly known feature of telepathy is the ability to read the thoughts of other individuals. Only active, current thoughts are read by this ability, with the subject (if himself not a telepath) unaware of the activity. Individuals with telepathic ability cannot be read due to the presence of their natural shields. This ability is of level 4 and requires 2 psionic strength points to perform. Activity may take up to 60 seconds. Range costs must be added if applicable.

Send Thoughts: Complementary to the ability to read surface thoughts is the ability to send thoughts to others. Such individuals need not themselves be telepathic to receive such thoughts. Telepathic individuals are normally open to such transmissions but may close their shields against transmissions if they become bothersome or threatening. A thought transmission may last up to 120 seconds. Sending thoughts is a level 5 ability and requires 2 psionic strength points to perform, plus normal costs due to range.

Probe: The application of great psionic strength will enable a telepath to delve deep into the mind of a subject and then to read his innermost thoughts. Questioning can be used in the procedure to force the subject to divulge specific information. The prober can easily determine deliberate untruths told (thought) by the subject. Probe cannot be used against a shielded mind. Probe is a level 9 ability, and requires 8 strength points to perform. Probing may last up to 10 minutes, which time is usually sufficient to determine the information sought.

Assault: Violence may be dealt by a telepath. Against an unshielded mind, the result is automatic unconsciousness and possible death. Against a shielded mind, an instant duel ensues. An unshielded mind, when assaulted telepathically, is rendered unconscious

immediately, and the character receives wounds equal to 2D + 6. When a shielded mind is assaulted, the attacking telepath compares his psionic strength rating to the psionic strength rating of the defender: the difference (attacker minus defender) is the required DM. For the assault to succeed, the attacker must throw 7 + . For example, an attacker with a psionic strength rating of 13 assaults a character with a psionic strength rating of 5 (13 − 5 = 8); a DM of + 8 is allowed in the assault.

Assault is a level 10 ability and requires 10 strength points to perform. The assault takes less than 2 seconds to occur.

Shield: All telepathically able characters learn how to create a mental shield which protects the mind against unwanted telepathic interference. Such a shield is automatically in force at all times and requires no strength point expenditure to maintain. Artificial psionic shields are clumsy helmet-like devices which function in much the same manner while worn. They weigh 1000 grams, offer little physical protection, and have a base price of Cr4000.

CLAIRVOYANCE

Clairvoyance is the general talent which allows a person to sense events at some location displaced from the viewer. There are several levels of clairvoyant ability.

Sense: The basic ability to sense things at some point in the distance. A character will become aware of the most rudimentary characteristics of a location when applying this ability. For example, the referee will give a basic description without detail: "a room containing 4 dogs" or "an open plain with a tree and no animals or men present". The clairvoyant character must state the range at which he is applying his talent, and will generally sense the most interesting or important feature at that range. Sense is a level 2 ability and requires 1 psionic strength point to perform (plus any range cost).

Clairvoyance: This specific ability allows actual viewing of a situation at some displaced point. It may be performed outright or to allow elaboration of some situation sensed. The clairvoyant character must state the range at which he is applying his talent. Clairvoyance is a level 5 ability and requires 2 psionic strength points to perform, in addition to any range costs.

Clairaudience: This ability is identical to clairvoyance with the exception that it allows hearing instead of seeing.

Combined Clairvoyance and Clairaudience: A character is capable of both seeing and hearing a specific situation by using this ability. It is of level 9 and requires 2 psionic strength points to perform, in addition to any range costs.

Direction: A character may specify the exact location at which he applying his ability, if it is out of physical sight, by direction, provided he has some knowledge of the location by experience or description. This guidance assists him in performing his activity in the most efficient manner. Direction is a level 3 ability and requires no basic points to perform (although range costs must be paid).

Clairvoyance abilities allow eavesdropping as well as spying and detection-free exploration of situations. While telepathic life detection will determine the presence of living minds in a closed room, for example, sense will determine if a room is occupied or empty. Clairvoyant activity cannot be sensed by others, including by other psionic individuals.

TELEKINESIS

Telekinesis is the talent which allows objects to be manipulated without physically touching them. Telekinetic power is classified by the number of grams weight that the person can manipulate. Any manipulation is treated as if the person was physically handling the item, but physical danger, pain, or other stimuli are not present. Telekinesis includes a limited amount of sensory awareness, sufficient to allow intelligent manipulation.

