AFTERMATH!

Book 3

THE WORLD OF THE AFTERMATH

A Gamesmaster's Guide for a Post-Holocaust World

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Running an *Aftermath!* Campaign

Well, by now you have certainly come to the conclusion that you have an awful lot of work to do in running ***Aftermath!*** We have admittedly been pretty free in our use of such statements as "At the Gamesmaster's Discretion," or "The Gamesmaster Must Determine the Details for His Campaign." It would have streamlined your job a lot if we had decided to just publish one of our campaigns from the playtest instead of going into the means by which the design work is done. But that is not the intent of this game. Some playing groups will really get off on the idea of an "After the World Ends" game set only a few years into the Aftermath. Others will prefer the campaign which starts centuries later. The questions of how the Ruin came, just what it was, what level civilization reached before it ended, etc., all provide totally different worlds depending on the answer that fits your vision of the post-Ruin environment.

So this is a very free-form set of rules. If it pleases gamers, there will be campaign-oriented materials to follow, to buy or not as they prefer. All the information you need to set up a campaign is here, in this set. Everything else is just window dressing.

Confronted by all this data: gun rules, hand-to-hand combat systems, the specs on a hundred different factors in the game, it may be difficult to decide just where to start on your own campaign. We found that the essential foundation of any coherent campaign was the question "What was the Ruin?"

THIS IS THE WAY THE WORLD ENDS

There are numerous apocalypses in the literature dealing with post-Ruin survival (not all of them fiction by any means). The commonest of them all is war: man blowing himself back to the caves. The forces of nature are not far behind. Novels and speculative works of science have posited catastrophes based on climatic changes, hits by comets or asteroids, alterations in the conditions of space around Earth, oceanic changes, etc. Lately, the possiblity has been raised, again by novelist and scientist alike, that we are polluting ourselves into a Ruin. And these represent only part of the list of possible endings to humanity's latest chapter in the roll call of fallen civilizations.

In any universal calamity, there will be three phases, of varying intensity and duration. Sometimes one will overlap another. In some cases, there will be no clear dividing line between phases. But they will always be present to some degree.

Pre-Ruin Unrest

The length of this phase directly depends upon the time between the first solid proof that the Ruin is coming and its actual occurrence. Threats of war, the sighting of an oncoming planetary collision, the beginning of the ultimate eco-catastrophe, all will trigger a social upheaval as people vent their fears and furies in a culture where the force of law is abrogated by the impending demise of the system that created it. Riots, huge migrations from danger areas in search (usually forlorn) of some safe place, outbreaks of impulse crimes on an unprecedented scale will plague the last days of man's culture. How effective a deterrent is the death penalty in a world where everyone lives under the same sentence? What will keep police or other safety workers on the job when all they are doing is keeping things tidy for the final break-up? There will be the men with duty as their prime motivation, the ones who will stand to their station until the end. There will also be skeptics, the ones who do not believe all that hogwash, who will ignore the oncoming ending of things because they have common sense. But we do not think they will be enough to stem the tide.

The Pre-Ruin Unrest phase will lead to an increase of weapons and high-security sites in cities, as crime runs rampant. Depending on its length, the men of good will may also prepare in their way for the Ruin. Colonies in remote areas may be established. Such locales may be the cradles of the rebirth that we hope follows from any ***Aftermath!*** campaign. Here the old technology may be preserved, although in secret in those worlds where the mob blames science for the downfall of the world it knew. These are the priests and magicians of the generations to come, until the day mankind is ready again to share freely the knowledge of how things work.

Primary Kill

This is the actual Ruin itself. Whatever form it takes, we posit that it will wipe 90% or more of the population from the face of the globe, and directly or indirectly shatter the major edifices of man's culture into the bargain. The Ruin may be over in a matter of hours or it may drag on for years. But when it is over, the Earth will seem an alien and savage world.

Secondary Kill

When civilization collapses, think of what will go with it. The first to die will be those whose lives directly depend on its resources: diabetics, others on major medical support, city dwellers cut off from food and water, light and power, those who survive in remote areas only by virtue of supplies from more plentifully endowed markets. Famine will stalk our overpopulated nations as support from the agricultural powers is cut off. Plagues will sweep the survivors, no longer able to tap the mighty resources of modern hospitals, and living in the carnage following the Ruin. This wave of death and destruction is the Secondary Kill. It will probably slay 50% or more of those who lived through the Ruin. It will also complete the assassination of the works of mankind. Fires will tear through vast areas of the deserted cities. Battles for food and resources between groups of survivors will ravage the land. Earth as we know it, already a corpse, will be kicked to shreds by the final spasms of the Secondary Kill.

When it is done, the fall of civilization will be complete. From now on those who live at all will do so in the Aftermath!

THE DOGS OF WAR

First on our list of possible Ruins, we have the threat of one last, global war. For various reasons, we do not assume a strategic, nuclear spasm war to have occurred. If it did, there is no one left to play the game, right? But let us discuss the main possibilities.

We perceive the best war-based Ruins for a campaign to be either Conventional, Biochemical, or NBC (Nuclear, Biological, and Chemical).

Conventional

It is very unlikely that a conventional war could put modern civilization into an ***Aftermath!*** situation. It does just fine in the Secondary Kill, but the world today seems too large, too decentralized, for the limited capabilities of chemical explosives and mass armies to be enough to destroy it. Oh, such a global war could cause widespread suffering, local

collapses of order, but not a Ruin. This option is offered for those fans of H. G. Wells, Stanley Weinbaum, Edgar Rice Burroughs, et al. who foresaw, in the almost innocent days before there were atomic bombs, a massive conventional war which would shatter the structure of world society, hurling people back to a primitive level of culture within a few generations. While most of these visions foresaw the use of biological weapons as well, they were just the frosting on the cake, and had no lingering effects on the world of the Aftermath.

The heroes in these campaigns will, if they follow the pattern of the above-mentioned authors, be splendid specimens of WASP masculinity, who call their companions "Fellows," or even "Chaps." They may be members of civilized enclaves, exploring the ruined outer world, or simply members of primitive societies, driven by inner memories of a finer, nobler time. The advantage of such campaigns, once cleared of some of the more dated racial or sexual concepts of their authors, is that a clear-cut code of the Good Guys exists, so that an ethical standard can be maintained should the nihilistic possibilities of a more modern setting distress you. The disadvantage is that considerable research and retuning of the technology used in the rules will have to be done, to flavor the campaign with the usually unwieldy brand of "technology" foreseen by the writers who generated the source works for the campaign.

Biochemical War

Sometime in the late 20th century, the nations of the world finally came to an agreement regarding nuclear disarmament. To unbounded relief and rejoicing, the big bombs were dismantled, fired into space, or converted to peaceful uses. The era of world peace and safety was at hand! The first plague bombs fell about ten years later.

If we posit that nuclear conflict does not happen, the above scenario is a very real possibility. Nations that never could have mounted the expensive support needed for nuclear expansion can easily handle the modest bill for biological research. With recombinant DNA studies a reality today, any ethical cripple with a good research facility can produce a mutated virus or bacterium that modern medicine cannot recognize, and send it on its merry way via aerial sprays, small missiles, or even an agent with a flask of the culture in a briefcase. Release a few dozen rats carring fleas infected with Bubonic Plague into New York's waterfront area, and in a week you will see that city tottering on the path to death, its populace fleeing madly out, some of them bound to be carriers. Now multiply that by several hundred seaports all over the world. In the middle ages, successive pandemics of plague reduced the population of Europe by up to 90% in some places. Overall, two persons in three had died when the Plague Years ended.

If a long period of building international tension, with a few brushfire wars that bear home the feeling that the end is in sight for modern civilization, is posited in the Pre-Ruin period, then a Phase of Unrest will begin the events of the campaign's history. After a few years of this initial death agony, the final war breaks out. Laboratory-spawned plagues will sweep the globe. As fast as medicine finds one cure, a dozen new pathogens are released from the military research centers, or, far more likely, spawned by unforeseen mutations in the old organisms. Genetically unstable, the virus that one nation meant as a non-lethal means of incapacitating an enemy force is suddenly transformed into a raging pestilence that strikes down friend and foe alike, ignoring vaccines prepared to deal with its original form.

Amidst the almost-deserted cities, riots break out. The scientists who "caused it all" are lynched in their hundreds. The madness spreads. He knows how machines work, so string him up. He was a politician, burn him! He knows how to read, kill him!!!

When it is all over, the world is fast sinking into the new dark age. Only God knows when it will rise again. The survivors move through a plague-blasted, germ-laden environment, seeking only one day of life at a time.

NBC War

This offers the Gamesmaster several handy options. If he wishes to avoid the potential complexities of having largely intact cities available for character exploration, he may posit that strategic nuclear strikes were made with arsenals reduced by partial disarmament treaties only on major military and civil targets. The rest of the destruction was biochemical. One campaign run independently of our main playtests used a unique variation on this theme.

The Player Characters were all members of one Community, moderately well-established in a large cavern system outside Washington, D.C. The War was 20 years ago. Nuclear strikes and biological contamination had turned the cities into hellholes of radiation and viral poisoning. But now, in the last few months, travelers are coming through who report that it is possible to trespass in the cities and survive, although hostile mutants, diseased bandit tribes, and the still-lethal pollutants in many areas makes it risky, to say the least. Characters are sent out to forage for desperately needed supplies in the ruins of the nation's capital. They find hair-raising adventures and much useful loot, although most of their finds must be turned over to the community. The dilemma they face is whether to return to the caverns from a given trip, or try to survive on their own with what they can get. It has its good points as a campaign, especially in the early stages, when the Gamesmaster can maintain pretty tight control over what is obtained by the characters, and what they can find in the city, as well as having well-defined lists of available Skills and resources in the community for learning or trade.

In many ways, the use of the NBC war is the best scenario for your campaign, always assuming that war was the manner of the Ruin in the first place.

THE HAMMER OF NATURE

Have you ever considered the possible results of a New Ice Age, one that starts tomorrow and is in full swing within a century? Contemplate the Pre-Ruin Unrest inherent in that situation! If we manage to melt the polar ice with a Greenhouse Effect, not much, say 5% in the next 50 years, with a little help from some theory that does not pan out (say using nuclear warheads to clear a trans-polar channel, or some equally harebrained scheme), do you care to picture the resulting rise in sea level and its effects on our society? Or just drop a decent-sized celestial traveler onto the Earth, or swing some massive cosmic hitchhiker through the system on a course too close for comfort. Bang! No more civilization.

The major attraction of this type of Ruin is also its major disadvantage: the world is reshaped by the catastrophe. Seas lie upon shorelines that do not now exist, at least not as waterfront properties. Cities are piles of rubble in the wake of earthquakes. Mountain ranges may change their addresses. The Gamesmaster must take a correcting pencil to his Atlas if he is going to play in this league. But, especially if setting the campaign in the far future (the "200 Years After" Campaign), when humanity is getting used to its remodelled domicile, the Gamesmaster can build fascinating histories of what had been just waiting for his Players to unravel their mysteries. Or picture the Players portraying the first few generations of survivors: "Well, I-66 should cross the Mississippi here, but there's this inland sea in the way..."

If the main attraction for you in running an ***Aftermath!*** campaign is confronting the 20th-century folk who are playing with the changes in 21st-century America, using their preconceptions about how it will be to surprise and challenge them, then such a Ruin may well serve your needs.

THE ALIENS

The less-likely campaign premises include at least one classic: Earth enslaved, a conquered world under the uncaring heel of an alien invader. Humanity skulks in the ray-blasted, bomb-cratered ruins of its cities or the returning forests in the countryside, struggling to survive until it is strong enough to drive the overlords off the planet, making it free once more. The classic, albeit dated, work of fiction which deals with this idea is H.G. Wells' *War of the Worlds*. In one of our playtest campaigns, the basic premise of the Ruin was that the Martians, as Wells described them, returned. Finding humanity on the verge of world war, they fomented this divisiveness, stoking human passions to further the ends of their own gigantic and passionless intellects. When the nations had set each other reeling in a dozen brushfire wars, Martian missiles were launched from translunar orbit, striking at targets in both superpowers' territories. Each government assumed that the other was responsible. WWIII broke out, but within days it was overshadowed by Planetary War II, as the great Martian landers touched down, disgorging the tripodal battle machines familiar from Wells' history of the first conflict. With almost a century of continued research and development, the Martians possessed even more potent weapons than before. Their own experience of germ warfare, at the hands of Earth's biosphere in their former invasion, had led them to develop human-compatible bio-weapons of their own for this return match. Alien fevers scythed down the dazed survivors of the human war.

Now the planet is a wasteland, a wilderness. Martian centers dot the globe, each widely removed from the other. Between them, amidst the ruins, men fight to live, and await the day when they are strong enough to arise in rebellion against the masters.

Here and there, men have turned their coats with a completeness never before recorded in the annals of treason. The Hunters serve the Martians, Janisaries who carry out the missions the aliens do not wish to undertake themselves. Why "Hunters"? You will recall that Wells's history intimates that Martians are carnivores. He was right.

The alien conquest campaign may not appeal to everyone. Players have reported feeling intense helplessness when confronted with the monolithic power of the Martians. But it provides two important factors to the campaign: alien technology allows the Gamesmaster to introduce artifacts beyond our own ability to develop, and a single goal confronts those Players who have undertaken to follow the Promise of new birth: cast out the invader!

The Alien campaigns will require a bit of rule-writing by the Gamesmaster: what kind of alien is involved, their goals, how their devices work, and which ones, if any, can be take over by humans. The Martian Campaign has evolved a whole series of designs for various models of the tripods, for example, each with its special strengths and weaknesses. We have found that the time invested in this activity will be amply repaid by a fast-moving, very unusual campaign.

A TWIST IN SPACE

Earth swims silently through the endless cosmos. Infinite in scope, can we say that its secrets will ever reveal themselves fully? Can we be sure that fate, or our own ape-curious probings of those secrets, will not one day alter life on Earth into a new form, shattering the old life forever?

Should our world violently transmigrate into a new dimension or a twist in space, suffering outrageous stresses upon its very fabric, triggering quakes, storms, mountainous waves, this would in itself be a Ruin in the grand tradition. But as the battered survivors drag themselves out from beneath the rubble of their civilization, there are other changes to consider.

They share a world with the creatures of dream—or nightmare! Vampire shapes flit on bat wings through the night. Dragons dwell beneath the earth. The Little People are a folk-tale no more, but a living reality. Dormant within

humanity since the elder days, the forces we call magic are now there for those who would plumb their dark secrets. A force of enchantment is loose in the world and shall not be put back.

This may sound far-fetched, but at least one post-Ruin trilogy. Fred Saberhagen's *Changling Earth* books, (now collected as *Empire of the East)*, is set in exactly this kind of world. The protagonists of this series use the forces of magic and the ancient, mysterious "technology" to combat the despotic Empire of the East.

Those of you who prefer the scintillating charms of a traditional fantasy campaign to the harder-edged world of a "realistic" ***Aftermath!*** game should consider the hours of fascinating play to be had by combining the two concepts. As with most of the more exotic scenarios, this will require some extra homework. An occult science will have to be designed or adapted from an existing Role Playing Game. Scores must be worked out for fantasy creatures, and their powers carefully quantified. The Gamesmaster will probably want to edit the technology available to the characters, so as to preserve a balance between the new magic and the old science. Each set of Skills should have areas of competence denied to the other, so that sorcerer and engineer alike have unique abilities, granting great power to the man who can combine knowledge in both fields.

As you can see, ***Aftermath!*** need not be limited to the modern survivor scrabbling grimly through the ruins of his old world. The Gamesmaster can fit his campaign to his own view of what will provide an exciting game for the group under his guidance, mixing the concepts listed above and adding his own creative genius to the stew, stirring with patient testing, adding more spice of adventure, to deliver a finished dish to the table capable of pleasing the most demanding Role-Player's taste.

THE YEARS TO COME
Long After the Ruin

Once the Gamesmaster has decided what the Ruin was, he must decide when it was! The standard period used for most ***Aftermath!*** designs in the basic rules posits what we call the "First Generation Campaign." This usually places the Ruin about 20 years or so in the past, so that older characters are yet living who remember the pre-Ruin world in all its glory. But the apocalyptic literary tradition abounds with works set generations after the Ruin they speak of. In the absence of organized centers preserving the old knowledge, or an environment where public avowal of such knowledge is tantamount to suicide, due to an anti-intellectual backlash ("It's the Scientists' fault! Let's kill 'em all!") then in only a few generations mankind could slip back into barbarism. We have spoken to this briefly in the Player Essay in Book 2. The Gamesmaster who undertakes such a campaign has extra work to do. He must decide how much of the ancient science is still known, and by whom. Do the normal cultures of the campaign retain any knowledge of the old ways? Is electricity familiar, sacred, taboo, or forgotten? The more fragile devices of the pre-Ruin time will be mostly junk, unless newly retrieved from sealed and near-perfect storage. The cities will probably be places of awe, dangerous with outlaws, mutants, ancient contaminations, and the rest. If gunpowder is not a lost material, the best a character can hope to find of local manufacture will be a muzzle-loader. The "modern" firearms, and the ammunition for them, will be coveted prizes brought back by the adventurers who dare the old sites in search of treasure.

As the generations pass in the mutagen-filled post-Ruin environment, the Changed, human and otherwise, will have grown in power and development. Psionic abilities undreamt of will manifest themselves. Beasts will be altered in a hundred wonderful ways. To take only one example, the Master Rats will doubtless be well on their way to becoming a major competitor for Homo Sapiens's place in the sun. As uncontested rulers of the cities in some areas, they may be heir to more of the ancient technology than its blood descendants, living in tribal communities or crudely-walled cities on the distant plains.

The "200 Years After" Campaign permits many of the factors of a pure fantasy campaign (chivalric codes, heroic ideals, swashbuckling) to be combined with the technological wonders of ***Aftermath!*** The Gamesmaster may construct his game-civilization without reference to the culture that spawned it, for apart from certain old sayings and obscure name derivations, the primitive world of the campaign is created out of whole cloth.

The bibliography contains numerous listings of books set in such cultures, as it does works dealing with all the topics we have covered so far.

A description of a medium-sized "200 Years After" Community may help illuminate some aspects of such a campaign.

The Bul People: the Story

Living in the East Central portion of Twobomz Valley, an area bounded on all sides by high mountains or lethal "Blast Barrens," where the Demons of the Fawlout still seek the lives of men, the Bul People number about 2500. They are Masters of Trade among the Valley tribes in the fields of animal products from their great riding Buls (mutated cattle) and fine glass, produced from the silicates of the nearby desert. This latter technique is a closely-guarded secret of their Guildmen. Armed primarily with Lance, Bow, and Axe, the Warmen of the tribe are also noted for their skill with Musket and Pistol, but such weapons are not used in inter-tribal conflicts, being accounted as cowardly weapons for combat between warriors.

The Bul People worship a pantheon with several principal gods leading it: Volta, God of Lightning, whose priests have magics that sometimes make the old devices found by travelers work again; Telgraf, whose priests seem able to send news across the valley in hours, their temples being regarded as inviolate centers of information in all the tribal cities; Rengen, God of Protection, who warns of the presence of the Demons of the Fawlout. Those gaining the favor of the priests of this latter deity may be given amulets for use when penetrating the Blast Barrens in serach of the old magic. These amulets scream when the Demons are near, warning the bearer to flee for his life lest they curse him with the Sickness.

Vinz, of the Bul People, is a young Warman, trained in the fighting and hunting arts of his people. He owns several pieces of the ancients' magical armor, heirlooms in his family, a fine WarBul for riding, and assorted handweapons. On the last tribal raid on their neighbors, he acquired a brace of flintlock postols, with powder and ball for over a dozen shots. He is a well-respected young fighter, but there is doubt about his sanity. He continually asks about things that

any well-balanced individual takes for granted. It comes as no surprise to the tribal elders, the Shamen, that Vinz has volunteered to the a Scout, one of those who search the Blast Barrens for old magic, to give the tribe more mana by the possessing of ancient artifacts. As his presence in the city is a worry to some of the more orthodox leaders, he will probably be allowed to undertake the task, but if there is indeed some hope that he will perish in the dangerous mission, he may not receive some of the special magics that will better his chances of survival.

The Real Story of the Bul People

The Bul People and their neighbors live in a valley formed by the tectonic activity triggered by nuclear warheads on local fault lines. This area was not exposed to direct attack nor to the weather patterns carrying deadly fallout. They are the descendants of survivors of an NBC war, reverted to a tribal society and generally low technology. They do possess gunpowder, and the knowledge of metallurgy to make muzzle-loading firearms, as well as good steel weapons and armor. Certain other skills (such as glassblowing) have also been preserved.

High technology is regarded as magical. The only places where some understanding of its operation survives are in the various temples (Volta, God of Lightning, is the "front" for a small Solar Screen power station; Telgraf's priesthood maintains working telecommunication between his temples; Rengen's cult sprang from a civil defense group who still have some geiger counters and nuclear decontamination gear). The priests use this knowledge to hold their positions of power, and do not react well to laymen's attempts to study the ancient skills.

Vinz is a misfit. A well-trained warrior, he has the itch to learn how things were before "The Blast" (Twobomz Valley's term for the Ruin). This does not endear him to the priesthood, who are overjoyed that he wants to go out into the radioactive hell beyond the valley's mouth. They will not aid him in his quest, and if he returns with too much knowledge, they may well try to cast him out or even kill him, as a "heretic."

The Gamesmaster in this campaign posited the following things:

- In the murderous competition for arable, radiation-free land after the war, the survivors combined into small groups, possibly several familes that had lived close together before the Ruin. They gravitated to an area in the newly-formed valley, which must have been a hellishly hostile landscape in the first days of its existence, but one which was free of fallout or bio-contamination, dug in, and held off all outsiders. This tradition, that all strangers are dangerous because they compete for limited survival resources, has held to the campaign's time; hence the fierce raids on other tribes, and the equally fierce insularity opposed to intrusions.

- Since the early survivor groups, the proto-tribes, had almost no intercourse with other groups, only those skills which could be passed from one member of the group to another survived. This has led to small amounts of trade in recent years, the Bul People trading the glass which is their monopoly to, say, the Gorge Folk up the valley, who make the finest steel in the area.