The telekinetic levels table indicates the weight manipulation allowed by level of ability. In addition, the level of ability indicates

the cost in psionic strength points to perform such manipulation. Costs due to range must also be paid. The costs envision normal lifting or manipulation; throwing with a strength generally equivalent to physical throwing may be performed at a double psionic strength point cost. Any one telekinetic feat may last for up to 60 seconds. Note that personal weight in most cases will not exceed 100 kilograms; a character of level 10 telekinetic ability can levitate. Gravity differences will not alter the mass which can be manipulated.

Telekinetic power may not be applied at greater than very long range, and then only (as may be seen from the range table) at relatively great cost in psionic strength points.

AWARENESS

Awareness is the psionic talent which allows control of one's own body. Awareness covers a range of four possible abilities, described below.

Suspended Animation: Personal body activity may be suspended for varying periods of time. A character with awareness may enter a suspended animation state (similar to cold sleep but without the intrinsic danger of death) by willing himself into it. Such a state continues for 7 days without need for food or water and with minimal air needs. Such a person could effectively travel in a cold sleep berth without actually undergoing cold sleep and its dangers. Suspended animation may be stopped at any time, provided external stimulus is given to awaken the sleeper (such as friend or a mechanical alarm). This is a level 2 ability and costs 3 points to perform.

Psionically Enhanced Strength: Psionic strength points may be converted to physical strength points on a temporary basis. The character makes the commitment, reduces his available psionic strength by a specific number of points, and increases his physical strength characteristic by that number. In no case may the number of strength points gained exceed the character's current level of awareness, and physical strength may not be increased beyond 15. Psionically enhanced strength reaches its new level immediately, remains at that peak for 60 minutes, and then declines at the rate of 1 strength point per minute until normal strength level is reached. Psionically enhanced strength is a level 4 ability.

Psionically Enhanced Endurance: Psionic strength points may be converted to physical endurance points on a temporary basis. The character makes the commitment, reduces his available psionic strength points, and increases his endurance characteristic by the same number. In no case may the number of endurance points gained exceed the character's current level of ability, nor may endurance ever be increased to beyond 15. Psionically enhanced endurance reaches its new level immediately, remains at that level for 60 minutes, and then declines at a rate of one point per minute until normal endurance level is reached. Psionically enhanced endurance is a level 5 ability.

Regeneration: Wounds and injuries may be healed rapidly. Wound points may be healed by the application of this ability, exchanging one psionic strength point to regenerate one wound point. Healing occurs immediately (less than one minute). Should one session of healing be insufficient, further healing and regeneration may be applied after expended psionic strength is recovered. Regeneration may also be applied to the growing of new limbs or organs to replace lost ones or to heal unrecovered old wounds suffered prior to psionic training. Regeneration may not be used to counteract aging. Regeneration is a level 9 ability.

Awareness is not capable of affecting others and may not be used for healing or enhancing other characters.

TELEPORTATION

Teleportation is a talent which allows effectively instantaneous movement from one point to another point without regard to intervening matter. Psionic teleportation is limited to the movement

of the teleported character's body and (for highly skilled teleports) his or her clothing and weapons.

Teleportation calls for the range cost as indicated on the table to be paid in order to perform the activity, regardless of the level of the skill or its apparent difficulty.

Personal teleportation without external materials such as clothing or weapons is a level 5 skill.

Personal teleportation, clothed but without any personal load or weapons, is a level 7 skill. A weapon of up to 1000 grams, if worn so as to be part of an individual's clothing (holstered or sheathed), may be carried.

Personal teleportation, clothed and carrying a physical load of weapons and other items, not to exceed the character's strength in kilograms, is a level 9 ability.

Teleportation always involves the movement of one's body to another location. Independent items or other individuals may not be moved. A small animal could conceivably be carried as part of a personal load under the terms of level 9 ability.

Teleportation involves certain requirements in order to be accurate, and to insure obedience of the laws of physics.

Preknowledge of Destination: A character must always have a mental image of his or her destination before teleporting. This image is acquired by personally visiting the location first (including just viewing it from a distance), having the mental image implanted in one's mind (by telepathy) by another person who has visited the destination, or by viewing the location through clairvoyance (level 5 clairvoyance, not simply the lesser sense).