- Mutations in the inbred tribes were strongly reinforced in the early generations, with the culling process ruthlessly applied by both men and nature to weed out the contra-survival changes. It would be quite normal for a group of strains to exist tied to certain bloodlines, so that a character's ancestry would determine what his chances of having a given mutation were. Vinz, for example, is of the Smits family line, with links to the Jonzon family. The Smits have a dominant trait of Night Eyes (an advanced form of the Eye mutation, allowing full night vision without the attandant sensitivity to normal light), and the Jonzons have pure white hair. Vinz might have one or both of these traits, as well as any other Changes the campaign allows to characters.

Mutated humans living in savagery (Blast Demons, in the valley parlance) would pose a threat to the tribal cultures. Strange mutations among plants and animals could also make life somewhat exciting for travelers. But the genetic juggling following the war will also throw up a few blessings. The Buls from which Vinz's people take their name are huge cattle, with shaggy coats (Armor Value 5), great strength and endurance, and two wickedly sharp, hard horns, which act as lances in the full charge favored by the Warmen. These creatures provide food, clothing, fuel for fires, building materials, etc., to the tribe, as the buffalo did for the Plains Amerindian of the pre-settler Western U. S.

In beginning such a campaign, the Gamesmaster will do well to build one tribe (or other culture) in detail, assuming all Player Characters to be natives of that society. A small area should be mapped out, including one or more neighboring tribes, and several places of mystery or interest, such as a small ruined city from before the Ruin, an area haunted by bandits, a stretch of mutant jungle filled with strange creatures for the young heroes to hunt, and perhaps an ancient military base or other site of much "magic," where the characters can pit their wits and courage against the full might of the old technology, say under the control of some advanced security computer, with a few working robots ("Spirit Warmen") to make life interesting. As he feels ready to extend the campaign beyond the confines of this area, the Gamesmaster can start rumors of great adventures in more distant lands, send caravans from far-off places traveling through, entice the characters onto automated rapid-transit systems that "just happen" still to be working, etc.

Great care should be taken in the early days of the campaign to describe technological artifacts in terms that the characters would use. They will probably recognize a modern gun as a firearm if they have similar weapons themselves, but they would not necessarliy recognize a mortar. Nor will they be adept at operating even familiar items at first. A "magic" rifle that fires many times is great in a fight, until you have to try to figure out how to reload. And what is the steel box with soft wheels for? If you have never seen an ignition key, how long do you think it will take to get a car started?

Such "research" should be assigned a Task Point value and a Task Period based on the number of potential false starts in solving the problem. If the device has a simple on/off button, it will not be too long a Task to figure out that if you push it, something will happen. If the control panel happens to belong to a 747, the Task Period could be weeks at a time, if it is not just impossible without some source of outside knowledge.

In the "200 Years After" campaign, knowledge is power in a very real sense. The Gamesmaster should be pretty generous with old books, active computerized "teaching machines," crazy old hermits with technological training, and so on. Mastery of the old knowledge should be difficult, but not impossible.

Hope for the Future

We discussed the "Promise" at some length in the Players' article in Book 2. The Gamesmaster must also come to terms with this idea. If Players are working along lines of reconstruction in the campaign, even if it is less organized than it might be, as will certainly be the case for early characters in a "200 Years After" campaign, it behooves the Gamesmaster to be somewhat supportive of their efforts. He should allow them to engage in such activities as locating

and occupying personal holdings, areas they can use as a base of operations, and around which they can potentially set up Communities.

The challenges in such activity will be many: food and water must be available for the group, the location must be defensible, skilled technicians must be enticed to join to support the artifacts used for power, medical facilities are needed, etc. This is something that can be gradual, an effort that the Player Characters must maintain over years of game time, if it is to have any lasting result. Since the Promise is the work of generations, it is not likely that a "dull" era of peace or new civilization will end the adventures of the campaign due to the characters' efforts. It is not the kind of result that is going to come about rapidly. Characters will fight and die for the Promise without ever seeing it happen. All they can try to do is give it a start. It took western civilization almost 300 years to start growing again after the Fall of Rome, a blow of much less earth-shattering consequences than the Ruin.

Gamesmasters who do not want to get into the full ramifications of such Player activity may wish to set up one or two centers of new growth that the characters may throw in their lots with. Since he is in full control of the progress of these enclaves, the Gamesmaster can set up raids by other groups, famines, plagues, etc., without automatically engaging the Players in such activities, as would be the case if the Players were in full control of the community. But Players who are prepared to do the logistic work in setting up a center should be allowed to do so. They must account for feeding their population, acquiring tools, weapons, medicine, etc., along lines laid down by the Gamesmaster, and be ready to do the bookkeeping for such expansion.

The driving force in bringing new characters, Non-Player Characters, into the community, will be the Charismatic Talent of some Player Character. Such a leader figure should be a person that people can follow, an organizer, someone to inspire his people. The Player should get some idea of what kind of experience the leader must have, if he is trying to build such a character, and he and the Gamesmaster should go over the idea in some detail. It should not be possible to start a character in this shape. He may be designed to have the right Attributes and Talents, but the Reputation and Skills that will fit him for the job must be acquired in the course of play, as are the resources necessary to establish the community.

As the group increases its numbers and wealth, it will become more and more noticeable to the human predators who haunt the ruins. Attacks by bandit groups, expansionist Communities, and plain old hordes of scavengers will become a probelm. As the numbers and firepower involved increase, the size of the conflicts will grow into the Tactical Battle scale. The military leadership of the community must be quantified, and the Gamesmaster can fairly insist that the construction of the army and the handling of battles be done by the Players. Thus, the various Military Command Skills should not be neglected by those who would set up their own Communities.

It is hardly sporting to throw enormous forces of Non-Player soldiers at the new Community. The Gamesmaster should roll Reaction Dice to gauge the danger of the TSP of attackers' Force when compared to the Player-controlled Army, whether or not it is a Custom Army.

Communities in such campaigns as the Alien Conquest will also be in danger of attracting the attention of the invaders. This should be set up as a probability derived from the technological level of the community, its size, and the amount of overt action it takes against the aliens.

Character can fit into an existing community in various ways. Goals might be in complete agreement or diametrically opposed. Advancement within the community might come easily or be opposed. Sometimes the constraints placed on the Player Characters will be unacceptable to them.

Of course, Players may also be interested in setting up less-than-enlightened groups themselves. The methods they use to gain population or resources can extend with ease to robbery, "Troll" work, slavery, etc. This idea may not be appealing to some.

In operating the campaign, the Gamesmaster will soon find that some goal, some reason to survive, is a necessity. The Promise is the most viable of the many possibilities, and can itself take many forms. The footloose adventurers who want to know what there is to know in the new world fulfill the Promise as much as those who try to save only a few square miles of it from the darkness. Those who give their energies to fulfilling any ideal, noble or not, will find that it fuels their character motivations to an extent that simply trying to survive cannot. The Gamesmaster should encourage such play with scenarios designed to let characters follow through on their dreams, and by "writing" the plot of the campaign to tell stories with room for those goals in them.

PACING THINGS

The overall view of the campaign is one thing, but when it is boiled down into its basic components, any Role Playing Game consists of a series of discrete adventures, which will relate to an overall history according to the campaign's culture and the deeds of the Player Characters. These are the scenarios. At first they should be fairly short and to the point:

> "There is a bunch of bandits holed up in the old warehouse on the south side of town."
>
> "They say that old Army base has some good weapons still in it. If the Master Rats there haven't found them."

As the Players and Gamesmaster gain familiarity with the rules, and the driving concepts behind their campaign become less nebulous, the scope of the scenarios can expand:

> "That bunch of goons you wiped out last month? They belonged to the Cartel, over in New Jarvis. They've put a price on your head."
>
> "The Regis Commune is offering a reward for anyone who can supply them with Solar Screens."
>
> "There is a trader caravan hiring guards to head out to the Lake Communities."

Such challenges can impel the characters to travel to the new locations the Gamesmaster has prepared, either because their current one is getting unhealthy, or because there are greener pastures in the new site. Of course, either the local threat or the distant attraction can be nonexistent, founded on the hyper-active rumor mill of the inhabitants of the Aftermath.

A scenario can be a straight challenge, or have a definite mission attached. In either case, risks overcome should carry proportionate rewards, although this is not an absolute rule. If you knock a 75-year-old guard over the head, he should not turn out to be protecting a year's supply of Polycellulac-4. If you have to fight your way through 50 heavily-armed fanatics, they would not have been defending 3 flat tires and a copy of *Newsweek*. In terms of loot, especially combat gear, keep in mind that winning the fight can indeed lead directly to commensurate reward. Unless you had to blow the opponent up to kill him, his armor and weapons will usually be intact. Stripping the fallen of their gear can swiftly enrich the characters beyond any need on the Gamesmaster's part to add more goodies to the pot. This can lead to further complications in itself. Lugging a small arsenal around for later barter will impede the characters considerably. They may have to face Hobson's Choice, leaving valuable goods lying around where they are certain to be snapped up by scavengers, or carrying them around so

that they are easy prey for robbery, as the characters stagger full-loaded around the hazard-infested Ruins. The need for a place to store or trade goods on an organized basis should motivate most Players to seek a Community or personal stronghold that will maintain fairly good relations on a constant basis, so that they can dispose of loot as it accumulates.

As characters increase in power (firepower or otherwise), it is important that the scenarios they face grow in complexity. Situations where guts and cleverness are more important than brute force are not difficult to contrive. Limited space, or foes who are resistant to gunfire, coupled with some kind of mystery, can pose a greater challenge that simply upping the ante in terms of how many guns they face in their next firefight.

THE UNEXPECTED

We will close by pointing out that the demands made upon the Gamesmaster's creative imagination are continuous in a Role Playing Game. Scenarios should not be different versions of the same basic plot, with new backgrounds; they should be entirely new experiences. The proliferation of strange new phenomena and creatures can aid in keeping the Players in a constant state of both curiosity and apprehension, as can new and weird physical locations. We give several interesting types of threat below, to spark the imagination of Gamesmasters in designing their own strange inhabitants for the Aftermath.

The Burning Ones

Mutated humans (?) who are impregnated with intense radiation. They evince no fixed purpose but are, as far as fragmentary studies by post-Ruin science can tell, dead creatures motivated by the impulses impregnating their nervous systems. They exhibit an uncanny ability to locate organic, animal life. They will attempt to eradicate the source of this attraction. Burning Ones are not possessed of DRT as such. They must be hacked to pieces to be stopped, and even then the tissues are still intensely "hot."

WT	WL	STR	DFT	SPD	HLH
—	—	30	10	10	—

BAP	MNA	PCA	CDA	DRT
5	1	5	1	—

They will bludgeon at a figure using Brawling, with a BCS of 10. They use no other weapons. The Burning Ones radiate a field of (1D100 x 10) + 500, or 510-1500, REM per Hour, to a distance of 10 meters. When struck on any Location of a limb and taking 10 points or more of Lethal Damage, the limb will be severed. The creature will only stop moving towards living things when both arms and legs are gone. Severing the neck will not reduce its insensate drive to move toward other beings, nor do its perceptions seem to require the use of its eyes. It will keep moving and attacking. The Burning Ones have a base BMA of 1, which is reduced by .25 per limb severed.

Characters have a 10% chance of being contaminated when they strike a Burning One. They will be exposed to 10% of its total REM per Hour score, until they have discarded the contaminated item or washed thoroughly in running water. Roll 1D100 when striking. A score of 01-50 means the weapon is contaminated; a 51-75 means a random Location has been spattered, contaminating the piece of armor covering the Location; 76 or higher, both the weapon and a random Location are spattered. Each item or location will carry a 10% charge of radiation, so that 3 such contaminations means that the character is exposed to 30% of the Burning One's total score of radioactivity.

Subdual Damage or missile damage of any kind (mechanical or firearms) does not affect Burning Ones. Lasers will slice them up as they can do to any target.

The Vampires

These mutants, altered by biological agents or radiants, are not the supernatural creatures their names would lead one to expect. They are gifted with extreme strength and fast reaction time. They have both the Eye and Ear mutations given in the Changed rules. Membranous growths along their sides allow them to glide, rather like flying squirrels, at an airborne BMA of about 3, losing 1D3 meters of altitude per 30 meters of distance covered (they can lose altitude faster if they desire).

They have extremely high DRT, and are immune to all known biological weapons and diseases. They wear little armor, since they cannot encumber their "wings," but will use helmets and can buckle protection over Locations 8-12, where the arrangement of the membranes allows some constriction.

WT	WL	STR	DFT	SPD	HLH
15	15	60	25	30	50

BAP	MNA	PCA	CDA	DRT	Shock Factor
15	3	5	3	110	20

(The above statistics represent the "average" vampire. Add 1D10 or even 2D10 for "Leader" types among this race.)

The vampires are not a large group yet. Their infection may be passed on by their bite, as in the old legends, but this is a disease, formula 1—(+)—1 Day—3—3 Days. Its symptoms are Weakness, sensitivity to light (treat as an Eye once the Advance exceeds the Health AST), and coma once the Advance exceeds the Health CST. Crisis will cause death in the normal sense, but the body will regain consciousness as a Vampire-mutant 1D3 days after "death."

The victim who is killed by the vampire (or anyone else) before the disease runs its course is just dead. Since the Vampires are usually hungry, they do not often expand their race, preferring to finish the meal completely. They will seek to render their victim unconscious, or even dead if they can do it without wasting too much of his blood. When "dining" off a victim's veins, roll 1D100 to see how much of his blood they drain. The score rolled is the percentage of the victim's full DRT (not effective DRT) they will take. If losing that many points will kill him, the victim dies. If he survives, check to see if he is infected.

Most of the Vampires will use weapons doing Crush or Combination damage, to avoid too much blood loss in their victims. They do like Lasers, since these cauterize their wounds, avoiding the wastage of food.

Some Vampires see themselves as the "homo superior," the next step in man's evolution. These will tend to control their hunger better, in order to make more like themselves.

Gizmos

These are automated devices of any kind which have suffered program change or degradation. The Cybernetics section (p. 38) discusses the heavier forms of such machinery, with deliberately programmed changes. Gizmos are, say, automated vacuum cleaners, industrial size, which have become programmed to attack anything with dirty feet. At some 5-10 kph, they will zoom along a corridor to bash a newly arrived intruder with dusty boots.

Depending on the level of automation achieved in the pre-Ruin culture, Gizmos can be anything from televisions to buses, rampaging around the city or lying in wait for the unwary, only needing the strange trigger that the Gamesmaster has designated to send them into a weird attack on the characters. More than one character in the playtest has been knocked silly by a contrary, automatic door slamming shut in his face after opening invitingly.

The strange creatures listed above partake more of the nature of fantasy than of science fiction, and are included in these rules to reassure those who might otherwise hesitate to introduce such factors into their campaign.

If it reads well, *do it!*

CREATING THE ENVIRONMENT

The maintenance of the post-Ruin environment, the destroyed cities, the deserted countryside, are a major part of the Gamesmaster's job. If the characters are wandering and searching at random through the city, must he prepare maps of every block in detail? No, this kind of effort is only called for when an area contains some prepared adventure or place of interest. How then to measure the probabilities of finding some useful (or useless) item ready for salvage in a randomly-selected city block?

The City Map

A separate Scenario Pack is available from Fantasy Games Unlimited. It is a small city, "Littleton," mapped out to show principal communities, and locations known to contain features of interest. If the Gamesmaster is using the scenario city to start his campaign, he should divide the city into Commercial, Residential, and Industrial areas, noting the divisions carefully. Random search in a particular area will have particular results.

There will come a time when the Campaign outgrows Littleton. The Gamesmaster will know it has come when he feels ready to tackle a real city with the techniques used in his Littleton. The archetypical ***Aftermath!*** campaign is centered on the Gamesmaster's home city, or a city he knows well. This permits him to run a flowing, easy-playing session, and to bestow strange fates upon those places he dislikes. As he has 10-20 years of pre-Ruin development to build into the city, he can alter enough of it to prevent the players from knowing everything about the city's layout. He can introduce locations not currently in existance (armories, government reservations, and so on) which will be the sites of character foraging in the scenarios.

No matter the size or complexity of a city, the first step to setting up a campaign based there is procuring a fairly well-detailed map. Street maps made from aerial photographs are best, especially if they show schools, museums, police stations, monuments, etc., etc. All such unique locales are grist for the scenario mill.

Most of the testing for ***Aftermath!*** was conducted in two campaigns, running concurrently. One was set in rural New England, the characters moving through several cities as transients, but spending significant time in only one major municipality. The other confined its activity to Washington, D.C.

The D.C. campaign was played on a 25-page street map of the city, at 2000' to the inch (1 km to about 4 cm). The scale is about 25000:1. This proved quite satisfactory for overall mapping. The same scale was used in the map for the New England campaign, played from a national road atlas and a thick spiral-bound camper's map of Rhode Island, which had the added advantage of showing contours and other major geological features not included in the Washington map. Be that as it may, the desirable features for the campaign map are:

Size: The scale should be such that details are clear. The larger the better, really. U.S. Geodesic Survey maps, cheaply available from the Government Printing Office, are ideal as far as scale goes, but lack certain other features.

Details: Street names, the location of special features and sites, both are quite useful to the Gamesmaster. Especially important are police and military installations, major transport nexi, subway stations if the city has such a system, etc. The more color and detail that is available, the better it is for the design of adventures, which need clearly-defined sites and borders for the detailed and tactical maps.

Room: The map should be on stock that will allow the Gamesmaster to write his own notations. The print should be clear enough to show through an overlay of highlighting color, since color-coding is the easiest method for differentiating areas as Residential, Commercial, etc., or for putting a forest, totally rubbled area, or what have you, on the map.

Convenience: The map, or map book, should be of a size and layout allowing the Gamesmaster to follow the characters' progress on it easily, with a minimum of fumbling or squinting.

Having procured a suitable map, sit down and think about what overall situation you want to exist there. Is it an "enclave city," where the survivors hold their communities in isolation, venturing out only at need, or do such survivors as dwell there move freely? We would advise discretion in scattering organized communities about in great numbers. Suddenly, adventurers are only an hour from succor in one direction or another. Consider this: the resources available in a given area of city are limited. If two communities come into contention for these resources, they must either join forces or fight. The results, as we see them, will run toward one of two extremes:

Enclave City

Small, widely separated communities. Each is fiercely independent, although trade and cooperation are not impossible. Four such enclaves in the D.C. campaign are signatory to a treaty providing protection for the medical community based at D.C. General Hospital. Inhabitants of enclaves are generally reluctant to become involved with affairs outside their "turf," and the wastes of the city combine with this to constitute an effective barrier to travelers, with the notable exceptions of Player Characters, bandits and other human predators, and weirds.

Boss City

Some group or individual occupies a central power position in the city. This is usually a result of superior survival planning ability and/or firepower. The upshot of such a situation may well be an incipient feudal society, the Boss and his men being the aristocracy, offering protection, order, and military defense to those who in turn proffer obedience and a tithe of their products. The footloose adventurers who seem to be the bulk of Player Characters are unlikely to be very happy as permanent citizens of such a regime, although if they can establish good relations with the inhabitants, such cities would provide a useful base from which to operate on expeditions into other territories.

The Condition of the City

Having established the overall nature of the parts of the city that survive as human communities, the Gamesmaster must deal with the rest of it. One of the premises used in the D.C. campaign was that the rate of growth of forest land was increased by a factor of 5 to 10 by the action of unforeseen

combinations of biowar agents. Thus, parks became thick forests or jungles, and extended their boundaries for blocks. In some areas, questing tendrils of the jungle grew together, extending a barrier between parts of the city. Since Washington is possessed of a very extensive zoo, this forest is the habitat of a number of animals, both in their natural condition and with mutants among them. Lions roam the streets of the city, and charging rhinos have tried conclusions with jeeps.

Certain areas of the city will be leveled, a wasteland of empty shells and rubble. This is not necessarily a product of the Ruin itself, for a primary element of Secondary Kill will be fires, raging out of control in cities with neither fire fighters nor water supplies. Rioting also accounts for a good deal of the wasting of real estate.

It then remains to designate neighborhoods or larger districts by one or more of several gradations: Forest, Rubble, Residential, Commercial, Industrial, etc. This is best handled by lightly overlaying the map with color-coded highlighter, permitting the original streets and their names, and other map features, to show clearly through the colored inks. Pastel or lightly saturated colors should be used. A red overlay is a very clear marking, but may cause red-inked map inscriptions to disappear unless a very light shade of highlighter is used.

So now our city map is ablaze with colors, having special locations marked out. Large communities have boundaries drawn in, covering whole blocks of territory.

If the campaign is based on a ruin which left behind long-term, widespread contaminated areas, any such should also be shown on the map, possibly by another color code. A large radioactive zone, for instance, would fall into this category.

The Residential Areas

These were sections of the city devoted to family dwellings and apartments before the Ruin. Their individual nature will depend much on the actual city and the culture of the pre-Ruin society. Manhattan will be mostly high-rise apartments, probably fitted with very hefty internal defenses by 2000. Northwest Washington is mostly single-family houses of varying designs.

They will tend to be sources of light tools, Household Lines for salvaging electricity, commercial small arms, books, etc. The small stores and other commercial ventures in such areas are probably well-looted, although there might be a lot of good picking hidden under the rubble.

The Commercial Areas

These are the main business districts: larger stores, offices, government buildings, etc. They produce much of the same sort of thing as the Residential Areas, as well as more diverse manufactures, scientific equipment, and (unlikely as such things really are) such intriguing finds as still-live computer access points, working small factories, construction gear, and so on.

The Industrial Areas

The large plants, where heavy tools, high-power electrical sources, vehicles, and other large finds of machined parts can be located. Often such areas form the hideouts for the more technologically-oriented survivors, who may be keeping one of the installations running to produce items for use or trade.