Energy and Momentum: Teleportation involves serious restrictions on movement in order to assure the conservation of energy and momentum.

On planetary surfaces, teleportation is restricted to jumps of less than regional distance. Jumps at very distant range involve disorientation for a period of 20 to 120 seconds. Jumps at distant range involve a chance (throw 8+) that the character will stumble or fall upon arrival. The character should demonstrate to the referee the specific effects to be expected, and then how they will be avoided, before attempting jumps at ranges greater than distant.

This restriction results from the law of conservation of momentum: on a rotating planet, two locations will have different rotational speeds and directions. A jump from a point on the earth's equator to its antipode would result in a total velocity difference between the character and his surroundings of over 3300 kph.

Changes in altitude (actually all movement to locations of differing gravitational potential) will result in potential energy changes, manifesting themselves as changes in body temperature. A jump

of 1km straight down will result in a temperature increase of 2.5 degrees Celsius; this is sufficient to cause extreme fever, brain damage, and even death. A jump up will cool the body by the same amount, with equally serious results. To be safe, a jump may not involve an elevation change of more than 400 meters, and multiple jumps should not involve a cumulative elevation change of more than 600 meters in one hour. These problems may be gotten around through the use of technological devices: energy compensators, heat suits, and other means. Characters may feel driven to invent such materials, commission their invention, or seek them out from those who already have them.

SPECIAL

Although psionic activity generally lends itself to classification, some individuals defy this very classification. Individuals with special talent are capable of some activity which is not described here; this talent is dispensed by the referee after deliberation. The special talent may include abilities not covered by this section, or may be a random assignment of otherwise unreceived abilities. Special talents should be made psychologically dependent on a focus, in the form of some artifact or charm, which must remain in the possession of the character.

EXPERIENCE

When a character finishes his initial training, he is unable to function with his full psionic strength. In all talents except teleportation, a character is initially capable only of level 1 abilities; in teleportation, he is capable of level 5 abilities.

As the character becomes more familiar with his talents (in game terms the mere passage of time is sufficient), his skill gradually increases up to the level of his psionic strength. Each month, roll 2D for each talent possessed; on 10+ for awareness, 12 for teleportation, and 8+ for all other talents, the character's ability increases by one level.

For example, suppose a character with a psionic strength of 11 has just finished training in telepathy. He is initially capable only of level 1 abilities (life detection and shield). After successfully rolling 8+ 9 times (in at least 9 months at one roll per month), he will have advanced to level 10 (all abilities, including assault).

The procedures above may or may not apply to the special talent at the referee's discretion.

RECOVERY

When psionic strength points are expended, the available points for a character are reduced. Such points are naturally recovered by a process of rest and recuperation. Beginning three hours after the last psionic activity, a character regains one psionic strength point per hour until the total equals the normal psionic strength rating. Such recovery is independent of physical activity. Psionic activity is defined as any psionic-related act, including the taking of psi-drugs for any purpose.

PSI-DRUGS

Chemical means are available to enhance psionic strength points on a temporary basis. These drugs are:
Booster: The basic psi-drug, available in small one-dose pills. Booster increases an individual's available psionic strength points by +3 if taken when psionic strength is at full power or by +2 if psionic strength is at a reduced level. Additional doses of booster have no effect if taken within an hour, and the drug will never boost psionic strength points to a level greater than normal +3. The drug-induced additional psionic strength will wane and disappear at the end of one hour.
Double: A more potent form of the drug, also available in small, one-dose pills. Otherwise identical to booster, double increases psionic power by +6 if taken when psionic strength is at full power or by +4 if psionic strength is at a reduced level.

Special: The rarest of psi-drugs, special is available only in liquid form and must be taken by injection. Special gradually increases psionic strength points to 15 at the rate of one point per hour. Psionic strength remains at this level (if unused) for four hours and then wanes at the rate of one point per hour until psionic strength reaches zero. Normal recovery then occurs. Special has some dangers, and there is a chance (throw 11 + each time used) that it will permanently reduce psionic strength rating by − 1.

Availability: Because the general public attitude towards psionics is negative, psi-drugs are expensive and difficult to obtain. Psi-drugs must nearly always be located and bargained for; they are not found in normal trade channels.