Communities

Not every survivor is a lone wolf. Human nature is such that within months of the collapse, there will be social groups springing up amid the ruins of civilizations. Some will be pragmatic organizations, devoted to survival and preserving the members' lives in some comfort. Others will be motivated by strange drives, holding on to the last shreds of their sanity by their fingernails, probably at the cost of unhealthy fixation on some slightly crazy ideal. Many will be downright nasty, run by gangsters or worse, tight little oligarchies or mini-police states. In one playtest, we have built military dictatorships (two of them, one run by a National Guard colonel who thinks he's George Patton, and the other a real snake pit run by elements of the American Nazi Party); politically extreme communes of the Left (the United Maoist-Trotsky Free University People's Cosmic Commune) and the Right (the little-known but much-feared group in Langley, Virginia, centered around the CIA Headquarters complex, whose roving brigades of "Commie Stompers" are the dread of scuzzy, longhaired adventurers all over D.C.); religious groups (a military school run by a certain winemaking order of priests and brothers has a nasty reputation as street fighters); and so on. There are sane, straightforward organizations around as well.

Communities can be places where the Player Characters stop to rest, safe, for the time being, from the unremitting hazards of their world. They can be centers of trade, where barter can turn things the characters don't need into valuable weapons, ammo, and food.

The only limits to the nature of the communities in the campaign are the space involved and the Gamesmaster's imagination. But there are factors he will want to categorize for simplicity's sake in his records, and we will address these here.

Territory

This is the actual home ground occupied by the Community. It should be outlined on the Campaign map, labelled so he knows who it is at a glance. Communities will generally maintain a watch on their borders, according to their powers, and react to insure that approaching strangers pose no threat. This can be as simple as sending an official greeter to meet the strangers, or setting up a mortar to cover them and hailing them via bullhorn with a warning to stop and drop their weapons. It will depend a lot on the psychology of the Community.

Size

A simple population figure will do, to get an idea of how many mouths there are to feed, and how large a population the characters are likely to see on the streets of the group's territory when they come to call. A corollary of Size is the next factor to be considered.

Military Strength

This figure should be given in the number of TSP points the Community can field in a battle. The Military Strength is an arbitrary figure which the Gamesmaster can assign to fit his own conception of what kind of fight the Community can put up, or can work out as a Custom Army. Our feeling is that 30-80% of the total population will be able to bear arms in a general war.

The value of a TSP can be adjusted up or down to reflect the power of the weapons available to the Community. Special note should be taken of any unique war machines the Community can field: artillery, tanks, catapults, chemical weapons.

Resources

Does the Community produce or control some special resource? Farming groups are of course rich in food, but how about manufactured products? The medical staff of the D.C. General Treaty Hospital were the area's prime suppliers of medical supplies and expertise, but were almost always short of certain fuels for their diminishing fleet of copters and ambulances.

This entry should concern itself with special strengths or weaknesses of the Community's economy. General considerations come in the next entry.

Trade

Is the Community interested in trade at all? If so, are they

pretty sharp or are they easy marks for a smooth line? The Gamesmaster should note the following:

- Expertise of the Community's chief traders. BCS scores should be generated in Commerce.
- Areas in which they will not trade.
- The percentage chance of having a given item. This can be based on the Utility classifications in the Search rules. Let us say that they have a 40% chance of having any kind of weapon. The characters ask about 45 ACP ammo. Roll 1D100. Score equals 73. "Sorry, buddy, nothing for a while in that caliber." How about 223 for the M-16? Die roll gives a 22, so it's in stock. Using the ammo generation rules from the Gun List, we find that they have a box of the ammo in stock.

And so it goes. Things that the Community is noted as using itself will cost much more than the basic barter values. Junk they have been keeping just to trade will be cheap. Things they really need will often get a better price than the characters expected. They may refuse to trade at all in items essential to their survival or outside of their areas of interest.

General Reactions

This is a flat modifier to dealing with outsiders, added to the Reaction Die rolls. A very suspicious, hostile enclave will have a negative modifier. An outgoing community, one devoted to trade, let us say, or with a number of commissions for freelance adventurers, will tend to have a decently high positive modifier.

Background

A few brief paragraphs or pages of detailed description. This is a text outline of the principal characters in the Community, the type of rulership maintained, the overall thrust of the group, and any notable adventures to be found within its borders. It fleshes out the bare bones of the other data to provide an atmosphere uniquely the Community's own.

Example 1

Name: *Hitlerville* ***Size:*** *1200*

Military Strength: *250*

2 Commando Armored Cars

Resources: *Busy industry, producing explosives, including some hand grenades. Runs very skilled Search groups, composed of slave labor under well-trained guards, on scavenging runs into Northwest D.C., producing mixed amounts of material for internal use and some trade.*

Trade: *will not export weapons, except light sporting rifles (Rimfire or Shotguns). 30% chance of most gear being available, but payment in anything but armament is at 1.3 times base value. They will pay double the base value for gasoline for their Armored Cars. The Community also maintains a small fleet of trucks and motorcycles, for which they will buy alcohol fuel at 50% above base value if it is in appreciable quantity (say 10 gallons or more).*

General Reaction: *-20 (don't tell me you're surprised)*

Background: *Run by the local survivors of the American Nazi Party, the Community is a frustrated bunch of expansionists, held back from their "lebensraum" dreams by the well-armed Pentagon survivors on the river bank to their north, and the fiercely independent Mormons who are building a farming community on the west. Travelers are not generally allowed in the Community limits, being put up at the half-collapsed Howard Johnson's down route I-95.*

The elite of the Community are the Party members, led by the Rockwell, their "Fuehrer." With a slave economy, they are a bad group to deal with except from a position of strength. Raids on distant groups are not unknown, although the Hitlerville leadership is careful not to be too blatant about it closer to home.

Example 2:

Name: *The Aggies* ***Size:*** *400*

Military Strength: *Nil*

Resources: *The Aggies occupy the old University Experimental Farm complex. They are the primary breadbasket for the whole city. Like the Treaty Hospital, they do not maintain troops of their own, and are protected by combined elements of neighboring Communities, who recognize the Aggies' value to their own survival.*

Trade: *The Aggies will trade out only foodstuffs, although they have a packaging plant in operation on the grounds, and can produce any form of food from fresh out of the ground or off the steer, to Freeze-Dried. They will not accept payment in weapons, being an essentially pacifistic group, although ruthless with food thieves.*

General Reaction: *+15*

Background: *The survivors who started the Aggies were of the old "Farm Commune" philosophy, but with an apprieciation for modern agronomy as a science. They are not fanatics on the subject of organic farming or "natural" foods, but use the best technology they can get to work their immense acreage. They are known to have a Solar Screen installation of indeterminate size, from which they get power to operate their farm equipment, which is mostly electric. They will pay double price for parts for such gear, which is getting harder to come by each year.*

Only rarely will an Aggie leave the territory of his group. They are clannish in the extreme, with very intricate social rituals. But non-hostile strangers will find them affable enough. They will never refuse "The Three Squares" to a starving traveler, for they find the idea of starving to death repugnant. Those in such plight will be offered 1 day's rations at no charge.

The simple outlines that the Gamesmaster starts with will grow as his Players interact with the Communities. The neo-Nazis of Hitlerville have crossed the paths of our Player Characters more than once, and we now have developed the standard uniform and equipment of their soldiers, the usual systems of slave treatment they use, and hints of the Rockwell's master plan to take over his side of the river, as elements of the D.C. campaign.

SEARCHING AND FORAGING

The Players must designate the scope of their search: a single building, a house, a city block. Let us say that a block represents the largest feasible unit for a given search attempt. The basic operation involved in completing a search is handled by treating it as a Task. The Task Points involved are equal to the area of the searched area in square meters (round the actual measurements to any convenient sum in the right neighborhood). The average city block is 100-150 meters long. Multiply this by a constant based on the type of environment:

Forest or other Rural Environment: 2D6 + 5

Rubble: 1 + 1D3

Residential: 1D10 (representing the range of space between single houses and apartments)

Commercial: 3D6

Industrial: 2D6

Divide this figure by the total sum of the Search BCSs of all those characters involved in the search, multiplied by the number of minutes in one turn of searching, a time-scale to be set by the Gamesmaster and the players. This represents the number of Task Points to be fulfilled before Search Skill rolls are made to see if anything has been found. Base a BCS equivalent on the character's Natural Talent (as a score, not a BCS) if he lacks the Search Skill.

In one turn of searching, each member of the party engaged in the activity will roll a Wit Effect Die, totalling the scores to see how many Task Points they have totalled in that period. When the accumulated points indicate that the Task has been finished, a Search Skill BCS roll is made by the leader of the search. See Search Skill on page 18 of Book 2 for modifications. Additionally, a BCS penalty equal to the Task Points/10, nearest, is applied to the roll. If it succeeds, the party has found something. If multiple parties are being used on the same chunk of territory, they go through this process individually, building up their Task Points and rolling for finds (and perhaps having encounters) on their own.

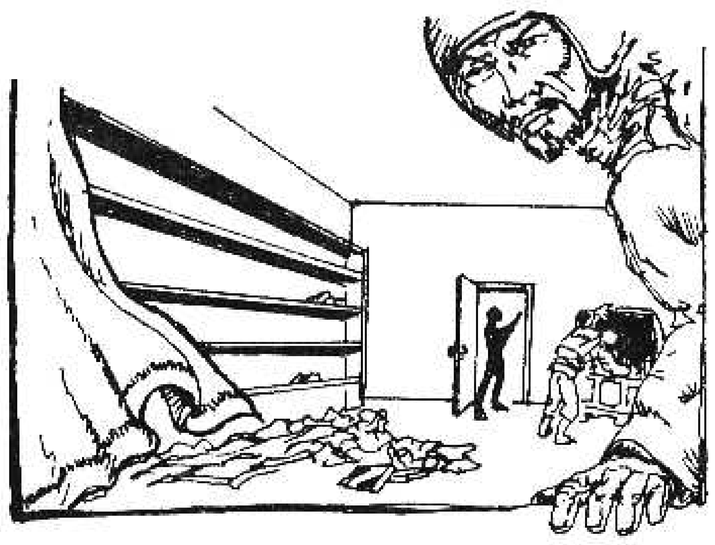
Frank, Irene, and Jumbo are out foraging. They have decided to tackle a block of office buildings in the Commercial district. The building they have chosen is, the Gamesmaster decides (purely at random, based on his personal knowledge of that part of his city), a big one, half a block on a side. At a standard scale of 100 meters per block, that is a building a 50 meters per side, for a 2500 square meter search area. In a Commercial area, this is multiplied by the roll of 3D6. The die roll result is a 10, for a total of 25000. Now, Frank has a Search, Urban BCS of 18. Irene, a very survival-wise kid who grew up in the mean streets, has a BCS of 7. Jumbo, with a country upbringing (he drifted into town when a biker raid wiped out his farming community), has no Search Skill, but a Natural Talent of 17, for a BCS equivalent of 3. This totals 28 (18 + 7 + 3). They decide to search in 1-hour Turns, which are, of course 60 minutes. 60 x 28 = 1680. 25000/1680 = 14.88, rounding to 15. At the end of 1 hour of searching, they roll their Wit Effect dice (1D10, 1D6, and 1D3 respectively). The total rolls add up to 13, so they have not achieved a significant chance to salvage anything yet. After their second hour, the points amount to 13 from the last period, and rolls totalling 17 from this one. That is 30, or two Tasks worth, so they will make two Search rolls. Frank is the Search leader, since he has the best score. With two helpers, one Skilled herself and one not, the Gamesmaster decides to be moderately generous and give him +2, for an effective BCS of 20. But since the search has a Task Value of 15, there is a 15/10, nearest, or 2-point penalty attached. So Frank is using his base BCS of 18. His first roll is 4, so they got something out of it. His second roll is a 20. The Gamesmaster may let this go as a simple "nothing" result, or toss them a find they can do without ("Were you actually looking for that lion?") for the Critical Miss. Likewise, a Critical Hit might mean that they find two items, or a better kind of item. If they were looking for something specific, such as the first food they have seen in days, he might adjudicate that that is what they found.

Cleaning Places Out

Based on the type of area and the size of the search zone, the Gamesmaster may assign an arbitrary number of possible finds to it. A house-to-house search in a Residential area might find 0-2 items per house. A day-long run through a block in a Commercial area might hold a D10 + 10 potential finds, though that is not to say that the characters will locate them all.

As the city is a constantly fluid environment, old caches of gear being salvaged daily, characters dying to leave their own supplies lost in a hideout somewhere, there is no guarantee that what was empty last month will be so today, or the stash that the characters left behind yesterday hasn't been hit today. There would logically be a class of scavenger that moves with search parties, gleaning their trails clean of left-overs.

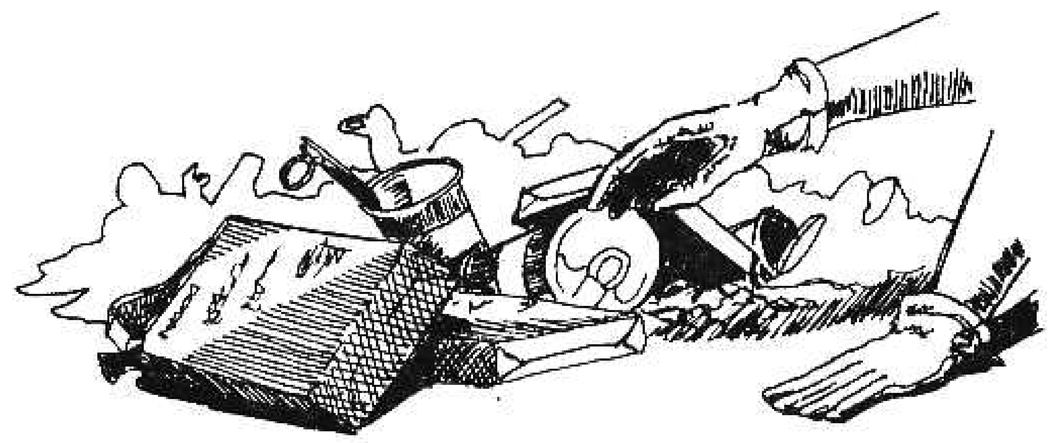
The Gamesmaster need feel no compunction on allowing, say, 1 Search attempt per area for Rubble zones. If that does not find anything, then there is nothing to find. Moreover, he may find before the first Search turn is done that the site holds no loot. He can let the characters hunt until they drop, without feeling obligated to inform them that the reason they can't find anything is because "anything" isn't there.



UTILITY

We discussed Utility as a concept in the various Equipment rules in Book 2. It carries over to the quality of finds made in foraging. Regrettably, the vast range of possible finds makes it impossible for us to give overmuch detail here. The following rules will act as a guide to the Gamesmaster's imagination in deciding what the characters have found.

Gamesmasters are encouraged to expand the Utility lists. A Sears Roebuck catalog, or some similar "map" of the vast array of possible goodies our technology can provide for those who are picking its bones, will be of tremendous value.



CLASS OF FIND TABLE (Roll D100)

	Die Rolls:				
Class of Find	**Rural**	**Rubble**	**Residential**	**Commercial**	**Industrial**
Food	01-20	01-05	01-15	01-10	01-05
Luxuries	21-25	06-10	16-30	11-25	06-10
Weapons	26-40	11-25	31-40	26-40	11-20
Fuel/Power	41-45	26-35	41-55	41-45	21-30
Clothes/Armor	46-50	36-40	56-65	46-55	31-35
Tools/Kits	51-65	41-50	66-70	56-65	36-50
Medicine	66-70	51-55	71-75	66-70	51-55
Data/Communications	71-72	56-65	76-85	71-85	56-70
Transport	73-80	66-80	86-90	86-90	71-85
Environment	81-90	81-95	91-95	91-95	86-95
Survival	91-00	96-00	96-00	96-00	96-00

These are only the crudest approximations, of course. Other classifications of area types might include Government, Military, Mining, Waterfront, etc., each with its areas of "wealth" and "poverty" in potential loot.

Having determined the class of material found with the above table, it only remains to roll to determine the Utility of the item.

UTILITY TABLE (Roll D20)

Die Roll	Result
1	Hazard located
2-4	Utility 0
5-7	Utility 1
8-10	Utility 2
11-13	Utility 3
14-17	Utility 4
18-19	Utility 5
20	Cache

Die roll modifiers:

Rural	+0
Rubble	-2
Residential	+0
Commercial	-1
Industrial	+0

Hazard

A dangerous situation has been encountered. This might be a structurally unsound building, a dangerous beast, hostile men or other characters encounter, a contaminated area, etc. The possibilities will be discussed more fully in the Dangers section on page 16.

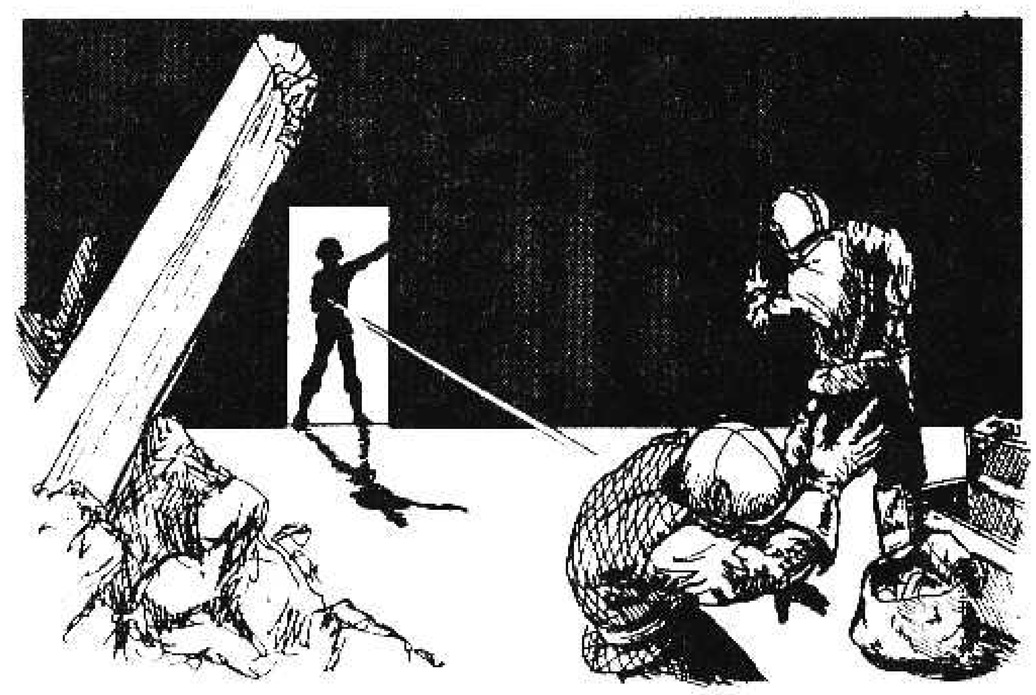
Cache

A treasure trove has been discovered. This represents a hidden stock of various items, a working shop of some kind, a lab, a firing range with weapons, etc. The Gamesmaster must fill in the blanks according to the kind of area and the overall nature of the find, although this latter area need not limit him. A Food Cache might also include contamination detectors and purification gear, for instance.

OPTION

Ownership

Especially when some valuable item has been found, or a Cache, there is a chance that it was stashed there by someone else. The Gamesmaster should construct a person or persons, or other logical owner (a Master Rat, perhaps) to whom the goods belong. He will have a 40% chance of discovering the characters busily looting his material; otherwise he will come upon the carnage of his hideout and track the thieves. The owner has a 5% chance per day cumulative probability of overtaking the characters. That means that, on the day they steal the goods, a D100 roll less than or equal to 05 indicates an avenging owner catching up to them. The next day, the chance is 10%, the day after that, 15%, and so on. Roll the chance of the owner catching them at the location of the stash once every hour that they are on the site.



CATALOGUE

The next set of lists are idea sheets for what the searchers have actually come across. If quantity is needed, roll a D20. The score represents a Group. The Effect Die roll for the indicated Group is the number of Units, or ENC, or items, or days' worth of material, or what have you, that the characters have found. Caches double the Effect Die roll at least. Of course, if a working Lab or similar installation has been found, then there is usually only the one unit.

If firearms or ammo have been found, their specific determinations have been given in Appendix 2.

FOOD

Quantity determinations are in Days' Rations for 1 man. Water supplies are assumed to be as much as they need, but the supply may not be there later.

Utility 0 Spoiled foods. A portion of the food found is contaminated (1D100 determines what proportion is spoiled.
Contaminated Water source.

Utility 1 Pure Water source.

Utility 2 Fresh stock of natural foods (recently-killed animals or freshly-gathered or gatherable vegetable food).

Utility 3 A stock of preserved natural food.

Utility 4 Freeze-Dried food.

Utility 5 Super-K Ration.
Stocks of High-Energy Glucose solution, in disposable plastic packs. Used to speed recovery of starvation or dehydration victims.

LUXURIES

Non-essentials that may have considerable trade value or may actually fall into other categories of goods.

Utility 0 Junked household appliances or office supplies. Phonograph records. Stereo sets, etc. Bad liquor: causes Nausea for 1D3 hours if drunk.

Utility 1 Home-fermented liquor (post-Ruin stock)—wine, beer, mead, not suitable for fuel. Jewelry. Objets d'art. Working appliances.

Utility 2 Home-distilled liquor, not suitable for fuel. Athletic equipment (not overly useful) such as tennis gear, pool table, etc.

Utility 3 Pure grain alcohol (drive it or drink it). Packaged, pre-Ruin tobacco products. Working portable tape player and cassettes, or similar usable, battery-powered entertainment equipment. Luxury foods (caviar, nuts, candies).

Utility 4 Pre-Ruin liquor (bourbon, scotch, etc.). Useful, non-technological sporting gear: low value plastic "armor" such as football pads, baseball bats of wood or metal, camping gear, mountain-climbing equipment.

Utility 5 A still (distilling apparatus) is found. Efficiency Factor of 1D3. Converts 5 units of corn, potatoes, etc., into alcohol equal to 1 liter per Efficiency Factor per hour. Double-distilled alcohol can be used as fuel.
Electronic "vices." Narco-headsets inducing sleep. Induction devices stimulating the pleasure centers of the brain. These have trade value, or can be used as pain killers, or modified to stimulate the pain centers (torture devices.) High technology sporting goods: guns (at the Gamesmaster's discretion), SCUBA gear, hang gliders, boats, skydiving gear, racing equipment, etc.