Dealers may exist on any world (throw 8 + to locate a dealer after two days' search; DM of + 1 per level of streetwise expertise). Most dealers will have only booster; throw 1D for the number of doses available with a base price of Cr1,000. Double will be available on a throw of 10 +; throw 1D − 2 for the number of doses available with a base price of Cr4000. Special will be available on a throw of 12 +; throw 1D − 4 for the number of doses available with a base price of Cr10,000. Prices may be higher but will generally not be lower.

Pitfalls: The abuse of psi-drugs can lead to the loss of psionic powers and to physical debilitation. If a character takes three doses in three days, there is a chance (throw 9 +) that drug overdose will take place within six hours of the last dose.

If overdose occurs, the character becomes seriously ill, lapsing into unconsciousness and taking hits equal to 3D. Upon recovery from the illness, psionic strength rating is reduced (saving throw 10 +) permanently by − 1.

PSIONICS IN HUMAN SOCIETY

The climate of public opinion about psionics is extremely negative. Individuals will find it unhealthy to admit possession of, or sympathy for, psionic powers. Persons with psionic ability will not admit their powers unless reassured that they are in no danger; this will usually involve self-revelation by a psionic talent.

Some hirelings or citizens may have psionic training or ability (throw 12 to have any ability; then determine the actual ability). There is an equal chance that the non-player character will be an informant or potential informant.

Psionic individuals detected by the public or the authorities are subject to a variety of responses, based on a two dice throw: 12 + for lobotomy, 10 + for lynching, 8 + for tarring and feathering, 6 + for imprisonment, and 4 + for deportation.

To The Referee: If everyone in society had psionics, there would be an everpresent chance of player characters having their minds read, of non-player characters knowing what player characters thought or intended, and of such conveniences as walls, locks, and doors having little practical use. A little thought will show that society would be vastly different if everyone could use the psionic abilities described here however they wished.

It is important to keep psionics under control and out of the hands of most people. It is certainly permissible for players to seek out the Psionics Institute and to try to learn of their own psionic potential. But society as a whole will not allow individuals to openly advertise that they have psionic powers, nor will it allow individuals to use them publicly. These points, if kept in mind, can help to maintain the fabric of the society in which the players are enmeshed.

BASIC TRAVELLER ACTIVITIES

The **Traveller** rules provide a comprehensive outline for the basic activities confronting any character in the universe. They are necessarily brief and admittedly omit many possible activities. After all, one game cannot even attempt to provide rules governing the entire universe; entire libraries are not especially successful in that regard. In the hands of players and a referee, however, the **Traveller** rules are the start of dynamic adventures that can span the universe.

The first question that arises once the rules have been read is — What do I do now? This chapter contains the answers.

FIRST ACTIVITIES

In **Traveller**, many of the subordinate game systems lend themselves to solitaire or two-person play. Practice with the systems makes the player more proficient, more knowledgeable, and more experienced with the rules that govern adventures. Take the time to run through the various aspects of **Traveller** shown below.

Generate Characters: Use the chapter on characters to generate characters from the six services, complete with individual characteristics and personal skills. The challenge to create an excellent character and then muster-out before failing a survival or aging throw makes this an interesting and intriguing activity, especially solitaire. Keep records of the characters generated for use later in adventures as non-player characters and as random person encounters.

Practice Combat: Read through the chapter on personal combat in order to acquaint yourself with the **Traveller** personal combat system. Then pit one pregenerated character against another in a sample battle. Solitaire or with friends, this procedure can give valuable insights into how combat will work in action and should show which weapons are useful in what ways. Familiarity with the system can show a player when to stand and fight and when to run away to fight later.

STARSHIP ACTIVITIES

Using starships can be a fascinating activity, and lead to hours of enjoyment.

Build Some Starships: The chapter on starship design and construction describes a complete system for the construction of interstellar-capable starships, complete with costs, tonnage restraints, and other considerations. Determine what type of starship is wanted and then set about designing it. Attention must be paid to fitting all the necessary components into the full size chosen. The chapter on starship economics should be consulted to determine what sort of profit the ship can show. Maybe a redesign is in order...

Practice Space Combat: The chapter on space combat provides a system for resolution of battles between starships. Assign a few starships to each of several players and fight out a space battle, perhaps to the death. The experience will show what to expect in space combat during **Traveller** adventures.

ADVENTURE ACTIVITIES

Travelling through the universe in search of adventure requires that there be a reasonably well-defined universe for the characters to move around in.

Generate a Typical Subsector: Worlds are grouped into subsectors, as explained in the chapter on worlds. Following the simple system given, generate a subsector of perhaps thirty worlds and record the results for later adventures. Before putting away this list, use it to strain your imagination: examine the various characteristics for each world and try to imagine the circumstances which make it the way it is described.

Produce a Single World: Select one world from those in the subsector generated and produce it in greater detail, fleshing it out with maps and animal encounter tables.

Try Trade and Commerce: Assume that a free trader is available and start out in the subsector buying goods for later resale. Take on passengers (high, middle, and low) and cargo, and use free cargo space to carry goods for speculation. Keep track of profits and losses, and don't forget to pay the appropriate ship costs. Continue until the ship goes bankrupt, until someone makes a fortune, or until the ship is paid off.

Check Out Psionics: After generating a character, read the chapter on psionics. Assume that the character has found a Psionic Institute and has applied for testing and training. Play around with the various psionic abilities described.

Think Up Some Situations: Using whatever inspiration is available (including novels, movies, and interesting events), think up a situation and express it in terms of what **Traveller** characters will encounter and what they must do to deal with it. The sample adventures included in this game may prove helpful in showing the necessary details for such situations.

PLAY TRAVELLER

Any time you have a group of people together, take them through any of the steps above to give them experience in the **Traveller** system orr referee them as a group in one of the sample adventures included. But most of all, have fun!

REFEREE'S GUIDE TO ADVENTURING

Traveller players are in search of adventure. Some adventure comes from playing the game system, from designing starships, and from exploring worlds generated by the referee. More adventure comes from the scenarios that the referee supervises and from participating in campaigns. The interaction of the characters involved, the imaginations of all the players, and the details of the game system make the entire game fun for hours on end.

AN ADVENTURE GUIDE

Traveller adventures span the entire range of experience that can be expected in the universe of the far future. The potential for adventure is endless, depending as it does on the situation and on the characters themselves. Nevertheless, each adventure can be classified in a number of different ways. These classification schemes can help any referee to produce his or her own adventures.

Adventures can be classified by their settings, patrons, situations, and catalysts. Each classification is independent, and an adventure can contain one of each.

Settings are places or locations for adventures. Four basic settings for adventures are the ship, the location, the world, and the choreographed novel. The ship covers any vessel, whether marine, interplanetary or interstellar, or other type; ships provide interesting movable settings with abundances of machinery and other equipment. The location indicates any building or natural feature and is usually indoors; it is often presented as a maze or labyrinth to be conquered. The world indicates a setting which is geographic in nature; it may be an complete world or it may be a mapped area or a smaller portion of a world. The choreographed novel involves a setting already thought out by the referee and presented to the players; it may be any of the above settings but contains predetermined elements. As such, the referee has already developed

characters and settings which bear on the group's activities, and they are guided gently to the proper locations. Properly done, the players should never know that the referee has manipulated them to a foreordained goal.

Patrons are non-player characters who provide direction and guidance to the players. In many cases, they speak with the voice of the referee in providing their help. Typical patron missions include steal an object, protect an object, find an object, or kill someone. At times, the players themselves will develop their own missions and become for a time their own patrons. Rumors are especially helpful in this regard.

Type indicates the actual nature of the adventure. An adventure need not be purely of one type, often mixing several types together for more excitement. Types of adventures include the chase/pursuit, the assault/rescue, discovery/exploration, enrichment, the enigma/mystery, and novelty.

The chase/pursuit may involve characters on either side of the situation, and it is possible for events to turn the tables on the players, converting the pursuers to the pursued on a moment's notice.

Assault/rescue usually involves force or violence in overwhelming enemy characters or the forces of nature in order to obtain some goal. Characters may be on either side of the assault/rescue.

Discovery/exploration puts the characters into an unknown situation where they must find information about their environment, either to ensure their own survival or as part of some interest they have.

Enrichment makes economic, social, intellectual, or other improvement the primary goal. Such adventures are mercenary (although not necessarily military) in nature.

The enigma/mystery presents a situation for characters to solve. It may be a simple murder mystery, with clues all around, or it may be a puzzling alien structure about which the group is curious.

Novelty adventures place the characters in interesting situations and allow them to deal with them. A visit to an interstellar casino for a round of gambling could be a novelty to some characters.