WEAPONS

Generally, only one or two actual weapons are found. Ammunition and other supplies can be quantified in one of the ways given in the Appendices or this section.

Utility 0 Hand-to-Hand weapons. Select a weapon from the lists under Equipment. The WDM is reduced by the weapon's Utility x .1, since it is an inferior model. A Junked firearm. Dud ammo—it will not fire.

Utility 1 A Utility 1 Hand-to-Hand weapon.
A disrepaired gun.
Faulty ammo. Critical Miss occurs on a roll of 18-20 when firing.
Weak ammo. Halve the BDG.
Materials to make a home-brewed explosive.

Utility 2 A Utility 2 Hand-to-Hand weapon.
Saturday Night Special: A working gun with a permanent Durability of 1.
Rimfire ammo.

Utility 3 A Utility 3 Hand-to-Hand weapon.
A normal working gun.
Ammunition (standard Ball Ammo or Shot Shell)
Working explosives.

Utility 4 A Utility 4 Hand-to-Hand weapon.
Hi-Power, Hollow Point, or Fragmenting Ammo.
Grenades, Mines, Rifle Grenades, and other explosive weapons.
Features for firearms: Sights, Scopes, etc.

Utility 5 Laser weapons.
High Tech ammo (explosive, incendiary, etc.).
Flame weapons.
Anti-Tank weapons.
Hand-reloading kits, and supplies of bullets, cases, powder, a swage unit, etc.

Machine Guns, Mortars, Cannon, etc., are not on the list. They are included in finds when and if the Gamesmaster feels ready to allow them in the campaign.

FUEL/POWER

Stocks of chemical fuels for vehicles, sources of electrical power, and so on. The Gamesmaster may have to juggle types and quantities to make the find logical for the area of the search.

Utility 0 Dry and unrotted wood for fires. Also suitable for improvising torches.

Utility 1 Irreparably damaged batteries.
Crank-operated manual generator.
Sterno or similar "portable fire."

Utility 2 Bicycle-operated generator.
E-type Eternabatteries.

Utility 3 Treadmill generator setup.
Alcohol fuel (also drinkable with safety).
Ev-type Eternabatteries.

Utility 4 Salvageable electricity (live circuits) of wattage suitable to area of search.
Motorized generator.
Working wind or water generator, or parts for same if there is no logical reason for one to be set up.
Gasoline or Hydride fuels.

Utility 5 Leech transformer.
Fuel Cells.
Solar Screen panels.

CLOTHES/ARMOR

Utility 0 Light cloth stock.
Material which can be improvised into armor or shields.

Utility 1 Stored clothing (Natural Materials). Max. Armor Value of 4.

Utility 2 Heavy leather armors, light metals. Max. Armor Value of 7.

Utility 3 Metal Armors up to Armor Value 10.

Utility 4 Heavier metallic Armors.
Plastics of Flexible or Semi-Rigid types.

Utility 5 Rigid Plastic Armors.
Integral Suits of Police and Military Armor.
Protective Armors, Lazab and Anti-radiation spray-on units.

TOOLS/KITS

This is very free-form. The Gamesmaster should try to come up with a logical reason for the type of kit to be there. See the closing section on Favorable Finds for ideas.

Utility 0 Crowbars, hammers, axes, and other miscellaneous tools.

Utility 1 Repair and manufacture Kits of type 1.
Crude lockpicks.

Utility 2 Kits of type 2.
Good lockpicks.
Stethoscope for safecrackers.

Utility 3 Magnalock tuner.
Kits of type 3.

Utility 4 Kits or shops of type 4.
High-quality tools for lockpicking, etc. Memory storage Magnalock tuners.

Utility 5 Full-scale shops, Labs, even working plants if the Gamesmaster so desires. Such finds, or Caches in such locations, would probably also hold a stock of finished products of such a plant.

MEDICINE

Utility 0 Stocks of bandages.

Utility 1 Medical Supply units.

Utility 2 First Aid Kit.

Utility 3 Medical Kit.

Utility 4 Drugs.
Medical Computer. Defibrillator. Other Medical Technology devices.

Utility 5 Surgery setup.
Mobile surgeries (ambulances with clinical gear).
Encephalographic Educators.

DATA/COMMUNICATIONS

Again, a rationale for what is found should be developed. The Gamesmaster will need to assign Skills and ranges to instructional materials.

Utility 0 Fiction. Newspapers, magizines, etc. Used computer punch-cards.

Utility 1 Maps (until Player Characters have found a map of the campaign city, the Gamesmaster may forbid them to use such a document as Players).
"Popular" texts. Rated for 01-05 in their respective Skills.

Utility 2 Beginners' Texts. Have range starting at 01, plus roll of (D6 x 10).
Manuals with BCS D6 + 6.

Utility 3 Reference books.
Prepared designs for various devices and processes. Can be used to build the item with proper resources and Skills, with all design factors already done.
Advanced Texts. Range is from 1 to 30 plus the roll of (D6 x 10).
Manuals with BCS D10 + 6.

Utility 4 Calculators.
Mini-computers.
Full Range Texts (01-100 point range).
Manuals with BCS of D10 + 10.

Utility 5 Computers or Data Access Points, terminals tied into working remote systems.

TRANSPORT

If the characters are deep in the center of a building block, they will just not find a transport system lying around, unless the Gamesmaster cares to adjudicate that they have floated into the garage in the basement. And isn't it a shame that the driveway up to the street is choked with rubble?

Utility 0 Completely totalled, unsalvageable cars.
Roller skates, skate boards.
Pogo sticks.

Utility 1 Muscle-powered vahicles: bicycles, tricycles. 40% chance that they are in kids' sizes.

Utility 2 Low-speed powered vehicles: mopeds, electric scooters.
Junked car, parts are salvageable.

Utility 3 Partially working or Disrepaired automobile. Low Durability if it works at all.

Utility 4 Working vehicle, No fuel in it.
A horse (how did he get here?).
Horse-drawn conveyances.

Utility 5 Working vehicle in good repair.
High Tech vehicles: rocket packs, mini-copters.

ENVIRONMENT

The term applies to devices or materials which analyze or otherwise affect the character's environment.

Utility 0 A Junked or Disrepaired item from a higher Utility on this list.

Utility 1 Matches, detergents, other household goods.

Utility 2 Optical gear (telescope, binoculars).
Mine probes.
Candles, oil lamps, other non-electrical light sources.

Utility 3 Flashlights, other electrical light sources.
Binary Detector gear ("Yes/No" detection of various radioactive, chemical, or biological contaminants). Mine-detecting equipment.
Chemical testing kits for water, soil, etc., quality and contamination.

Utility 4 Detailed readout detectors (detect presence and give formula of or intensity for the hazard).
Various forms of intruder-alert systems (portable or non-portable). Burglar alarms, smoke detectors, etc.

Utility 5 Radar installations.
Enhanced Vision Optical devices (Star-Light or Infra-Red).
High-sensitivity listening devices, either microphonic (bugs) or remote (like a shotgun mike, capable of picking up a whisper at 100 meters).

Seismic alarms, triggered by the vibrations of footsteps on the ground at ranges of up to 500 meters.

SURVIVAL

This is a bit of a catch-all category. The Survival materials include such goods as winter clothing, camping gear, rope, cookpots, canteens, etc.

Utility 0 Frayed thermal underwear (Thermal Factor 1.5).
Gunny sacks.
Twine or string.
Old blankets (ENC of .4 bundled up).

Utility 1 Small carrying sacks. Baggies. Light rope or clothesline.
Heavy cloth overgarments for winter (Q-HC). Thermal Factor of 2.
Mess kits. Eating utensils. Large glass bottles, flasks, jugs.

Utility 2 Heavy rope. Shoulder bags. Web belts.
Heavy cloth tents (1.2 ENC broken down for carrying). Holds 2-6 characters.
Rain gear.
Life preservers, inner tubes, etc.

Utility 3 Mountaineering rope. Other climbing gear.
Highway (or Railroad) flares.
Sleeping bags, backpacks, pack frames, rucksacks, etc.
Other containers, bottles, satchels, etc. Canteens.
Compass.

Utility 4 Backpacker's tents, at half the Encumbrance of the normal type.
Good thermal underwear (Thermal Factor 2). Light Cloth equivalent.
Hiking gear: foam instep pads (+5 to effective Speed for Strategic Movement), alpenstock, etc.
Axes, machetes, brush knives, collapsible saws, etc.

Utility 5 Flare guns or other long-distance signalling devices.
Electrically-heated underwear.
Space heaters, electrical (uses E-5 at 1 Charge per hour).
Inflatable life rafts, canoes, kayaks.

It goes without saying that these lists are a fraction, a microscopic minimum, of the possible finds a search can turn up. All we can do in the space available is give the Gamesmaster fuel for his imagination in dealing with such events. The campaign depends on his ability to go through the mental operation of "they found something like this—where are they—let's say they're in a police station—Utility 1 Environment in a Police Station?—Aha!—Okay, folks, you have found a valise with a fingerprint detection kit in it."

This is not too hard (nowhere as hard as it sounds), for those who can free themselves from a need for detailed tables and charts in determining loot. We are in the position where a whole city is there for the taking. If only a fraction of its former wealth remains, that is still a staggering diversity of goods.

Don't be afraid to make up the story as you go along. Even if you are later inconsistent, the flow of play will forgive much. So the place was too rich to clean out a week ago. That stuff they hid in a sub-basement will not necessarily stay put. Do the Players think they have the only competent scavengers in the city in their group? Oh, no, not by a long shot. The cache they left behind is fair game, and when the buildings are burning down almost weekly, why should they even expect the block to look the same when they come back?

No, in the fluid world of ***Aftermath!*** it is no problem to live for the moment in calling the shots. For every moment could be the character's last!

QUALITY OF FINDS

The simplest way to narrow down the choices as to just what kind of goodies a search has turned up is to slant it toward what the characters need and can use (this presupposes that something anyone can use, like medical supplies, is not the answer). The fastest method of getting into the correct frame of mind to play Santa Claus is by rolling Reaction Dice. The better the Reaction, the more useful the find. This can even be a justification for increasing the amount of goods found, or their general utility to the group as a whole.

For example, a party with decent hand-to-hand weapons but no guns gets a Weapons find. In such a case, the Gamesmaster might just roll Reaction dice first. If it comes out Good or better, just assume that they have found a firearm or two, and probably some ammo for it. A Mediocre roll would require that their Utility roll allow them to find guns. A Bad roll or worse would insist that, if they find a Weapon, it be something that none of them have the Skill to use well.

The overall concept here is: is this just good for the characters, really great for the characters, or frustrating, mean, rotten, and crummy for the characters?

LOGIC OF FINDS

Let us say it just once more: try and provide a reason (even if it is only in your own mind) for the goods located being where they are. Fill in some cheap fiction to flesh it out. If the first couple of finds form a pattern, assume that it will hold for the rest of that search (a Medical Supply find might decide the Gamesmaster that they are looting a medical office building). This can, in turn, give background to the encounter they have next turn. The table says it's a bunch of Ghouls. Well swell, but this way they are all crazy doctors, perverting their surgical skill to butcher their meat, and armed with anesthetic dart guns instead of normal firearms.

This kind of thing turns random searching from a rather boring way to gain doctrinal treasures into an organic (sometimes overly organic) part of adventures in the world of the Aftermath.

ENCOUNTERS AND HAZARDS

The many hazards we have already described in ***Aftermath!*** can be met in as many forms. Our own opinion is that the hands of men bear more dangers for the Player Characters than the claws of beasties, but admittedly, a raging tiger or bear is not exactly a kitten. The environment itself, especially in the cities, is inimical to life: the crumbling buildings offer as many traps as they do resources to preserve life, the very air may bear the invisible death of virus or gas, the good earth may radiate the cell-tearing poison of nuclear contamination. If they are to live to bear the promise of renewal to future generations, the characters must overcome all these.

The dangers of the Aftermath may be met in several ways:

Random Encounter: As they travel overland (Strategic Time Scale) there is a chance that the characters will run into some group, individual, or event. The encounter need not be hostile. There may be opportunities for mutual aid, trading, or simply companionship, rather than combat.

Local Condition: The Gamesmaster has designated some local condition as existing on the map in the area entered by the characters. This can be a Community, a contaminated area, a local gang or tribe, etc.

Prepared Adventure: Actually, it need not be all that "prepared." The Gamesmaster has placed a scenario on the map at that point. This may be the headquarters of some major Non-Player Character into which the characters have blundered, it may be the scenario specially designed for that night's playing session, which the Gamesmaster has simply decided to put in their path to get things started, or it may be an improvised encounter of some degree of complexity, created on the spot. This latter type of adventure can be very rewarding. In one playtest campaign, the characters took shelter from a contaminated rainstorm in an old motel. While waiting for the rain to stop, it was determined that they had had a random encounter. The tables for this showed that they had met a pack of feral dogs, led by an intelligent mutant dog. Unable to resist the possibilities, the Gamesmaster created the motel on the spot, laying out a crude floorplan and designating the building as the headquarters of a pack of organized canines, who kept several human "pets." These pets allowed the dogs to have such defenses as tear gas canisters hooked up to the old sprinkler system in the motel's ceiling, and smaller dogs who were forced to carry radio-detonated satchel charges strapped to their backs, as suicide troops. In a final burst of madness, the leader animal was made telepathic, so that his sardonic comments could be broadcast to the characters. What had started as a minor, random encounter was turned into a major adventure with the application of five minutes of imaginative thinking.

RANDOM ENCOUNTERS

There are several traditional gaming techniques for determining when characters will have a random encounter, and just what that encounter is. The usual one is a table, keyed to various die rolls, to generate a particular encounter situation. It has the advantage of availability: it is there when you need it. The considerable effort in constructing it has been done, and all that is needed to generate an encounter is the time to roll the dice. The disadvantage of encounter tables it that they can become static. The same combinations of events keep occurring. Creative interpretation can offset this to a degree, but there will be times when the fourth straight appearance of giant roaches is enough to make Players and Gamesmaster alike scream in agony.

The encounter deck is another tried-and-true system. The Gamesmaster prepares a number of index cards in advance, each one listing the details of a mini-scenario, or at least the numbers and vital statistics of an encountered group of characters, or a solo encounter. When an encounter is needed, the Gamesmaster draws a card at random. The advantages are diversity, since each encounter card can be as unique as desired, and standard cards listing simple, clear-cut scenarios can be shuffled back into the pack after use. Since the card can also indicate that a large scenario has been encountered ("Pull out file on 'The Ghouls of K Street'"), the deck has the added advantage of allowing more elaborate encounters to be plotted than can easily be generated on a table. The single biggest disadvantage to encounter decks is that they are never completed. They require a fairly continual amount of work to keep fresh. This may not appear as a disadvantage to many Gamesmasters, who prefer to update their campaigns constantly in order to maintain freshness.

A fairly short sample Encounter Table follows, both to provide a model for the Gamesmaster to use in constructing his own, and to give him something to use until that job is done.

SAMPLE ENCOUNTER TABLES

For every day of Strategic Scale Travel, or of encampment in the open during the night or day, roll 1D20. A score of 1-3 indicates that an Encounter has occurred.

CLASS OF ENCOUNTER (Roll 1D20)

1-8	Men
9-15	Beasts
16-18	Event
19	Contamination
20	Phenomenon

MEN ENCOUNTERS (Roll 1D100)

01-30	Group—Small (2D3 men)
31-40	Group—Medium (3D6+10men)
41-50	Group—Large (3D20 + 20 men)
51-55	Solo Traveler
56-70	Duo Team (2 members). Roll 1D6.
	1-3 2 humans
	4-5 Human and Tame Animal(s)
	6 Human and Mutant Animal(s)
71-80	Personality Non-Player Character
81-85	Maniac
86-90	Disease-carrying Maniac
91-00	Special

ORIGINS/INTENTIONS OF GROUPS (Roll 1D20)

1-3 Wild Group: Nomadic and semi-primitive. Often composed largely of kids who grew up without any adult care.

4-6 Tribal Group: Members of primitive Tribe, a low-technology form of Community.

7-9 Community: Members of one of the established Communities in the campaign. If they are far from their territory, they will have some form of transport.

10-12 Street People: Groups of semi-crazed scavengers who form mobs for self-preservation.

13-14 Ghouls: Cannibal groups.

15-16 Monos: Groups with some fixation: pre-Ruin politics, religion, culture (Samurai, Western, Medieval, etc.). There are Mono Communities.

17-20 Bandits: Those who prey on others.

NOTES ON MEN ENCOUNTERS

The encounters with people are the biggest potential headache for the Gamesmaster, since such figures can be every bit as diverse in Skills and equipment as the Player Characters themselves.

It will be very useful to have pre-fabricated samples of group encounters, solos, and so on, made up beforehand. Then, if an encounter with such characters is indicated, just whip out the paperwork and you are all set.

The encounter with a Personality Non-Player Character can be as significant as the Gamesmaster wishes it to be. It allows him to slip an equalizer into weak parties heading into dangerous scenarios (equalizers are non-player characters with more ability than the Player Characters, used by the Gamesmaster to even the odds in their favor when they are in over their heads). He can be a famous figure in the local folklore (or an infamous one, according to your tastes), or he may just be a fairly well-fleshed-out character, there to provide some color for the campaign. He may at least know where the characters can find a safe place for the night. He can also be used to lead the Player Characters to the scenario for the playing session.

Maniacs and Diseased Maniacs are mostly filler on the list. One is a harmless madman. The other carries some disgusting and communicable infection. There are many possible variations on this theme.

A Special is just that: some unique human (or semi-human) encounter that fits in your campaign. In playtest, this has included run-ins with human Quislings working for alien invaders, ninjas in the employ of the insidious Doctor Fu-Manchu (who has come through the Ruin quite well and is currently holed up in a secret base somewhere in the Rocky Mountains), and a real vampire. Do not overlook the potentials of releasing the manlike monsters of fantasy upon the defenseless world of the Aftermath. Several short stories in the genre have done so with great success, as have a number of comic books.

When dealing with large groups of humans, it is convenient to assume that the bulk of the crowd is made up of Extras, Rabble, or Average Men, with a number of leader types of the next-highest type. A usable table for the chances of such a mix is given here.

GROUP ORGANIZATION (Roll 1D100)

01-10 All Extras (DRT of 1)

11-25 All Rabble (DRT of 10 or 1D10)

26-30 Extras with Rabble Leaders

31-60 All Average Men

61-70 All Rabble with Average Leaders

71-90 All Average with Superior Leaders

91-00 As 71-90 above with a Heroic Overall Leader

Leaders occur in a ratio of 1 Leader per 10 other characters.

BEAST ENCOUNTERS (Roll 1D100)

01-03 Lion

04-08 2D3 Lions

09-11 Tiger

12 D3 Tigers

13-14 Gator: On land, 1. Near Water, D3

15-18 Gator: On land, D3. Near Water, 3D3

19-30 Small Game (see page 26)

31-35 Black Bear. 30% chance of Mother with Cub (extremely dangerous)

36-38 Grizzly Bear. Same chance as above

39-40 Kodiak or Polar Bear. Same chance as above

41-55 Dogs. A pack of 3D3 (60% chance) or a large pack of 4D6. Roll 1D10 for Size of each dog, or group of dogs. Score of 1-7 indicates equivalent Size grouping. Score of 8-10 means Attack Dog. Roll D3+4 for Size of Attack Dogs. 20% chance per animal of being Rabid

56-60 Wolves. Pack of 4D6 animals

61-62 Giant constrictors. 2D3 appearing

63-64 Rattlesnakes. 60% chance of 1, in path of some member of group, as a Hidden Thing. If not seen it is stepped on and will attack. Otherwise, a nest of 1D100 snakes is found, but dangerous only if disturbed

65 Pack of Feral Cats (3D3)

66 Pack of Rabid Feral Cats

67 Rhinoceros

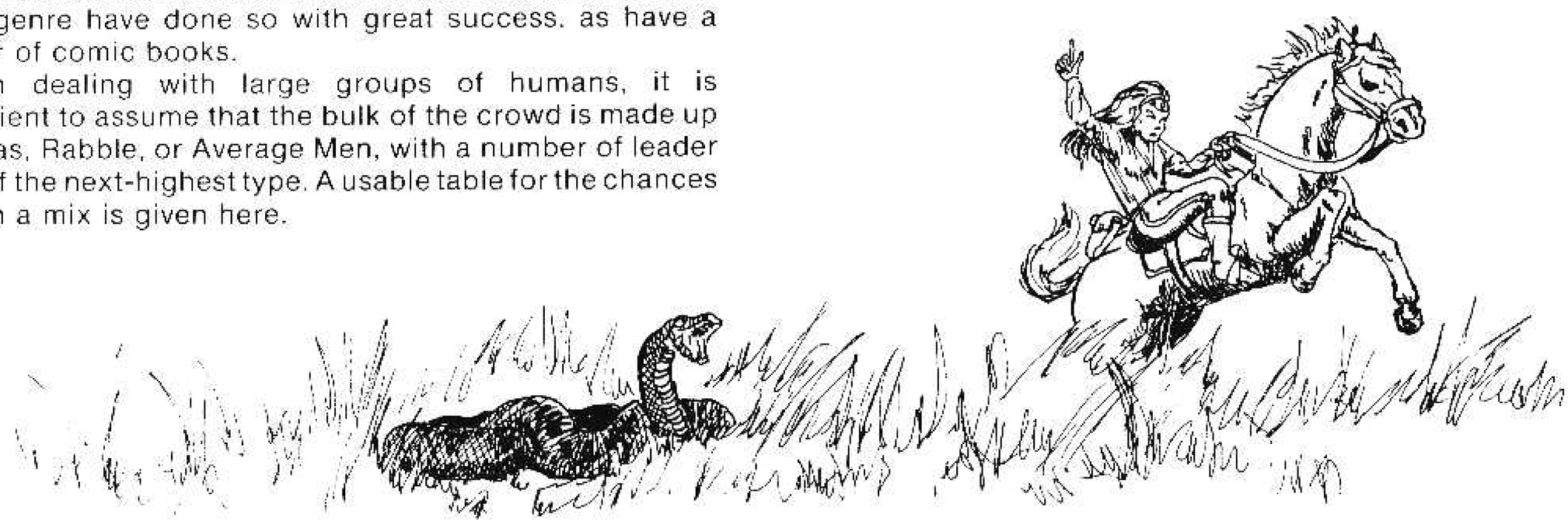
68 Rhinoceros, 1D3

69 Elephant

70-72 Razorbacks

73-88 Game (see page 26)

89-00 Rats



RAT ENCOUNTERS (Roll D20)

1-6 2D6 Mobs of Rats

7-11 2D10 Mobs of Super Rats

12 2D10 Super Giant Rats

13-16 2D6 Ruin Rats. Armed with long spikes (WDM of 1.5). There is a 60% chance that these weapons are coated with some low-grade form of poison. In any case, they will be filthy and expose those hit to infection

17-18 Super Mob. Roll on this table with 1D10. That type of Rat is encountered, but the number of Mobs rolled is doubled

19-20 Master Rat. Roll 1D6 for circumstances

1-2 Solo Master Rat. Armed with Random Pistol. 20% chance of having his lair nearby, with a chance of technological loot in it

3 Solo Master Rat as above, but also controlling 2D6 Mobs of normal Rats. There is a 30% chance that these will be Super Rats instead

4 As above, but controlling 1D10 Super Giant Rats instead

5-6 Mated pair of Master Rats, armed as 1-2 above. 40% chance of their lair being nearby.