Catalysts serve to spark an adventure by providing interest and direction. They include danger (which forces action through threats), opportunity (which forces action through a promise of reward), and puzzles (which prompt action through curiosity).

By assembling these aspects of adventures together, the referee can produce interesting and ever-changing adventures for the players.

TRAVELLER CAMPAIGNS

Traveller campaigns can be a simple string of adventures and encounters set against the background of a pregenerated subsector in which the adventurers fly from world to world, engaging in trade and speculation, seeking and finding patrons, taking on and solving problems, and generally randomly wandering about the universe. With a small bit of effort on the part of the referee, however, a campaign can be structured to be much, much more.

There are several seeds to a good campaign. A referee should have them in mind when creating any situation which is to continue for more than one session. Four seeds are the basics, the push, the pull, and the gimmick. An optional fifth seed is the enigma.

The Basics: Maybe the thought of the basics is obvious, but it often gets overlooked. The rules for **Traveller** are presented in this game, but there are certain basic facts which the referee must provide. First and foremost is the map and an idea of what lies within the map (and why). Consider any modern map — it may have place names scattered about, but even a grade school education enables a reader to see beyond the names: the center of South America is jungle; some countries are democracies or dictatorships; they may be rich or poor; they may be allies or enemies of their neighbors. The same background is required for a subsector map. The referee needs to give some critical thought to the political organization of

the areas shown: is there an empire, a federation, an unsettled frontier? How does the government interact with its citizens: is it benevolent or oppressive, or is its presence even felt? These basics may well be sketched out ideas: rough maps where the holes can be filled in later. But these basics need to be there, or the players will later find themselves wandering into inconsistencies.

At a minimum, the basics should address the subsector map, interstellar government, and local technological levels. As needed, the referee may add more basics to the campaign, including animal encounter tables, local organizations of importance, world and local laws, history, and other foundations. With the basics available, it is possible to set any mundane adventure without further preparation. The only problem is that such adventures will be mundane; there is no real spirit of excitement behind them. The campaign needs more.

The Gimmick: Any campaign needs gimmicks to appeal to the players. Early on, they have no idea what is of importance in a grand sense, and will be self-centered to a certain extent. Gimmicks are designed to appeal to the players, enabling them to search for obviously valuable items while they also learn about their universe. Gimmicks (some say the word is derived from gimmee) are things that players want: things they are fascinated with. In **Traveller**, they rank above money or ordinary ships; they must represent some advantage, such as high technology or special talents. The Psionic Institute is an example of such a gimmick sought early on by most characters — it meets one definition of a gimmick: an advantage the player has over most people.

Gimmicks are things which cannot be bought — they must be earned through hard work, clever planning, and good fortune. Keep in mind that gimmicks are things that are acquired early by the players and which then serve the person (and the group) for the rest of the campaign.

The Pull: The pull is a simple name for a goal that attracts adventurers, much like a magnet attracts iron. It can be as simple as a fabled mineral deposit on a distant world or as complex as a secret formula that will keep the sun from going nova — to be found within a certain time limit.

Pulls need a lot of thought and often must be tailored to players in the campaign. When one player is an anthropologist and is interested in primitive cultures, the pull can be the secret of some race on a far-off world, one which allows the player to use his talents to puzzle it out after long expeditions. If a player tends to be a violence-prone soldier, then the pull may be a long-sought bit of training from a military society, available only after he has proven his worth.

Often, a campaign can do with two pulls. One may be major and the other minor, but a multiplicity of pulls allows one to be important while the other lies dormant until needed. Shifting emphasis can make the total campaign realistic; a realistic course for the action is rarely a straightforward path directly to the adventurer's seeming goal.

The Push: The push is (obviously) the opposite of the pull. It is something the players do not especially like, but it keeps cropping up anyway. The push can be relatively simple, like law officers, or relatively complex, like a nefarious group or race intent on conquering the universe.

As with pulls, there can be multiple pushes, some large and some small. Pushes also have a benefit for the referee: they can come into play when the referee wants to push someone. If the group is wasting time in some place and the action should really move on, then over the hill comes a horde of barbarians, the same ones that have been following the group for weeks and that everyone knows are bloodthirsty killers. "Quick," the group says, "let's move on!"

The Enigma: There is always something that the players will not understand. They may not realize that the emperor who holds ultimate political power also controls (more subtly) the economic power of the major corporations in the region or that some worlds are being slowly strangled by a major corporation in order to gain political control. As clues are presented, the group learns more and more about a larger situation, which they can then deal with to their benefit or to someone else's benefit. This enigma is, on a large scale, the secret of the universe; on a smaller scale, it is still a secret worth knowing.

Early in a campaign, the players may not even know what the enigma is. Later, when presented with several clues, the group may realize that there is a puzzle but have no idea of its solution. Still later, they may have all of the information (perhaps in the form of raw data still to be refined) and need to find an analyst to decode it. Finally, with the secret at their disposal, they will need to decide how to use this information. Doling out the clues and information slowly can make the campaign an intense, interesting cliffhanger until the very end.

INTO THE SUBSECTOR

The adventures are ready to begin. Each adventure presents a wealth of information for the players and the referee and should provide hours of enjoyment for everyone.

The General Situation: After each player has generated a character, the entire group has assembled through friendship, chance, or some other reason. They find themselves in an establishment just outside the gates of the starport.

Beginning Adventures: Initially, this game's basic rules provide several ideas for things to do. They include:

Find a Psionic Institute: Looking for psionic testing and training is always an interesting pursuit. The actual quest for the Institute is often a side venture as the group travels on other missions.

Trade and Speculation: Engaging in commercial ventures appeals to the basic profit motive that most players have. It enables them to progress in terms they readily understand and to use their rewards for other activities.

The Scenarios: Presented below are some patron encounters; two short adventures are included in a separate booklet. As the group travels, these scenarios should be presented and played. Between these scenarios, the referee can make up additional scenarios and present them to the players. After these situations are completed, the referee can produce others to provide even more adventure.

PATRON ENCOUNTERS

The following patron encounters may be imposed whenever the appropriate patron is rolled on the patron encounter table. If necessary (because of the situation or because the group is on an appropriate planet), the referee may impose a patron.

In each patron encounter, the referee should provide the players' information to the players but keep the referee's information secret. After rolling one die, the result will indicate which choice should be implemented. Because of this random result system, each patron encounter can be slightly rephrased and used again with a different response.

The Newlyweds   *Patron:* Playboy or Noble
Players' Information: The group is contacted by a newly married couple, who decline to give their names but have reason to believe that their respective parents are not pleased with their union. They will pay Cr3000 to each member of a group which will escort them safely to a planet beyond their parents' sphere of influence.

Referee's Information: This situation is the classic Romeo and Juliet scenario. The couple is insistent on remaining together and genuinely afraid of their families' reactions.

1. The couple has overestimated their parents' reaction. No attempt is being made to have either one kidnapped or murdered. Naturally, in the course of a normal interstellar voyage, a group of this size obviously travelling in fear of something is bound to

attract both official and unofficial attention.

2. Agents of the woman's family will attempt to kidnap her. The number of kidnappers involved should be adjusted by the referee based on the adventurers' weaponry and abilities.

3. Agents of the man's family will attempt to kidnap the man. The number of kidnappers should be adjusted by the referee based on the adventurers' weaponry and abilities.

4. Agents of the man's family will attempt to have the woman killed.

5. Agents of the woman's family will attempt to have the man killed.

6. Both families will simultaneously attempt to kill one of the couple and kidnap the other. Two independent groups should be created by the referee.

The Nervous Merchant   *Patron:* Merchant

Players' Information: A nervous looking gentleman, who identifies himself as John Smith, a local businessman, approaches the party. Hastening to state that this is the first time that he has ever attempted such a thing, he lays the following job offer before the group.

A competitor, Anselm Beauchamp by name, will be arriving in two days aboard the passenger liner Concordia. If Beauchamp is allowed to complete his task on planet, it will mean financial ruin for the patron. What he wishes the group to do is to kidnap Beauchamp and hold him for three weeks, during which time the patron will profit greatly from his absence. Beauchamp must not know why he is being detained or who is responsible. The patron will provide a secluded mountain villa in which Beauchamp may be held and will pay Cr15,000 to the group upon Beauchamp's safe release.

Referee's Information: The Concordia is a standard R class subsidized merchant. Unless otherwise stated, normal security procedures in effect aboard ship will have to be generated by the referee.