Gamesmasters who wish to try something interesting with Master Rats are invited to create "Genius" Rats, Master Rats with even greater levels of intelligence than their fellows. Such mutants might well have definite plans about the fate of mankind. In playtest, at least one such creature existed, holed up in an abandoned museum. She had enslaved a number of technicians (humans, that is) who were forced to develop intricate defenses for her. Adding some telepathic capability to allow the Rat to communicate with humans can also be interesting. They should not be overlooked in the quest for unique non-player characters.

EVENT ENCOUNTERS (Roll 1D100)

01-10 An opportunity for Search Skill is found. If BCS made, a find is generated as if the characters had been Foraging (see Foraging, page 11)

11-15 Characters hear a firefight break out several blocks away

16-25 Characters see a combat occurring some blocks away

26-35 Characters come across a source of campaign background: political information, location of some scenario, information about a major Non-Player Character, etc.

36-50 Characters observe some "open-ended" situation: Ghouls getting ready to butcher their victims. attempted rape, lynch mob getting the rope ready. woman going into labor, someone in imminent danger, etc. Can escalate into a mini-scenario

51-55 Aircraft of some kind flies overhead

56-65 A vehicle of some kind drives by at high speed

66-70 A Sniper opens fire at 200-meter range with a rifle. He will fire until spotted and then run away (probably escaping)

71-75 Characters wander into a minefield. Gamesmaster should distribute 2D6 mines on the map around the characters, at random or in a pattern of his choice. Use DAT display for this situation

76-80 Characters see a UFO

81-85 Phone in nearby booth or building rings

86-95 Locate the residence of some individual or small group. Treat as a Men encounter

96-00 Gamesmaster's choice.

CONTAMINATION ENCOUNTERS

This is hard to quantify. The type of contamination in question depends on the campaign. Radioactivity is not likely if no atomic weapons were used in the Ruin. It boils down to this: what kind of contamination is encountered (atomic. biological, or chemical), is it passive (only endangers characters if they walk into it) or active (it comes to them, like plague carried by a victim)? If the characters have detectors, they should be able to avoid the encounter. As such encounters can be extremely deadly and very hard to game fairly outside of DAT display, you may not wish to include them in your Encounter Table as such.

PHENOMENON ENCOUNTERS

Another tricky one. In general, it means a significant environmental change or condition. But the exact type depends on your campaign's climate and the nature of the Ruin. Are earthquakes common in the campaign? Then they should appear on this table. Lightening Bolts? Then let random strikes with a given BCS attack the characters, doing 1D6 Charges of electrical damage. Is the rain likely to carry contamination? If so, then what kind? When you have a clear picture of these factors, you can build your table.

Examples of Phenomenon Hazards are:

Earthquake: Small or large tremors. If in the open, the only real danger is from falls. A Strength CST prevents this. Tremors are assigned a Force (score rolled on 1D6 x .5). If inside a building with Structural Stability less than this number, all are exposed to Structural Hazards (see page 19). If the campaign is in a heavy quake area (West Coast, Hawaii, etc.) the Force die roll can be increased.

Contaminated Rain: If the water is radioactive, assign the rainfall a REM per Hour figure, just as you do for other sources of nuclear contamination. If it contains a biological or chamical contaminant, assign it a rate factor. This represents the concentrations of contaminant in the water. Rate factors should be on the order of "Virulence Groups per Hour." Since the contaminating agent has an inherent Virulence, when the characters have been exposed to the rain for a sufficient period of time for it to "generate" that Group they must save against exposure to the contaminant. Thus, a storm carrying a Group 2 biological agent (a disease) starts, with a rate factor of 1 per hour. For every two hours of exposure, the characters will have to save against catching that disease.

"Acid" rains will have a maximum level, and will attack the characters as Acid does for every hour of exposure, at that level. These are mostly encountered in campaigns where civilization polluted itself into the Ruin.

Your Encounter Table should also have uncontaminated storms in it, to keep Players guessing.

Windstorms: Very high winds are assigned a value once they exceed 30 knots (about 50 kph). For every 20 kph above 50, they will add 1 to the effective Encumbrance Status of characters forced to move through them. They also wipe out sounds beyond a range of about 2 meters, if that much. Tornadoes and other such high-powered wind storms will apply a Blast effect to characters in their area of influence (a touchdown within 50 meters). This should be about 2D20 + 10 of Blast. They will affect buildings as Earthquakes do. A hurricane or direct hit by a tornado will have a Force in this regard of about 1D10x.5.

Flash Floods: These expose the characters to a situation where they must swim for their lives, to the nearest point

of safety the Gamesmaster designates (say 1D50 meters to reach some kind of safety). The flood is given a score of 1D3, or 1D6 if it is a nasty one, which is subtracted from the swimming BCS.

These are the principal forms of dangerous natural phenomena to be encountered in ***Aftermath!*** Since the most that characters can do when confronted by such attacks is to try to survive, it is not advisable to use them too liberally.

LOCAL CONDITIONS

These will not usually be the kind of thing encountered without pre-planning. As far as the more fixed and generally known Local Conditions in the campaign go, they will be the major Communities and tribal or gang territories, major contaminated areas, and places having reputations as strange or dangerous. This is assuming that the Player Characters are all natives of the area in question. Locals would know where you do not want to go in their territory—just ask your host the next time you visit New York City (if you already live in New York, you know what I mean).

Of course, there are Local Conditions that no one is really sure of. That bandit gang is likely to start staking out new areas once everybody gets the word about their old turf. The contaminated rain might leave a new section of town unhealthy for humans. Such things would receive the Gamesmaster's attention from time to time, as he does the "housekeeping" on his campaign.

STABILITY

The Structural Stability is a score measuring the physical condition of a given building, buildings, or even neighborhood. It is expressed as a number from 1 to 10, where 1 means that the building is little more than a shell and 10 implies that it is as solid as the day it was built. Some buildings (earthquake-proof or hardened sites) will have a higher score than 10. Exposure to fire, explosives, storms, and the inexorable passage of time all tend to lower the Structural Stability of a building. When the Characters enter a building with a score of less than 10, they are in danger of encountering a Building Hazard.

In larger time scales than Detailed Action Time, each turn (of whatever length) spent moving in a building with a less-than-perfect Structural Stability requires a check for Hazards. Roll 1D10: if the die roll is greater than the Structural Stability of the building, a Hazard has been encountered.

This will expose the members of the party who fail to make a Search, Urban BCS roll, minus a penalty equal to 10 divided by the Structural Stability, nearest, to an "attack" by the Hazard. The BCS for the Hazard is equal to 18 minus the Structural Stability score. Characters can defend against this only with their CDA, reducing the BCS by that amount. If they make a Speed AST, they will double their CDA. A CST will triple it. A Critical Hit will avoid the Hazard's attack entirely.

If the Hazard hits a character, he is exposed to a damage potential in Crush type damage equal to the Effect Die roll for a Group determined by subtracting the Structural Stability from 10, multiplied by a random WDM equivalent. This is determined by rolling 1D6 and multiplying that score times .5. This attacks the victim's Average Armor Value.

A building with Structural Stability of 3 will have a Group of 7, for an Effect Die of 2D10 + 2, and rolling the D6, the Gamesmaster gets a 5, for a WDM of 2.5. This is the kind of damage potential that a Hazard in that building would levy against a character.

The damage potential of a given Hazard's attack on a character is also the percentage chance of "Hazard Special Effects," some quirk of the situation that may redound to his good or ill. After generating the damage potential, the Gamesmaster should roll this percentage before applying the damage to the character, as the Special Effects may alter the effects of the Hazard.

HAZARD SPECIAL EFFECTS (Roll 1D100)

01-10 Narrow escape! Take only 1 point of Subdual Damage

11-30 No special effects either way

31-50 Disabling Damage to random Location. Unable to use affected part of body until Health AST made (check every hour). Disable to Head or Torso means unconsciousness

51-70 Conked on the head! Out cold until Health AST made (check hourly)

71-85 Buried! Task Points equal to damage potential required to dig victim out. Strength AST needed to dig, with a Task Period of 1 Combat Turn. Victim may dig himself out, but uses Strength CST and is minus 1 effective Strength Group

86-90 Buried!! As above, but victim is subjected to Constriction attack by the debris each Combat Turn he is in there. Applied vs. Torso at a base value equal to Hazard's Group as Strength Group

91-95 Fall! Take a Fall result from an effective height equal to Hazard's Group in meters

96-00 As Fall, but effective height is equal to Hazard Group Effect Die roll

When applying this system in Strategic, Tactical, or the variable scale used for Foraging, roll 1D10 to determine the least-safe Structural Stability to be encountered in that turn, for purposes of calculating the Hazard. If you do not wish to make such events very common (a good idea in many campaigns—they're hazardous enough), use 2D10 to determine random Stability, thus eliminating frequent occurrences of unsafe structures.

In Detailed Action Time Scale (DAT), since the action is mapped out, and individual buildings are dealt with rather than whole blocks at a time, assign each building involved a Structural Stability. If structural Hazards are not in tune with the scenario being played, assume a value of 10. Then simply indicate dangerous locations (flights of stairs, fire escapes, rotted floor areas, crumbling walls or ceilings) on your map of the building.

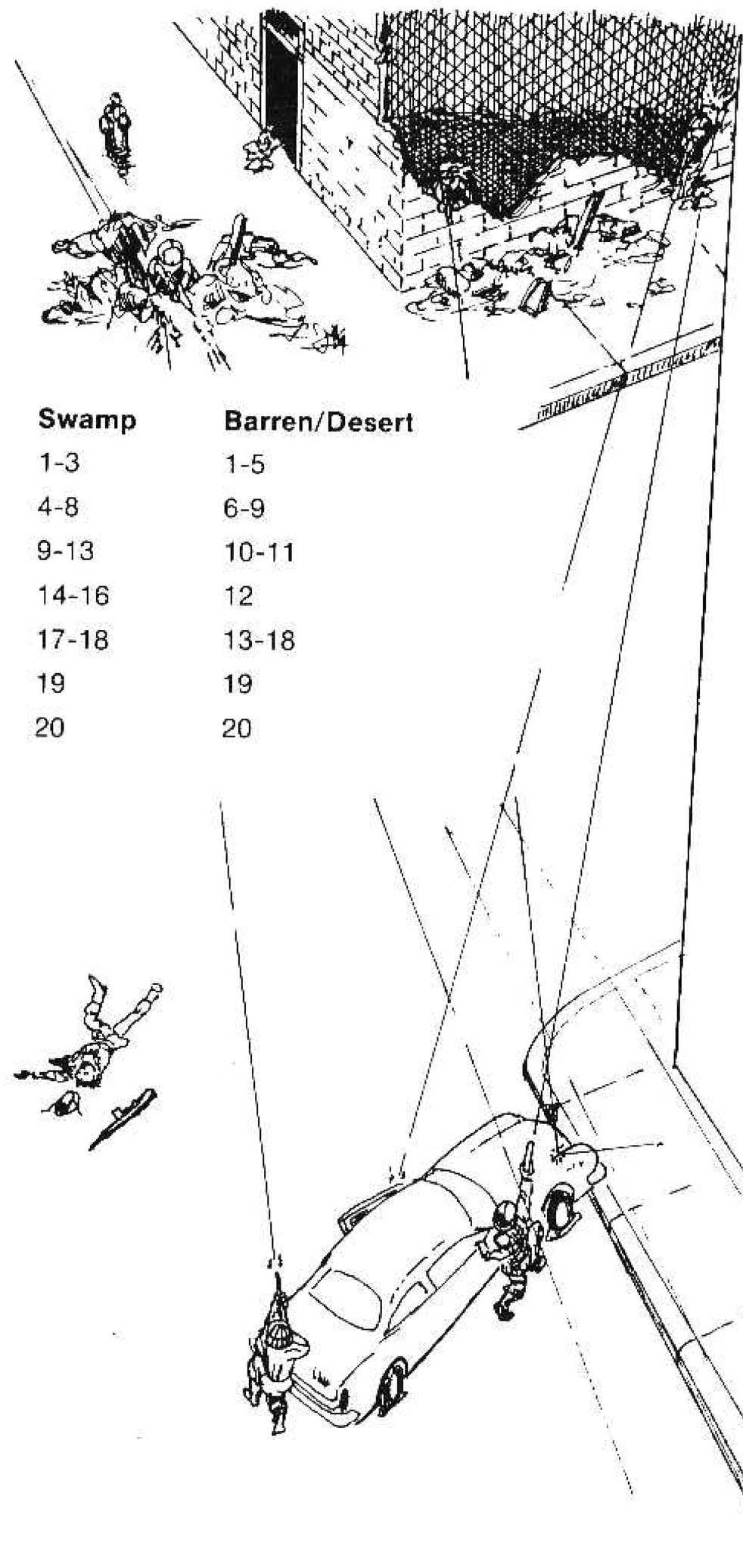
If you want some variety, you can vary the Structural Stability of the building. Say it has an overall score of 9, making long treks through it pretty safe. But the doorway (the locked one) has a Stability of 4, if it is forced open, while that landing has a score of 6, not to mention the hole in the wall over there, lurking with a score of 1, waiting for some idiot to try crawling through it. Hazard encounters in DAT are aimed only at the character(s) who trigger them, not the whole party, unless they are all in on the decisive action.

In calling Hazard situations in larger scales, it will add immeasurably to play if some plausible event is used to describe the misfortune, rather than a dry announcement that so-and-so has just taken so many points of damage. Creative Player reactions to such calls should be rewarded by better odds of escape. Dumb player response should probably be proportionately punished, but we leave this to the Gamesmaster's mercy (his *what??).*

RANDOM COVER

Another element of creating the environment that Player Characters may evince a keen interest in from time to time, is the availability of some form of cover from missile fire. As they wander a wilderness peopled by trigger-happy neighbors, the ability to get one's person out of harm's way in a hurry may be of critical importance.

The chances of locating cover in a given type of terrain are given on the table below. Simply roll 1D20, cross-reference the score rolled with the type of terrain in which the character finds himself, and the resulting cover situation is available within 2D3 meters of the character. If the roll indicates "No Cover," a Search BCS of the appropriate type may be rolled for. If it is made, then a second try for locating cover may be made. The cover, if any is found, will be 2D10 + 5 meters away. If "No Cover" is again the result, there is no chance of any more being found until the Character has moved at least 25 meters from his present position.



RANDOM COVER TABLE

	Rubble	City	Suburbs	Open	Forest	Swamp	Barren/Desert
No Cover	1-3	1	1-2	1-4	1-3	1-3	1-5
Visual Cover 1	4-5	2-3	3-5	5-8	4-7	4-8	6-9
Visual Cover 2	6-7	4-6	6-9	9-10	8-11	9-13	10-11
Prone Cover	8-12	7-8	10-13	11	12-15	14-16	12
1 m. Cover	13-15	9-12	14-16	12-17	16-17	17-18	13-18
Chest Cover	16-18	13-16	17-18	18-19	18-19	19	19
Full Cover	19-20	17-20	19-20	20	20	20	20

Visual Cover 1 and 2 are described under Target Cover in the Firearms Rules (Book 2, p. 34).

Prone Cover will afford cover to a prone character. He may fire over this as described in the Firearms Rules (Firing from Cover; (Book 2, p. 33).

1 m. Cover is some form of Cover extending about 1 meter high.

Chest Cover will cover a standing man from Location 6 down. He may fire over it from a standing position, crouch behind it to be completely covered, or kneel to fire around the corner of it.

Full Cover will cover a standing man completely. He may fire around the corner from behind it. It may be a wall or building, a thick tree, etc.

Unless the Gamesmaster decrees otherwise, solid cover is assumed to be some material not penetrable by bullets. He may choose to make it of some logical material based on terrain (stone, brick, construction plastics in urban areas; wood, stone, or old brick in more rural ones).

This rule is designed for use in Strategic or Tactical Scale situations where the Gamesmaster does not have a detailed map of the area. In Deatiled Action Scale, cover or its lack will be based on what the map shows.

BEASTS

The clash between man and beast is a classic situation of fantasy adventure. Many tales of Post-Ruin worlds postulate the release of animals in zoos and their subsequent re-adaptation to the wild and proliferation in the city owning the zoo. This allows a Gamesmaster to present the adventuring characters with encounters involving beasts not native to the country in which the campaign is set. Many Post-Ruin scenarios also posit the return of native animal species to former numbers and habitats.

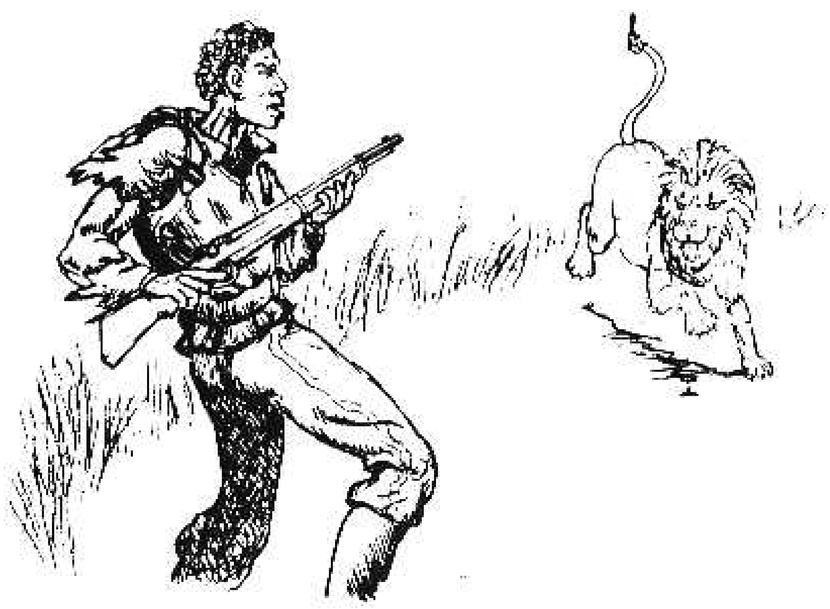
In a world of reduced resources, encountered animals may also prove to be a valuable food resource for characters short on rations. The preceding, of course, assumes that the animals do not first make the characters into rations to feed the wife and cubs.

Beasts are presented in two categories, the hostile (carnivores, omnivores, and scavengers which might attack a man as a food source) and the non-hostile (herbivores which would rather flee or hide than fight).

Most animals operate according to programmed response patterns. A deer, for example, will run when threatened unless it is cornered, or believes itself cornered. The Gamesmaster is provided with some guidelines for the responses of the animals detailed later in this section. Animals are, however, notorious for doing the unexpected. This should be kept in mind by the Gamesmaster to be used when Players let their characters get too confident.

Each detailed animal is presented with a set of statistics similar to those used for humans. These are a collection of abilities, characteristics, and "skills." In many cases, the derivation of an animal's Ability is not the same as for a human. If an animal is required to make a Saving Throw for some reason, the number to be used can be determined from the statistics given. If a Deftness or Speed Saving Throw is required use the beast's Base Action Phase times 2 as its Attribute for the Throw. Treat its Mass as its Strength for Saving Throws involving that Attribute or for determining an Effect Die, if a matching of Strengths is needed for any reason. For Health Saving Throws, Hostile animals will have a value of one-third their Mass. This is used for both Critical and Ability Saving Throws. Non-hostile animals have a percentage Saving Throw equal to their Shock Factor.

Most animals are not particularly intelligent, as we use the term, but are crafty and wary. Their keener senses prevent them, in many cases, from being fooled as easily as a man.



Due to the multitude of factors involved, no set pattern of Saving Throws involving Wit is given for animals. The Gamesmaster should evaluate his opinion of the animal's capabilities and the situation, and decide on a value for a Saving Throw. Such a value would be used in that situation only; remember that a given animal is rarely fooled in the same way twice.

Animals are capable of moving at a higher-than-normal speed, or "Run," in the same way as humans.

Unless specified otherwise, the resolution of Hit Location on an animal will be done using the quadruped table and body map. Similarly a beast will occupy two hexes on the DAT display in the manner of a horse.

The letter appearing after an animal's BCS is an evaluation of the "weapon length" for determining Zones of Influence and Effect Die modifications due to range.

HOSTILE ANIMALS

The kinds of hostile beasts are grouped according to the kind of animal (cat, dog, etc.). A general description is given of attack and response patterns. This is followed by a listing of specifics for some beasts in that grouping.

BEARS

Bears are omnivores and do not really hunt prey of a substantial size. They have been known to attack men when wounded, threatened, frightened, protecting young, or denied something they want, such as a picnic lunch. Bears are given two Base Movement Allowances, one for quadrupedal and one for bipedal stance. They will move about quadrupedally, but will tend to attack men in bipedal stance. Use the appropriate Hit Location Table.