1. All is as represented.

2. Beauchamp arrives as expected aboard the Concordia but is accompanied by a bodyguard. The referee should generate a suitable character for each role.

3. Beauchamp arrives as expected but has two bodyguards.

4. Beauchamp is being sought by two assassins hired by another competitor. The referee should work out events according to the individual situation. The patron will not pay if Beauchamp is killed.

5. In addition to Beauchamp, a high official of the Imperial government and his twelve-man escort of Imperial marines are aboard the Concordia.

6. Beauchamp is not aboard the Concordia. The referee should determine why. Perhaps he took a later ship, an earlier ship, or cancelled his trip entirely. The referee must decide other considerations according to individual circumstances.

The Lady in White Robes   *Patron:* Noble

Players' Information: While resting in a hotel lobby between ships, the players are approached by a young lady in flowing white robes who identifies herself as the daughter of a local noble. Her brother, she says, has been kidnapped by a local criminal organization. He was once a member of that organization, but his conscience got the better of him and he contacted the Imperials, offering to turn Crown's evidence. He is now being held in a mountain villa, while they torture him to determine how much he revealed. The Imperial authorities think he is dead and will not help.

She offers Cr300,000 for the rescue of her brother and the safe transport of both of them offplanet. She produces a map of the villa, scrawled on a napkin.

At this point, two uniformed police and a third man in civilian clothes approach, taking the girl prisoner. The civilian identifies himself as a doctor at a local mental hospital, explains the girl is

a patient there, and apologizes for any inconvenience her wild tales might have caused the party. The girl struggles and screams that they are going to kill her.

Referee's Information: The doctor will quiet the girl with a hypo and the trio will carry her away. A library terminal is handy.

1. The police (really the organization's thugs in disguise) will hail a cab and carry the girl onto it. A check of the library will reveal that the girl and her brother are the only heirs of a local noble (recently killed under suspicious circumstances). There is no mental hospital of the name given on the planet. The referee must determine the flow of subsequent events.

2-4. The police carry the girl to a waiting unmarked car. Library data will reveal that the girl really has a brother, they are the only heirs of a local noble, and that there really is a mental hospital of that name on the planet. Further investigation will reveal more data, which should be adjusted by the referee to the method of investigation and given out as rumors. The girl is being held there by the organization, who owns the hospital. The police are genuine, but know nothing of the situation at the hospital.

5-6. The girl really is the daughter of a local noble but has no brother. The mental hospital really exists. The police are genuine. The referee should determine the flow of subsequent events.

The Raggedy Old Man   *Patron:* Peasant

Players' Information: While between flights the group is contacted by a shabbily dressed man who seems to be suffering from a severe allergy. His grandfather, he tells the group, served in the Imperial Army Quartermaster Corps during the border skirmishes of the 1080s. His grandfather's diary, which has only recently come into his hands, indicates that in the closing days of the battle for the Menorb system a quantity of valuable materials was loaded on the wrong ship and transferred to his control. The ship the goods were to have been on was destroyed with all hands, and instead of reporting the incident, the man's grandfather hid the crates. Before he could sell the goods, however, he was mortally wounded in an attack on the headquarters and never regained consciousness. Since the war, the Menorb system has recovered, but certain areas remain off-limits. The planetoid where the goods are concealed is located on the edge of the system, and he feels the odds are good that it has escaped destruction over the years. He does not know for certain what the diverted material was, but he notes that it is referred to in the diary as "the dope". He needs a ship to find the goods and transport them to a planet where they can be sold. He offers a 50/50 split of the proceeds.

Referee's Information: Imperial ships guarding the off-limits area of the Menorb system in which the planetoid is located should be chosen by the referee according to the size and armament of the players' ship. If captured, the players will be assumed to be spies.

1. The diverted consignment is undamaged. it consists of one Imperial mobile field surgery and two tons of pharmaceuticals. The surgery weighs one and one-half tons and cannot be resold legally. The drugs are in civil labels and should present no real problems in resale. The referee should determine the results of any attempt to sell the goods.

2-3. The cache contains four tons, not two.

4. The consignment has been damaged, and only the field surgery survives intact.

5. The consignment consists of 4 tons of pharmaceuticals and 10 kg of the illegal (and very valuable) psi double.

6. A meteor shower occupies the orbit where the diary indicates the planetoid was located.