Bears favor attacking with their paws. Such blows have incredible power behind them and a check for a Bash should be made when a Paw attack is successful. If the bear scores two successful Paw hits on the body of a character, there is a 50% chance that the attack will become a hug. Damage for only one of the paws is delivered to the character, but he will be held as if he had received a Pin from a character using Unarmed Combat Skill. The character need not be prone to receive this result. Once the bear has a character in a hug, it will attempt to bite him on each Action. It will also do constriction attacks on each Action. The Mass of the bear is used to determine the Effect Die to generate the constriction results.

Black Bear

BAP: 10	Bite BCS: 6(S)	WDM: 1,L
MNA: 2	Paw BCS: 12(A)	WDM: 1.5,B
PCA: 5	Damage Die: 1D10	
BMA/quad.: 1 1/4 bi.: 1	Mass: 20	
AV: 5		
WDA: 2		
CDA: 2		
DRT: (3D6 + 15) x 2		
SF: 20		

Grizzly Bear

BAP: 8
MNA: 1
PCA: 8
BMA/quad.: 1 1/2
bi.: 1
AV: 5
WDA: 2
CDA: 1
DRT: (4D6 + 15) x 2.5
SF: 25

Bite BCS: 6(S) WDM: 1,L
Paw BCS: 14(A) WDM: 2.5,B
Damage Die: 2D6
Mass: 40

Polar or Kodiak Bear

BAP: 8
MNA: 2
PCA: 4
BMA/quad.: 1 1/2
bi.: 1
AV: 5
WDA: 2
CDA: 1
DRT: (4D10 + 15) x 2.5
SF: 35

Bite BCS: 6(S) WDM: 1.2,L
Paw BCS: 14(A) WDM: 3.5,B
Damage Die: 2D6
Mass: 55

CATS

Cats are hunters capable of silently stalking their prey. The usual tactic is to approach quietly, if possible, then to leap upon it to drag it down and kill it. Most cats are solitary hunters though some will hunt in pairs.

A cat may "pounce." This involves making a Jump Action at the end of which an attack is resolved. The animal can cover a maximum distance equal to its PCA times its BMA in the leap, if moving, and half that from a standing start. The attack at the end of the leap will consist of a Bash and two Claw attacks. These claw attacks do half the normal damage but serve to let the cat grip its victim. Once gripped, the victim will be encumbered by the cat's Mass. The cat will then either bite (60% chance) or claw with the hind feet in an attempt to disembowel the prey. The claw attacks receive a -10 to the Hit Location roll. A bite attack has a Hit Location die roll modifier of +10. If a bite is successful on Locations 1 or 2, the cat and the victim will match Strength Effect Die rolls. If the cat's is higher, the victim must make a Health Saving Throw as if he had fallen. A die roll of 20 will require a save as if the character had received a Trauma Critical Effect at that Location. A successful hit by the cat on Location 3 will allow it to attack as if it were a character achieving a Choke with Unarmed Combat Skill.

Cats killing for food will make a single kill. Some will then remove the victim from the site preparatory to eating. Like most animals, cats will fight to the death in defense of young. Unlike many animals, some cats will hunt even when a food supply is available.

Cheetah

The cheetah's attack methods follow those of dogs more than those of cats. For one Combat Turn while at a Run, a cheetah may increase his BMA to 8. After this Combat Turn, the cheetah must decelerate to a stop. It may not use this burst of speed again for one-half hour. This burst will "damage" the animal by 1 point of subdual damage for each Action Phase on which it was moving at the special BMA. If the cheetah achieves a successful bite attack while pursuing (it may make this attack while moving), Strength Effect Die rolls are compared. If the cat's is higher, the victim will fall and is treated as if he had fallen from a height equal to twice the CDA multiplier gained by the speed at which he was traveling. That is, a character Running (CDA modifier is 3) will be treated as falling 2 x 3 or 6 meters.

BAP: 16
MNA: 3
PCA: 5
BMA: 2
AV: 3
WDA: 2
CDA: 4
DRT: (1D6 + 10) x 2
SF: 10

Bite BCS: 15(S) WDM: 1.5,L
Damage Die: 1D6
Mass: 4

Feral Cat

BAP: 15
MNA: 3
PCA: 5
BMA: 1
AV: 2
WDA: 1
CDA: 4
DRT: 2D10 + 3
SF: 5

Bite BCS: 12(S) WDM: 1.3,L
Claw BCS: 12(S) WDM: 1.5,L
Damage Die: 1D2
Mass: 1

Puma or Leopard

BAP: 14
MNA: 2
PCA: 7
BMA: 2
AV: 3
WDA: 2
CDA: 3
DRT: (1D6+10)x2.5
SF: 15

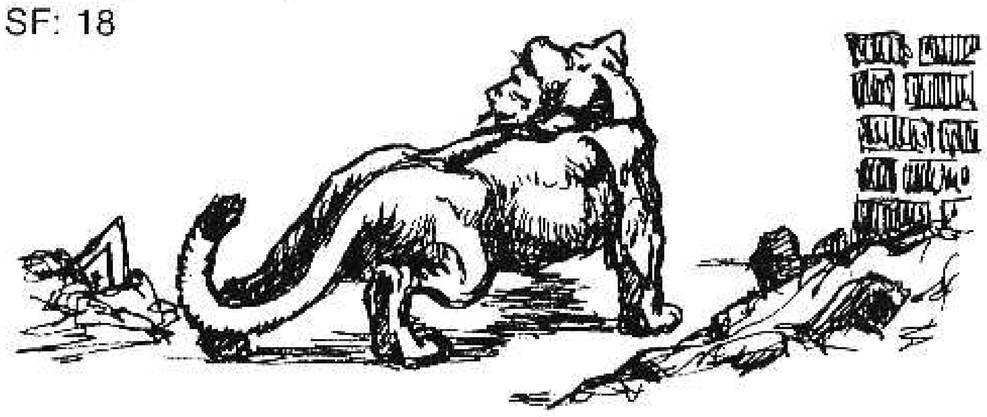
Bite BCS: 16(S) WDM: 1.5,L
Claw BCS: 14(A) WDM: 1.7,L
Damage Die: 1D6
Mass: 10

Lion

Lions operate in prides of 2D3 which cooperate in hunting.

BAP: 12
MNA: 2
PCA: 6
BMA: 1 1/2
AV: 3 except for males: Locations 3-7 have AV 4
WDA: 2
CDA: 3
DRT: (2D6 + 15) x 2.5
SF: 18

Bite BCS: 17(S) WDM: 1.5,L
Claw BCS: 15(A) WDM: 1.8,L
Damage Die: 1D6+2
Mass: 18



Tigers

BAP: 11
MNA: 2
PCA: 5
BMA: 1 1/2
AV: 3
WDA: 2
CDA: 3
DRT: (4D5 + 10) x 2.5
SF: 20

Bite BCS: 18(S) WDM: 1.5,L
Claw BCS: 16(A) WDM: 2,L
Damage Die: 1D10 + 1
Mass: 18

DOGS

Dogs are primarily chasers. They tend to hunt in cooperative packs. The most powerful dog is usually the leader of the pack.

Some members of a pack will attack the victim in an attempt to get a grip. If the bite BCS die roll is under 50% of the score needed for a hit (12 needed and 6 or less rolled), the dog will have gotten a grip and his Mass will encumber the victim. Other members of the pack will attempt to kill the encumbered victim. Once a dog has a grip on a victim, it does not need to roll for an attack. It will do its damage to a victim in each Action. Armor will make all damage received up to its Armor Value act as subdual damage. All damage beyond that is lethal.

If the victim is standing or moving, the dogs will attempt to bring him down. This is checked for on the bookkeeping Phase. This is accomplished by matching the Effect Die rolls for the combined Strengths of all the dogs which have a grip and for the victim's Strength. If the dogs' is higher, the victim will be brought down. The victim will be treated as if he had fallen from a height equal to the CDA multiplier gained for the speed at which he was moving.

Dogs achieving Hit Locations of 1-3 are treated as cats who achieve the same Locations when they make a successful bite.

Feral Dogs

Statistics will vary by the size of the dog. A pack may easily be composed of dogs of various sizes. The smaller dogs are often the ones "assigned" the task of encumbering the victim. Dog sizes are given a classification (I, II, III, etc.) to identify the size grouping. Dogs only occupy 1 hex on the DAT display. Dogs I and II may have as many as 3 in one hex without restriction and Dogs III may have 2 in one space without restriction.

Attack-trained dogs have their BCS increased by 2 and their Damage Die increased by one step. The step after 1D6 is 1D10.

Wolf

Bap: 15
MNA: 2
PCA: 7
BMA: 2 1/2
AV: 3
WDA: 2
CDA: 3
DRT: 4D10 + 20
SF: 15

Bite BCS: 15(S) WDM: 1.7
Damage Die: 2D3
Mass: 4

Dog	I (5 kg)	II (10 kg)	III (15 kg)	IV (20 kg)	V (30 kg)	VI (40 kg)	VII (over 40 kg)
BAP	16	14	12	12	10	12	12
MNA	2	2	2	2	2	2	2
PCA	8	7	6	6	5	6	6
BMA	1/2	1	1 1/2	2	2	2	2
AV	0	1	2	2	3	3	3
WDA	1	1	1	1	1	1	1
CDA	5	4	4	4	3	3	3
DRT	1D6	2D10 + 3	4D6 + 3	3D6 + 8	2D10 + 10	3D10 + 15	3D10 + 20
SF	2	4	6	8	12	12	15
Bite BCS (S)	8	9	10	11	12	13	14
WDM: L	1.5	1.5	1.5	1.5	1.6	1.6	1.7
Damage Die	1 point	1 point	1D2	1D3	1D3	1D6	1D6
Mass	.5	1	1.5	2	2.5	3	4

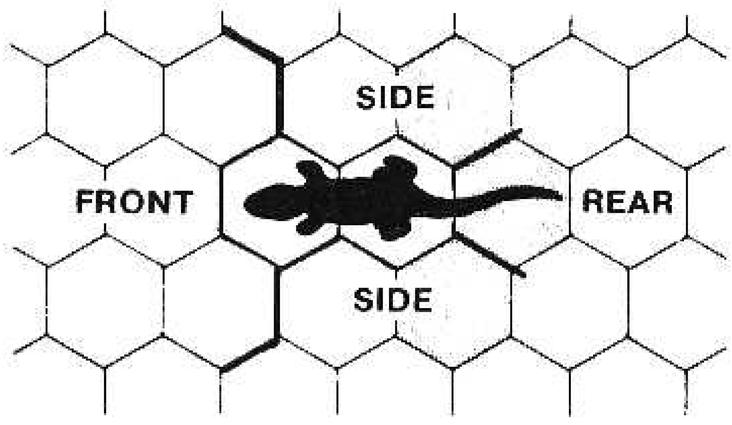
REPTILES

Reptiles are for the most part non-aggressive toward man but are included here for their dangerous potential and popular appearances in fiction.

Alligator

The alligator is generally inoffensive to something the size of a full-grown human, although its relative the crocodile will attack a man. Alligators will defend their nests and attack threats if they cannot escape from them.

An alligator will occupy 3 hexes on the DAT display. A character entering the Tail Zone of the alligator (see illustration) is subject to a free attack from the tail. An alligator may attack targets in his Tail Zone as well as regular targets in one Attack Action without negative modifiers for the two attacks.



Alligator on land

BAP: 8

MNA: 2

PCA: 4

BMA: 1/2

Bite BCS: 12(S) WDM: 2,L
Damage Die: 1D10

Tail BCS: 10(A) WDM: 1.8,C
Damage Die: 1D6 plus Bash attack

Mass: 13

AV on Locations 17 to 28: 4
7, 10, 13, 16, 29, 30: 5
4: 3
other Locations: 6

WDA: 1

CDA: 1

DRT: (3D6 + 10) x 2.5

SF: 20

Alligator in water has the following changes

BAP: 10 PCA: 5 CDA: 2

Larger alligators are possible. They would do more damage and have a greater Mass but would not necessarily be slower.

Constrictor

Although they do not really attack prey as large as men, giant constrictors have always been held to do so in adventure fiction. Thus they are included here.

Constrictors often wait above their prey in order to drop down upon it. The snake will first attempt to strike the victim and get a grip on him with its mouth. This works as for dogs except that once the grip is gained no more damage is done. Once a grip is gotten, the snake will loop 1D3 coils around its victim. These coils will do constriction damage at 1D6 per coil per Action. Coils are thrown at the start of a snake's Action once the serpent has a grip.

A character may make a Strength AST to attempt to throw off a coil. This allows him to compare Strength Effect Die rolls with the serpent. If the character's roll is higher, the coil is thrown off. One coil may be thrown off per Action.

The snake may attempt to throw additional coils on a victim to the maximum of three. Throwing additional coils does not interfere with its constriction attack of coils that are already lapping the victim.

Any attempts to attack a constrictor which is coiled on a character will require the attacker to make a Deftness CST or the attack will be made against the character in the snake's coils. Characters attempting to help who have both hands free need not make the Strength AST in order to match Effect Die rolls with the snake for removing coils. The Effect Die rolls are matched if the helping character simply declares that he is spending the Action attempting to remove a coil.

A character in a snake's coils will be encumbered by 1/3 of the serpent's Mass for each coil which it has on the victim.

Constrictors, as well as other snakes, are given two BAP numbers. The first is the one used by the snake if it is moving. The second is used when the snake is initiating a striking Attack Action. In the case of a constrictor, it would attempt to bite a victim on Action Phase 16 (resolving on Action Phase 8) and could attempt to throw coils, if the bite was successful, on Action Phase 7 (resolving constriction on Phase 0). Once securely anchored on a victim, the serpent can attempt to coil on each Action, and it will use the BAP for moving to control its actions.

For purposes of Hit Location, only a roll of 01 to 05 will hit the head. All other attacks strike the body. Constrictors are 4 + 2D3 meters long, but only occupy 1 hex when coiled.

BAP: 6 (16)

MNA: 1 (2)

PCA: 6(8)

BMA: 1/2

AV: 3

WDA: 2

CDA: 2

DRT: 4D6 + 25

SF: 25

Bite BCS: 14(A) WDM: 1.3,L
Damage Die: 2D3

Coil BCS: 18(S) WDM: 1.5, constriction
Damage Die: 1D6

Mass: 15

Rattlesnake

The rattler is the most common poisonous snake found in North America. It normally attacks only when disturbed.

It follows the strike/movement pattern presented with constrictors, except that it does not coil around a victim. It has the same Hit Location pattern as constrictors, with a 1- to 2-meter length.

A rattlesnake will have 3D3 units of its poison when encountered. Each unit is an equivalent of a Strength Rating of 1 for the poison. Additional doses *are* cumulative. The snake will inject 1D2 units per successful bite.

BAP: 6 (18)

MNA: 2

PCA: 3 (9)

BMA: 1/2

AV: 2

WDA: 2

CDA: 2

DRT: 2D6

SF: 10

Bite BCS: 10(S)* WDM: 1.5,L
Damage Die: 1D6 plus poison

Mass: .5

* A character's WDA is not applicable against this attack. Damage Done is only calculated for purposes of determining

whether the armor is penetrated for the poison to be injected. If it is, the character will take 1 point of lethal damage.

Rattlesnake poison: S—L—DFT,SPD—2D3 hours—per unit injected—1 hr.—Nausea

RODENTS

Rodents, although small, are dangerous in large numbers. They may also carry disease and therefore pose a serious hazard.

More than one rodent may occupy a DAT display hex without Restricting the other rodents in the hex. The exact number is specified in the rodent description. Rodents are not affected by most kinds of Treacherous Ground.

Rodents are capable of mass attacks. This form of attack is called Mobbing. The number of rodents required to initiate a Mob attack will vary according to the type of rodent. A Mob has a BCS of 20. Each rodent in the Mob that is killed will reduce that BCS by the BCS/Rodent factor. The full Overall Defense Ability may be applied against a Mob attack. The damage inflicted by a Mob attack will be applied to the lowest AV the character has.

A Mob must be in the same hex as the victim in order to attack. If the victim moves, the Mob will stay with him. Mobs can be restored to full strength by the arrival of more of that type of rodent.

An attack made against a Mob by the Mobbed character is subject to a number of non-ignorable Distractions equal to one-half the number of surviving rodents, rounded up. A successful attack will apply the damage done to all the rodents in the mob to a maximum of the character's MNA. Thus, a character successfully attacking a Mob of rodents with 2 points of DRT each and doing 7 points of damage would slay three of the vermin if his MNA was 3, but only two if his MNA was 2. If the rodents had 8 points each, he would not even have slain the first one.

With regard to Overall Defense Ability, a Mob has the Defense Ability of a single rodent of that type.

A character attempting to help a Mobbed character faces the same problems in attacking as when attempting to aid a character in the coils of a constrictor. Individual rodents may be pulled off with a Deftness CST and thrown away. A strength AST will stun the vermin thrown and a CST will kill it. One attempt may be made per Action although if both hands are free, the helping character may grasp for two rodents with the number required for each grasp reduced by 1.

Rats

BAP: 15
MNA: 2
PCA: 7
BMA: 1/4
AV: 1
WDA: 0
CDA: 6
DRT: 1
SF: —

Bite BCS: 10(VS) WDM: 1.5,L
Damage Die: 1D2
Rats per Mob: 10 BCS/Rat: 2
WDM: .2/Rat Damage Die: 1D3+1
Mass: .25

Super-Rat

BAP: 17
MNA: 2
PCA: 8
BMA: 1/4
AV: 1
WDA: 1
CDA: 6
DRT: 2
SF: —

Bite BCS: 12(VS) WDM: 1.5,L
Damage Die: 1D3
Rats per Mob: 6 BCS/Rat: 3
WDM: .3/Rat Damage Die: 1D3+2
Mass: .3

SHARKS

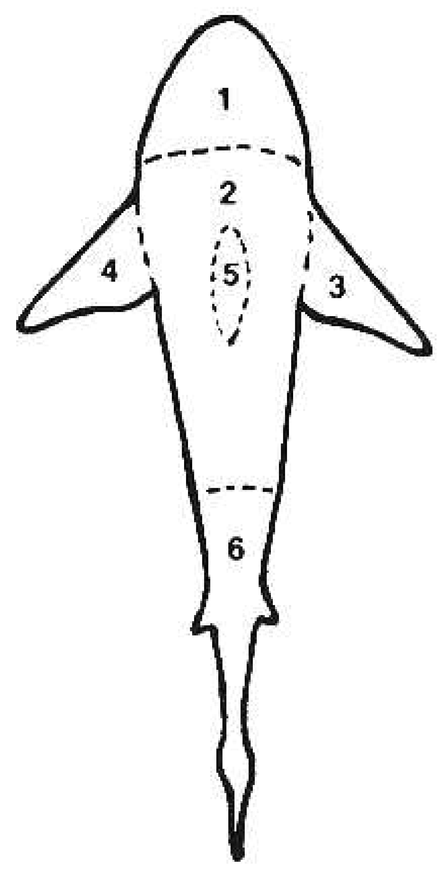
Sharks are killing machines of an unpredictable nature.

A shark may make one attack per Action but it may make it at any point in the Action. Sharks are always moving and the minimum move per Action Phase is the BMA. Sharks usually move a high speed during an attack run, but at low speed at all other times.

Hit Location on a shark uses a special table:

HIT LOCATION TABLE FOR SHARKS

Die Roll	Location
01-30	Head (1)
31-65	Body (2)
66-70	Right Fin (3)
71-74	Left Fin (4)
75-78	Dorsal Fin (5)
79-00	Tail (6)



A character may await a shark's attack in order to strike it in an attempt to abort the attack. A Strength AST allows a percentage chance of aborting the shark's attack which is dependent on the shark's size. A Strength CST doubles this chance.

A specially-designed anti-shark weapon known as a "bang stick" has a chance of killing a shark almost instantly. The weapon is a pole which has a 00 shotgun shell at the end. When struck on the shark at Location 2 it will explode. The BDG is the percent chance that the shark will be killed. This is reduced by the shark's size classification. A Deftness CST is required to land the attack successfully. If the die roll was in the character's Ability Saving Throw range, the charge will go off but it will do only the normal damage to the shark.

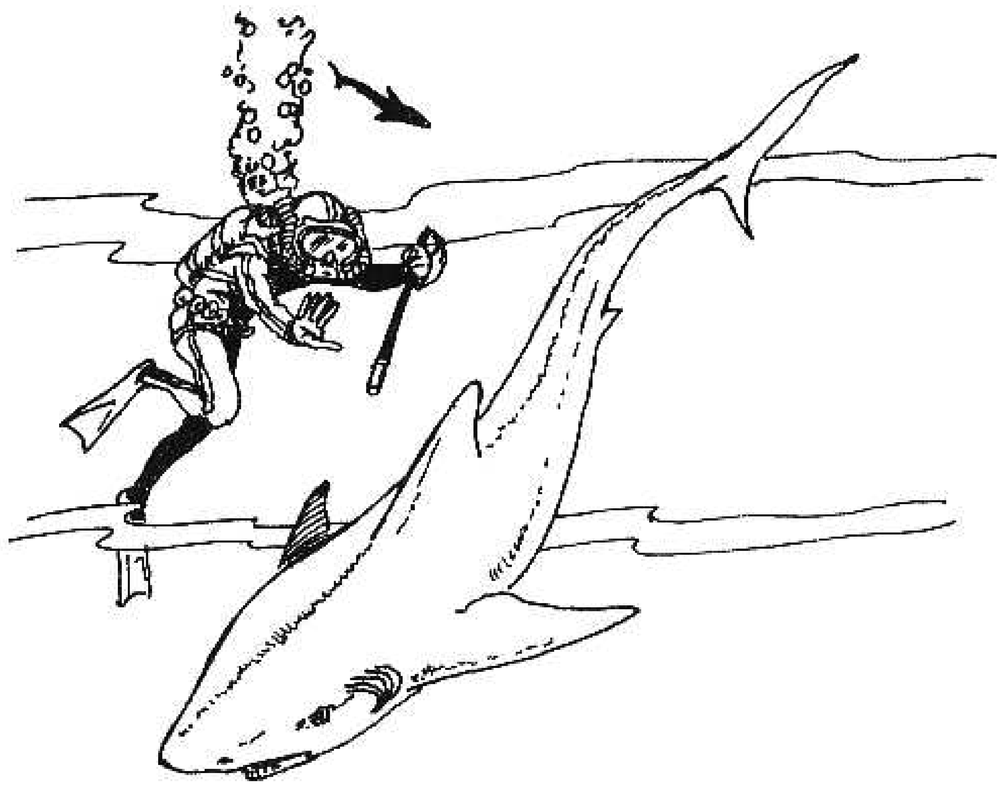
Sharks are notoriously hard to kill. A shark will continue to operate for 2D6 Actions after its DRT has been exceeded by damage done.

The shark's size classification is its chance in 20 of a Critical Hit. This is rolled for separately on each successful hit. A die roll of 1 on the attack roll indicates a Critical Hit as usual and this roll need not be made.

The shark's size classification is also the chance in twenty that it will "shake" its victim, doing an additional 1D3 of lethal damage per size classification.

Sharks are capable of going into "frenzy." When circumstances apply, a die roll greater than the shark's size classification on 1D10 will cause a shark to go into "frenzy." Circumstances that may trigger "frenzy" are excessive amounts of blood in the water or large numbers of feeding sharks in the area. Once a shark is in "frenzy," its BAP has 2D3 added to it, its MNA is doubled, its CDA is halved, and it is allowed to make a second attack if the first misses. This second attack has one-half the BCS of the first attack.

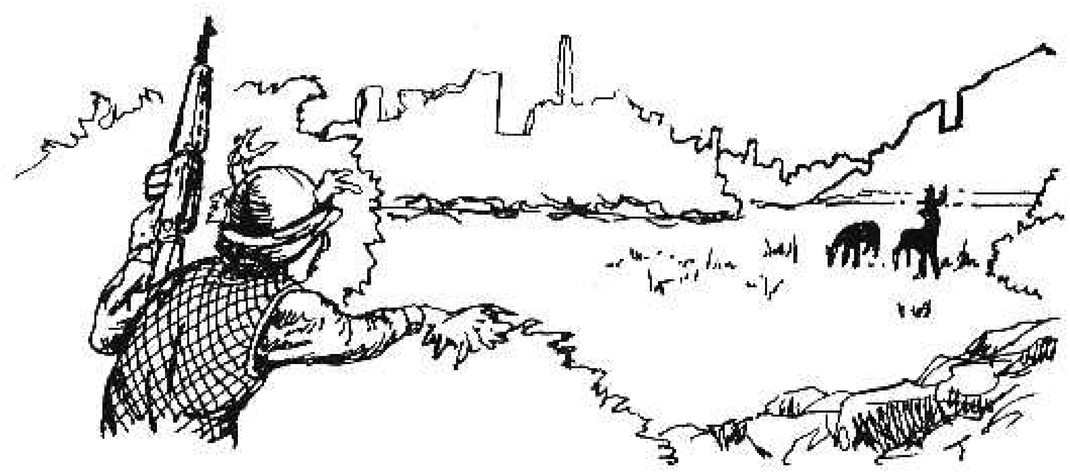
Sharks tend to fixate on a victim. They will often push past obstructions and people in their way in order to strike again at a victim that they have already attacked.



Shark	I (1 m)	II (2 m)	III (4 m)	IV (6 m)	V (8 m)	VI (over 8 m)
BAP	14	13	12	11	10	10
MNA	3	2	2	1	1	1
PCA	4	6	6	11	10	10
BMA	4	3	3	4	4	4
AV	4	4	5	5	6	6
WDA: none						
CDA	9	7	5	3	2	2
DRT	2D5 x 2	(2D5+5)x2	(2D10+5)x2	(2D10+10)x2.5	(3D10+10)x2.5	(4D10+15)x3
SF	10	20	30	40	40	50
Bite BCS	12	12	16	16	18	18
WDM 2,L						
Damage Die	1D3+3	1D6+1	1D10+1	2D6	2D10	3D10
Mass	1	2	8	24	72	72 +
Attack abandonment percentage	70%	60%	50%	35%	20%	10%

NON-HOSTILE ANIMALS

For the most part, non-hostile animals will appear in the course of play simply as Game, a food source. To this end, whenever the characters encounter Game, the Gamesmaster should consult the table below. It will require the expenditure of a round of ammunition and a successful BCS roll to acquire each animal. Reusable ammunition, such as arrows, may be recovered if the BCS roll is successful. The BCS will receive a negative modifier of 2D6 for the first shot and an additional -2 for each shot thereafter until all the game has been shot or missed. Only one attempt is allowed per animal.



GAME TABLE

Die roll	Classification	Mass	Hide Available In Locations (Armor Material)
01-15	Small Game	1D3x.5	1D3 (LH)
16-55	2D6 Small Game		
56-69	Medium Game	1D3x1.5	2D3 (LH)
70-79	2D3 Medium Game		
80-93	Large Game	2D6x2.5	1D3 (LH); 2D6 (HH)
94-95	1D3 Large Game		
96-99	Very Large Game	2D6x5	1D6 (LH); 2D10 (HH)
00	1D3 Very Large Game		

Some specifics are given for some interesting but normally non-hostile animals.

Razorback

This is a pig which has reverted back toward the wild boar of its ancestry. Such animals are well-known for the tendency to hunt a hunter who has wounded them. When engaged in such activity, they show considerable cunning. These can be very dangerous game.

BAP: 12
MNA: 3
PCA: 4
BMA: 1
AV: 3
WDA: 3
CDA: 3
DRT: (2D10+10)x1.5
SF: 15

Tusk BCS: 14(S) WDM: 2,L plus Bash
Damage Die: 1D10
Mass: 15

Rhinoceros

A large brute which will charge anything it thinks is worth charging; that is to say, anything. Poor eyesight is part of the reason behind this behavior. The rhino's hearing and sense of smell are reasonably good, as is its ability to detect motion. A rhinoceros will move through a character's hex and subject him to trampling possibilities as a horse does but the damage done will be different. This will occur if the strike with the horn does not succeed. If the horn strike succeeds, a character will be thrown 2D3 meters from the rhino. He will, of course, be subject to falling results as if he had fallen the distance he was thrown. A thrown character will not be trampled at that point although the animal may return to trample him.

BAP: 8
MNA: 1
PCA: 8
BMA: 2
AV: 5
WDA: 0
CDA: 2
DRT: (1D20 + 40) x 3
SF: 35

Horn BCS: 12(A) WDM: 1.5,L (thrust)
Damage Die: 2D6
Trampling damage: 3D10,B if trampled
Mass: 100

Elephant

An elephant's principal form of attack will be either by trampling a character or by grabbing him with the trunk and flinging him through the air. Flung characters will travel 2D6 meters.

Elephants occupy several hexes on the DAT display as shown in the illustration.

BAP: 10
MNA: 1
PCA: 10
BMA: 1
AV: 4
WDA: 1
CDA: 1
DRT: (2D10 + 60) x 2.5
SF: 40

Trunk BCS: 12 WDM: none
Trample damage: 4D10,B
Mass: 200

MUTANT ANIMALS

The mutagen-rich world of ***Aftermath!*** will undoubtedly produce changes in the fauna of earth. Most mutations will be harmful but some will be beneficial and some of these will become established in the gene pools of species. Such processes are lengthy in terms of generations.

New species arising from mutations due to the Ruin will first be seen in animals with a short generation period. The effects of such mutations can be widely varied. A Gamesmaster who wishes to include mutant animals in his campaign should design a mutation that suits him. He should keep in mind that fantastic powers will not appear overnight. Such things take time to prove their worth and increase their strength.

Some examples of possible paths of mutation are provided in this section. The Gamesmaster should guide himself with realistic parameters, but should also not allow himself to be trapped by them if he feels that an improbable mutation will make the game more exciting.

Rodents

Rodents are notorious for their short generation periods. Suggested here are some variations on rats which could plague the survivors of a Ruin.

Giant Rats

These monsters resemble regular rats in most particulars, although they are very large. They occupy a single hex on the DAT display. Weighing in at about 10 kilograms, they are the size of a small dog.

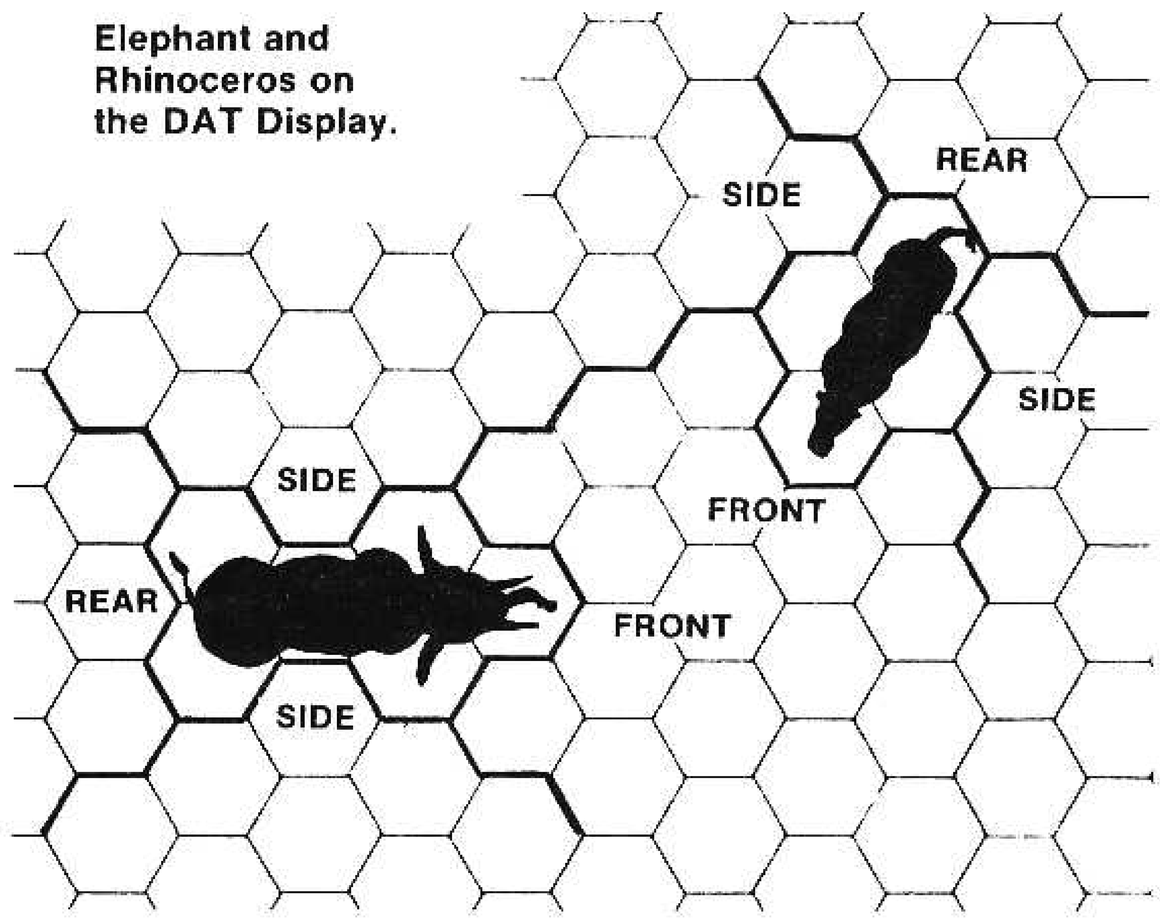
Super Giant Rats are further along in the evolutionary process and are even larger. They mass about 20 kilograms. They do not use Mob attacks.

Giant Rat

BAP: 12
MNA: 2
PCA: 6
BMA: .33
AV: 2
WDA: 1
CDA: 5
DRT: 2D3x2
SF: 5

Bite BCS: 14(VS) WDM: 1.5,L
Damage Die: 2D3 + 1
Rats per Mob: 3 BCS/Rat: 6
WDM/Rat: .6 Damage Die: 2D3
Mass: 1

Elephant and Rhinoceros on the DAT Display.



Super Giant Rats

BAP: 8
MNA: 1
PCA: 8
BMA: 1
AV: 2
WDA: 2
CDA: 4
DRT: (2D6 + 5) x 2
SF: 12

Bite Bcs: 13(S) WDM: 1.6,L
Damage Die: 2D3 + 2
Mass: 2

Ruin Rats

These monstrosities followed a different path from the giant rats. They are beginning to develop intelligence. Their manipulative abilities are still poor, although they can use simple tools. In times of stress, they tend to revert to animal instincts and lose the benefits of their semi-intelligent status.

Ruin Rat

BAP: 12
MNA: 2
PCA: 6
BMA: .33
AV: 2
WDA: 3
CDA: 4
DRT: (1D3 + 5) x 1.5
SF: 5

Bite BCS: 12(VS) WDM: 1.5,L
Damage Die: 1D3 + 1
Hand-use BCS: 9 WDM: variable
Damage Die: 1D5
Mass: 2

Master Rats

These take the Ruin Rats a step further. Though incapable of human speech, they are of near-human intelligence. They have difficulty dealing with non-concrete ideas and concepts, but can easily use man's devices. Their forepaws are developed to such a degree that they can even use handguns, although their body structure does not allow them to use long guns.

Master Rats can move bipedally, though they will drop to all fours for rapid travel.

It is possible to allow Master Rats the capability of commanding lesser forms of rats. This makes them formidable opponents, even if they never personally enter the fray.

Master Rats would present a danger to the supremacy of man in a depopulated world, for their breeding time is shorter than man's though considerably increased over that of normal rats. Fortunately for man, at this stage they do not cooperate with each other except in the mated pair, as they seem to be extremely territorial.

BAP: 10
MNA: 2
PCA: 5
BMA/quad.: 1
bi.: .5
WDA: varies by Skill
CDA: 4
DRT: (1D6 + 10) x 1.5
SF: 10

Bite BCS: 9(VS) WDM: 1.5,L
Damage Die: 1D3 + 1
Skill Use: variable, almost any physical Skill
Strength Damage Die: 1D6
Mass: 3

AV: 2, some have been known to use scraps of armor which adds to their natural AV.

INSECTS

Various insects will undoubtedly be changed by the Ruin. Only one is given attention here, the redoubtable cockroach.

Giant Cockroaches

These noxious insects are basically scavengers. They cause little damage to an active character but an unconscious character is in serious danger.

Five of these monsters can cover 1 Location on a character. If the character is unresisting, those five will cause him 1 point of lethal damage per Combat Turn regardless of armor. If the character is in completely environmentally-sealed armor, they will begin to chew through the gaskets at the joints at the rate of 1 point of AV per hour. These vermin only attack in Mobs of five.

BAP: 20
MNA: 5
PCA: 4
BMA: .5
AV: 0
WDA: none
CDA: 6
DRT: *
SF: —

Bite BCS: 10(VS) WDM: 1,L
Damage Die: 1D3/Mob of 5
Mass: .1

* A character making a successful attack against these may eliminate 1 Location worth for each point of MNA he has. Brawling Combat, Unarmed Combat Skills are appropriate, as is a Deftness Ability Saving Throw. The character may use whichever will give him the best chance.

APES

A successful series of tales deals with a Post-Holocaust world in which much of what remains is held by apes which have reached human levels of intelligence. If a Gamesmaster wishes to set his campaign in such a world, we provide the following guidelines.

A campaign set in such a world could deal with any one of a number of periods, which will involve humans in various stages of evolutionary or devolutionary progress. An advanced-period campaign will have bands of wild humans who are at best semi-intelligent and who have lost the power of coherent speech, as well as small groups of mutated humans hiding in the ruins of devastated cities. Such mutants are heavily into the path of psychic mutation and almost all have severe cosmetic disorders.

The apes, of course, vary by type. Three species have developed: Gorillas, Chimpanzees, and Orang-utans. Each has his area of expertise and special characteristics. All have learned to walk exclusively in a bipedal fashion. All wear clothes and armor.

Apes standardly consider humans as simply animals.

The Gorillas

The Gorillas are the warriors of the new order. They provide the generals and the soldiers for the ape armies. They are incapable of dealing with the arts and sciences, and thus tend to resent such things and those who practice them. They hate men and will hunt them for sport. The Gorillas represent about 40% of the ape population.

The Chimpanzees

The Chimpanzees are the scientists and artisans of the new order. They are pacifists and prefer to let others decide their own courses, rather than forcing one upon them. Chimps consider the martial Gorillas uncouth and obnoxious but, following their general philosophy, rarely bring this hostility into the open. The Chimps often use humans as laboratory animals, since the latter are so close to the structure of the higher species of apes. The Chimpanzees comprise about 40% of the ape population.

Chimpanzees will always have a Hindrance when studying Combat Skills are receive only one-half the initial score value.

The Orang-utans

The Orang-utans are the politicians and leaders of the apes. They are notoriously conservative and are fully capable of warping the truth to their own ends. They tend toward a scientific bent and, though few are warriors themselves, they often have a good command of strategic concepts. The ruling council is usually comprised of Orangs and its authority, through smaller specific councils, extends throughout ape society.

Orang-utans have a Hindrance and reduction regarding Combat Skills as do Chimpanzees.

Ape Society

In general, the apes tend to be "back-to-nature" types who have little to do with the mechanical devices of man's world. The Gorillas, however, gladly use weapons, including firearms. Some manufacturing capability exists, but mostly the apes rely on found and maintained tools of man.

Humans are used as pets, slaves, and houseservants. It is considered in very poor taste to dress a human.

As mentioned before, a council rules although all are theoretically allowed to speak before it. The greatest law of the apes is "ape shall not kill ape." This does not, of course, apply to the naked ape, man.

Most details of the society are, and rightly so, left to the gamesmaster. Even the details given in sourceworks will vary, as they are set in different "historical" periods.

Characters in a World of Apes

Characters for this type of Post-Holocaust world will receive initial values in Attributes and Talents. Talents are still subject to the psychological profile results. If an Attribute has an initial value less than 1 it must be raised to 1 before the start of play.

Characters would start at Age Group 1. Apes and Wild Humans would not be "Changed" but all city men would. Wild Humans are poor for Player Characters due to their limitations, but are included to give the Gamesmaster an idea of their statistics.

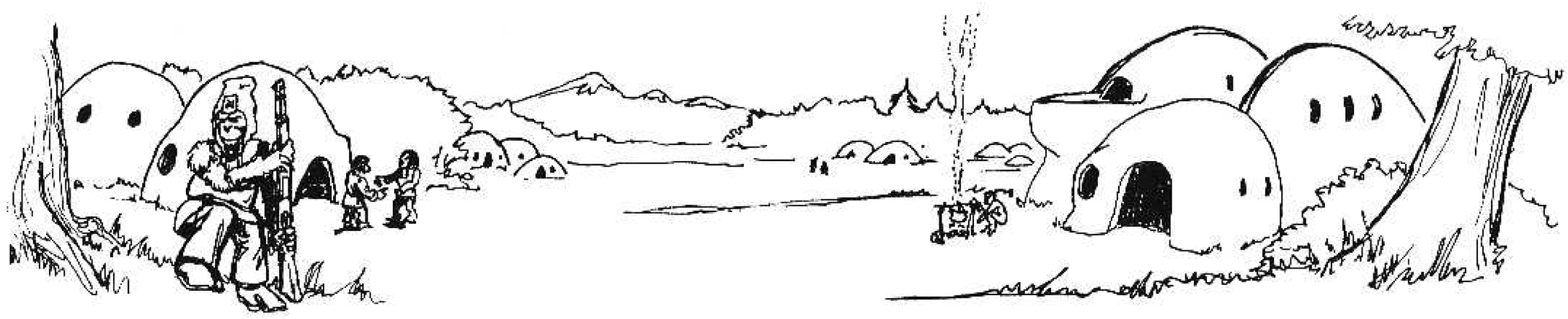
Attribute Modification Chart

Initial values are given. The number in parentheses is the maximum value for the Attribute if that has been changed from 40.

	Wit	Will	Strength	Deftness	Speed	Health
Gorillas	-5(30)	-5	+8(50)	—(30)	—(30)	—(50)
Chimpanzees	+3	—	—	+2	-1	+1(45)
Orang-utans	+5	+2	+2	—5(30)	-5(25)	+1(45)
Wild Humans	-5(10)	-5(10)	—(30)	—(30)	—	+2
City Men	+5	+5	-5(30)	—	—	-5(30)

Talent Modification Chart

	Charismatic	Combative	Communicative	Esthetic	Mechanical	Natural	Scientific
Gorillas	-3	+4	+0	-2	-2	+0	-2
Chimpanzees	+0	-2	+0	+3	+4	+0	+3
Orang-utans	+0	-4	+0	+3	+3	+0	+4
Wild Humans	-2	-2	-10	-2	-1	+10	-5
City Men	+0	-3	+5	+2	+1	-5	+5



USEFULNESS OF ANIMALS

Beasts will have uses to a man in the Aftermath. The Flesh is food, and the hide may be turned into clothing or armor. Each kind of animal, and in some cases a specific animal, is rated for the amount of edible mass in the body, the chance of contamination, the food value of the edible mass, and the amount and kind of hide available from the carcass. These values are found on the chart below.

ANIMAL	EFFECTIVE % OF BODY MASS EDIBLE	FOOD VALUE IN MAN-DAYS OF RATIONS/ENC	% CHANCE OF IT BEING CONTAMINATED	NUMBER OF LOCATIONS OF HIDE (ARMOR MATERIAL)
Hostile				
Bear	25%	2	25%	20 of HH
Cat, large	25%	2	25%	3 of LH 10 of HH
feral	25%	2	30%	3 of LH
Dog	33%	4	15%	number equal to Class of LH
Reptiles				
Alligator	25%	1	30%	2 of HH 5 of SH 5 of AH
Snake	50%	2	20%	number equal to 1/2 Mass of SH
Rodent	50%	1	50%	1/Mass of LH
Shark	25%	3	25%	number equal to 1/2 Mass of HH
Non-hostile				
Game	33%	3	10%	variable
Razorback	33%	4	60%	8 of HH
Rhinoceros	50%	2	15%	25 of AH
Elephant	33%	2	15%	50 of HH
Other				
Man	33%	3	80%	15 of LH
Cockroach	75%	.5	50%	none
Horse	35%	3	10%	10 of LH

THE NON-PLAYER CHARACTER

In the course of a game campaign, the Player Characters will meet and interact with a bewildering variety of other characters. These are all non-player characters in the control of the Gamesmaster. In some campaigns, the Gamesmaster will have friends run some of the characters for him. This allows him to function purely as a referee.

Non-player characters are any beings that the Player Characters meet. Most of them will be human. Many will simply be members of the faceless mob, but others will be Personality Non-Player Characters. These are designed by the Gamesmaster with as much detail as the players put into their own characters. All the statistics are known and the character is given a definite personality.

Non-player characters can appear in the campaign as adversaries, friends, flunkies, acquaintances, superiors, or in any other position relative to the Player Characters that the Gamesmaster can think of. Some will be dumb, some smart, some helpful, some dangerous. In short, they will come in as great a variety as real people and the characters of fiction. It is the job of the Gamesmaster to bring life to these characters. The more real they seem, the more life they will bring to the game.

When playing a non-player character, the Gamesmaster should remember that the character does not have the omniscient knowledge of the Gamesmaster himself. The character will only be able to make decisions using data that would be available to him. This is sometimes a difficult task. Planning a non-player character's action for a turn before asking the players to announce the actions of their characters will help to maintain the separation of Gamesmaster and character knowledges. This can lead to the demise of the Gamesmaster's favorite Personality Non-Player Character, but if the players have managed to get things to go their way through good play, the Gamesmaster should be prepared to let his character meet his fate.

HANDLING NON-PLAYER CHARACTERS

Most of the Gamesmaster's characters will be humans. As can be seen by simply looking at a Character Record Sheet, there are a great number of statistics involved in quantifying a character. For the purposes of simple non-player characters, these can be reduced somewhat. Several assumptions are made.

- The Attribute statistics in use for a non-player character are those appropriate to whatever Encumbrance Status the character is at, due to whatever armor he is wearing and gear he is carrying.
- Non-player characters do not Learn-by-Doing and thus need no Talent scores.
- If a non-player character is noted as having a Skill requiring a prerequisite and the prerequisite Skill is not listed, the character is assumed to have the prerequisite Skill at the minimum possible value: that is, a score of 25 for a BCS of 5.
- Non-player characters often have Skills other than those listed in their description. Only those most likely to be used or those important in defining the character are listed. The Gamesmaster may add Skills to the character's repertoire as he thinks appropriate.

Thus, in order to use a character, the Gamesmaster must know the character's Attribute scores, the values of the abilities used in Detailed Action Time, the character's BCS in a pertinent Skill, the armor worn, the weapons and gear available, and any pertinent special data.

The expression of Attribute and Ability scores is simple. A listing of pertinent Skills will follow. The character's BCS in the Skill is placed after the Skill name and in parentheses. If the Skill is a Combat Skill and the character has a score greater than 100, the BCS of the second 100 points follows the BCS. This second number is the character's Control Throw. Each four points in this second number represents a point of Aim. The Weapon Defense Ability of a character will depend on the weapon Skill in use. This has a value of 1 for every 5 points of BCS.

The armor worn by a character is listed in garments. Each garment has the Locations covered and the material of the garment presented inside parentheses. Weapons are listed in order of the character's preference for use. If the weapon uses some form of ammunition, the information on the amount available will be listed at that point. A gun is assumed to have a full load and any rounds listed are those available for reloading.

Any special notes on the character will follow. This can include patterns of behavior, distinguishing marks, other equipment, concerns, relationships with other characters, preferred tactics, etc.

This entire description is headed by the character's name. This can be followed with a brief description of his position or way of life. If important, the character's age can be placed in parentheses at the end of this line.

An example of such a character summary is presented below. If the Gamesmaster has a number of such characters, each could be entered on a separate 3 x 5" card and the entire stock kept in a file box until needed.

John Sample, survivor of the Ruin, loner (43)

WT	WL	STR	DFT	SPD	HLH
12	12	12	12	12	12

BAP	MNA	PCA	CDA	DRT
6	2	3	1	24

Skills: Rifle, Modern (20/5); Brawling (15); Automobile Mechanic (7)

Armor: Fatigue jacket (4-11, HC); Pants (10-18, HC); Boots (17-20, LL)

Weapons: Rifle R1 with 15 rounds of 30-06 in a bullet belt; Trench Knife

Notes: Prefers to run away from a fight if possible. He has survived by not getting involved. He has a deathly fear of being bitten by a rabid dog.

John Sample is 43 years old. His Attribute scores can simply be read. His Ability scores will be needed for Detailed Action time can also be read. He has a BCS of 20 with a modern long gun, a Control Throw of 5, and 1 point of Aim. When using Brawling Skill, he will have a WDA of 3. The notation of Automobile Mechanic Skill implies that he also has Technology Use Skill. Since no score is given for that Skill, he is assumed to have the minimum necessary to use the Automobile Mechanic Skill for which Technology Use is a prerequisite. Thus, he has a Technology Use BCS of 5.

As an example of interpreting the armor designations, we will use the Fatigue jacket. The garment is indicated as covering Locations 4 to 11 on the Body Map. That means its Armor Value, if it is the best on the Location in question, will be subtracted from the Damage Potential of any attacks which are targeted on that Location. The Armor Value can be determined by finding the material represented in this designation by its letter Code on the Armor Material List which is Appendix 3 in Book 2. The Format for that material can also be gotten from the list. As familiarity with the system grows, the Gamesmaster will be able to tell the Armor Value and Format of a material simply by knowing what the material is.

A Rifle R1 (the designation is from the firearms listing which is Appendix 1 in Book 3) can come in a number of calibers. The ammunition listed indicates that the rifle is of 30-06 caliber. Since that rifle will hold 4 rounds of 30-06 ammunition, Sample's total ammunition is 19 rounds. The notation concerning where the spare ammunition is kept allows the Gamesmaster to determine the time necessary for Sample to reload. All data on the rifle can be gotten from the gun list.

The Trench Knife without Knife Skill implies that Sample uses the blade for utility work but may take advantage of the Brass Knuckle function of the knife when he is in a brawl.

The notes are self-explanatory. They add some color to the simple listing of statistics.

TOO MANY CHARACTERS

When the Gamesmaster is running a scenario involving large numbers of characters, he may find himself lost in a morass of numbers. If he feels capable of handling individual statistics for each and every character, he may go right ahead and try. The players will have little problem, as they have only one or two sets of statistics with which to concern themselves. For the harried Gamesmaster, we have evolved the concept of typical characters.

A typical character will have a given set of statistics. Any number of characters in a given Detailed Action Time situation can be designated as belonging to a given grouping of typical characters. This allows the Gamesmaster to handle several characters at once in an Action Phase. When resolving Actions of such characters he can almost treat a grouping of characters as he would a single character. At least, he can determine the start of their Actions all at once instead of having characters initiate Actions on widely varying Action Phases.

To further simplify a multitude of characters, they are rated for an Expertise Level. Each Level has a BCS associated with it. The character will have certain Skills specified as primary Skills. He will have the same BCS with all his primary Skills. Secondary Skills will have a lower Expertise Level.

Characters will be assigned an Armor Kit appropriate to the situation. Thus, a Gamesmaster need only have the specifics of one set of armor and clothing which can be referred to for several characters. This is much easier on a Gamesmaster than referring to separate descriptions of each garment for each character when there are a number of characters involved.

The Gamesmaster may also find it convenient to have several characters armed with the same weapons. The problem of keeping track of ammunition expended has no such easy solution. Such armaments could be referred to as Weapons Kits.

NON-PLAYER CHARACTER QUALITY

Non-player characters, who are not specially designed, have three basic levels of Quality: Average, Superior, and Heroic. Each will give a character a specific set of Attribute and Ability scores.

	WT	WL	STR	DFT	SPD	HLH
Average Quality	11	11	11	11	11	11
Superior Quality	21	21	21	21	21	21
Heroic Quality	31	31	31	31	31	31

	BAP	MNA	PCA	CDA	DRT
Average Quality	5	2	2	1	22
Superior Quality	10	3	3	2	42
Heroic Quality	15	4	3	3	62

In addition, a character may be specified as Increased. This will add 5 to the specified Attributes and adjust the pertinent Abilities. Thus, an Increased Average: WT would have a WT score of 16 and no Ability scores would be altered. If the character had SPD designated as the Increased Attribute, the BAP would be changed to 8 and the PCA to 4. Multiple Increases are certainly possible. A group of weight-lifters might will be designated as Increased Average: STRx5, giving them a STR score of 36 while all the other Attribute scores remain at 11.

Characters, especially those that make up the bulk of a large force attacking a group of adventurers, may be designated as Rabble or Extras. Rabble have half the number of points in their DRT as are indicated by the normal calculations. Extras are even less resistant to injury. If the Damage Potential of an attack against an Extra is not completely reduced by the Extra's armor, he will be killed if the damage was lethal or rendered unconscious if it was subdual damage.

EXPERTISE LEVELS

The most common application of Expertise Levels is in regard to Combat Skills. The character's primary weapons are used with the BCS for the Expertise Level for which the character is rated. Secondary weapons are used at a lower level of Expertise. The Gamesmaster may find it simplest always to use the next lower level of Expertise rather than designate tertiary, quarternary, etc., Skills.

The Expertise Levels are:

Green	BCS 5
Novice	BCS 8
Trained	BCS 11
Veteran	BCS 14
Elite	BCS 17
Heroic	BCS 20 +

If a character is designated Heroic with a Combat Skill, he will have a Control Throw of 2D5. Aim, if available, will be determined from this second "BCS."

Thus, a Trained character whose primary weapons are a rifle and a knife, and whose secondary weapons are the bayonet on the rifle as a polearm, Brass Knuckles, and a Ceremonial Sword, would have a BCS of 11 if Rifle, Modern, and Knife Combat Skill. He would also have a BCS of 8 in Polearm, Brawling, and Single Weapon Skills. It is assumed that he will be classified as Green with any other weapons.

If the weapons listed are not broken down into primary and secondary, the Gamesmaster may assume that the first weapon listed is the primary and all others are secondary. A weapon listed in the notes section indicates that the character has a Green Expertise with the Skill governing that weapon's use.

ARMOR KITS

Armor Kits may be simple or complex. They may consist of many or only a few garments. The Gamesmaster should keep a careful note of what garments he designates as comprising an Armor Kit. Characters may also be designated as having an Armor Kit plus some other garments in addition to those in the Kit. If a character is specified as having a garment that could not be worn over a specific Location along with a garment noted as being in the Kit, the garment in the character description can be assumed to replace the garment in the Armor Kit for that character only.

A sample Armor Kit might be the one presented as the Armor for John Sample on page 31. If the Gamesmaster has more than one non-player character in a group wearing this type of clothing, he can designate it as Armor Kit 1. A character with a steel army helmet in addition to the fatigues could then be specified as having Armor Kit 1 plus Helmet (1, SP).

SAMPLE SHORT FORM CHARACTER

Let us assume a character designated as Superior Rabble. The character is given an Expertise Level of Trained. This character is one of five in the group that the Player Characters are about to meet. Each of the non-player characters is wearing essentially the same outfit. Each has the same basic armament. The typical member of this group wears a Fatigue jacket (4-11, HC), Pants (10-18, HC), Boots (17-20, LL), and a Flakjacket (4-12, LP-AA). He is armed with an M-14 rifle with two spare clips and three loose rounds of ammunition, a Trench Knife, a Ceremonial Sword, and a Mk.6 Grenade.

The specific character in question does not have Throwing Skill with which to use the grenade. The character does have a steel helmet and a pair of gloves. Thus the short form of character listing would be:

Joan Sample, reluctant soldier (28)
Superior Rabble, Trained
Skills: Tailor (12); Weaving/Spinning (12)
Armor: Kit 1 plus Helmet (1, SP) and Gloves (29-30, HC)
Weapons: Kit 1 less grenade
Notes: Would rather be at home. Carries Mk.6 grenade.

Although they are not listed, the character has the following Skills: Rifle, Modern (BCS 11), Knife (BCS 8), and Single Weapon (BCS 8). As a Superior Quality character, all the Attribute scores will be 21. All the Ability scores have standard values except the DRT. This will only have a value of (21 + 10.5 + 10.5)/2 or 21 since the character is designated as Rabble.

USING MULTIPLE CHARACTERS

Playtesting has shown that most Gamesmasters could deal with 2 to 4 sets of statistics within a given group. A popular combination was a Personality Non-Player Character with individual statistics, one or two tough standardized characters, three or four of medium difficulty, and the rest fairly easy-to-take. Often the latter category was classed as Rabble or Extras.

The Gamesmaster should always try to balance the challenge. If he is facing the players with something that their characters will not be able to beat in a direct confrontation, he should leave them a way to escape annihilation. If he consistently fails to do this, his players will lose interest and all his work on the campaign will go to waste.

We have also found that the occasional encounter with a large number of Extras allows the players to achieve results resembling the massive victories so common in literature. Such free-for-alls can be great fun for both the players and the Gamesmaster. However, note the word *occasional.* A steady diet of such simple victories is every bit as boring as constant encounter with the unbeatable. Variety is the goal of a good Gamesmaster. Variety can be achieved in the type of characters encountered as well as in the basic adventure itself.

TECHNOLOGY IN THE AFTERMATH

The technological wonders available in a campaign depend upon two factors which the Gamesmaster must decide on as he is laying the first foundations of the game-world:

What level did technology reach in the pre-Ruin world?

How much of it is still present in usable or repairable form?

There is a dilemma in this. ***Aftermath!*** is designed for use in cultures which do not much exceed our own in technological development, though there is no reason not to build a more "science-fictiony" campaign if you want to. However, some of the basic postulates we will be making about the available pre-Ruin technology are not valid unless our progress here and now (1981) is assumed to be farther along in some areas than it actually is. Otherwise, the date of civilization's fall is pushed further and further into the future. Our own playtests set it at around 2000.

However you choose to settle this, we will here set forth rules covering a number of basic areas defined as "High Technology" material. Much of this material is very complex in the real world. Indeed, much of it is beyond the authors' comprehension, even after considerable research. Readers knowledgeable in electricity, for example, will no doubt cry aloud in horror at some of the rules governing that phenomenon. On the other hand, players do not need an Electrical Engineering degree to use them.

PACKAGING

The mundane-seeming question of packaging is central to the use of High Technology in ***Aftermath!*** This stuff is going to be sitting around for years, decades, even centuries in some campaigns. Characters should be able to "mine" the ruins for usable manufactured resources, things their own culture is unable to produce. This is hardly worth the effort if the goods are not to be found in edible-wearable-shootable-otherwise usable shape.

As we discussed briefly in the Survival section of Book 2, we are positing an improved system of packaging in the pre-Ruin civilization. Plastics technology and a more rigorous method of eliminating contaminants, chemical or bacterial, from the packaged substance, point the way to a means of sealing anything from foodst .'fs to industrial machinery away from the effects of passing years.

Small items: food, liquor and tobacco, light machines, clothing, medical supplies; all could be vacuum packed, or sealed in an inert atmosphere (nitrogen or argon) for storage. Larger items would be sprayed in an epoxy-like resin which would solidify into a time-proof outer skin. Apply a solvent, attach a power supply, and bingo! It works again as if it were just off the assembly line. New silicone lubricants would replace grease as a preservative and greasing medium, much more resistant to the passage of time than the petroleum compounds used today.

But why should such a packaging renaissance happen in the first place? We can see one possible rationale emerging today. Western Civilization is developing an increasing horror of wasting resources. Yet much of what our industries produce is never used! It sits on the shelf, or in the warehouse, until it is not useful any longer, and then it is thrown away. But is something could be produced, and stored until needed, a week later, or a year, or ten years, then it becomes logical that stockpiles of goods will long outlast the society that produced them. If such a movement were to gain credence among the consumers of the pre-Ruin world, it could well lead to the gift of preserved goods passed on to the scavengers of the Aftermath.

ELECTRICITY

When you come down to it, the single most important resource in modern technology is energy, usually in the form of electrical energy. The bulk of our electricity today (as we are all too well aware) come from petrochemicals: oil mainly, followed by coal. But there is study going forward in alternate forms of energy, sources of electricity that need not die when our civilization does. Some of these could continue to operate via automated control and maintenance, or by the efforts of dedicated bands of survivors who feel an obligation to keep their part of the old knowledge alive. Other sources might be reproduceable by survivors on a local basis. Electricity might be something scavenged from the ruins, like food or weapons, or something that can be homebrewed, like alcohol for your truck (or for a cold winter night).

MEASURING ELECTRICITY

How do we measure the amount of electricity a character has available from some source, or the amount he must expend to operate some device? There are two forms of electricity to consider:

Stored Power: Electricity held in a battery until needed. It may be released in a continuous flow or in large jolts. In ***Aftermath!*** we have posited the development of highly durable "Eternabatteries," or "E-batteries." Their capacity for current is rated in Charges. Let us assume a value of about 100 watt-hours (see below) as constituting a Charge.

Current: Electricity being generated, flowing along a circuit, is current. It will be rated in watts, for ease in converting it into Charge values and vice-versa.

These are terms of convenience, and relate to their actual meanings in electrical work only in the most abstract way.

To turn "watts" into "watt-hours," it is necessary to measure the flow of current over a period of time. A 1-watt current will generate 1 watt-hour of electricity in 1 hour. 1 watt-hour battery could provide a 1-watt current for 1 hour. To build up 1 Charge in a battery, you must have a 100-watt current flow into the battery for an hour. A 50-watt current will need to flow for 2 hours. The formula is: Watts x Hours = Watt-Hours.

A 100 watt-hour Charge will keep a 100-watt light bulb burning for 1 hour. It will keep a 50-watt bulb burning for 2 hours, or a 10-watt bulb going for 10 hours. The formula is: Hours of Operation = (Charges x 100)/Watts consumed.

The Gamesmaster may approach rating the wattage of devices in several ways. He may assign wattages to them (e.g., portable 2-way radio, 20 watts; searchlight, 1500 watts; and so on). Much of this information is available in catalogues for such merchandise. In fact, on most household appliances, federal law now requires a sticker giving the wattage rating. This approach is best for large-consumption deveices that will be operated for long periods of time, from hours on up.

For very low-power devices that will be used in an "on-and-off" manner (flashlights, walkie-talkies, calculators,

watches, etc.) the most convenient solution seems to be a statement that 1 battery (usually an E-1) will keep the thing working for 1 year. This way, it is only necessary to record when the battery was last replaced, instead of the tedious process of bookkeeping involved in recording every minute usage of power, to the second.

Lastly, for devices used on a "one large shot" basis, the Gamesmaster may rate the drain on the battery in Charges. This is the obvious approach to electrically-powered weapons (Lasers, Electro-weapons), as well as flash units on cameras, or tailored articles (this electric camp stove takes 1 Charge to cook 1 ration). A variant is the device which uses significant fractions of a Charge, like the electric vehicles, getting so many kilometers to the Charge. Go half that many kilometers, use half a Charge, and so on.

ETERNABATTERIES

The use of the Eternabattery is classically simple in most cases. To charge it, hook it up to any source of current via a "leech," or induction transformer, to give it its formal name. When the connection has existed long enough for the wattage of the current to reach 100 x the Charge rating of the battery, the leech shuts down, and the battery is charged. Unless physically destroyed, the battery is indefinitely rechargeable.

The only real difficulty in getting the power out of an Eternabattery occurs when it is being used to supply the electricity for some device that is not designed to use E-batteries. This constitutes a Task, to be assigned a value by the Gamesmaster. The average Task Point range would be about 10-50, for fairly small conversions. The same applies to linking several smaller Eternabatteries together in series, to provide the necessary current to operate a device normally requiring a larger type of battery. For example, preparing a battery pack of ten E-5s to run a vehicle normally operated by one Ev-50: the relevant Skills would be Electrician, averaged with any relevant types of Mechanic or other related field of endeavor, and the usual Task Period would be on the order of 10-20 hours. Tools of some kind would be a necessity.

ACCUMULATORS

When dealing with large amounts of power, the output of a regional plant for instance, then another type of storage battery comes into the picture: the accumulator. This is a big, fixed installation, holding hundreds or thousands of Charges. If you use an analogy of electricity as water, then Eternabatteries are canteens. Accumulators are the reservoirs. When power is being generated, it is a use-it-or-lose-it situation. Accumulators are designed to take the surplus current and hold it as Charges. When the power is needed later, it is tapped and fed into the distribution system. They will generally be found in power plants, in factories, as auxiliary power supplied in small municipalities or rural areas, or in the holdings of technologically-oriented survivors. The Gamesmaster may assign any value he wishes to the accumulator, but in situations where the defenses a non-player character is bringing to bear upon the Player Characters are electrically powered by an accumulator, the Gamesmaster may wish to limit the opponent's resources to give the Players a chance to wear down his reserves.

Controlling accumulators, or working with them in any decisive way, is under the jurisdiction of the Power Generation, Electrical Skill. Such operations will be on an industrial scale, requiring long Task Periods, and extensive tools and resources.

GENERATORS

With Generators, we pass from electrical storage to systems which convert one form of energy into electrical current. A generator is, specifically, a machine which converts mechanical energy into electricity. A shaft runs through a magnetic core. Turning the shaft interrupts the magnetic field of that core, causing electrons to move in a given direction. The result: current.

The enormous generator-turbines, powered by oil- or coal-burning furnaces, are not likely to survive the Ruin, if they have not been replaced by some other power source by then. But several other forms of mechanical generator are very likely to be useful to the characters.

Man-Powered Generators

The three most common types are cranked models (worked by hand), treadmills (which pool the work of several men to turn the shaft), and the "bicycle" generator.

Hand-cranked models are useful primarily for recharging batteries in emergencies, or for providing power to small devices on the spot. They are generally provided as a back-up power supply on military radio sets. The current generated by a crank generator is equal to the Strength Group of the user, in watts. He can maintain this rate of work for a period of time equal to 20 minutes times his Health Group. After that, he becomes Fatigued. He can then continue cranking at an effective Strength Group 1 less than his normal score, for a number of minutes equal to his Health. He then becomes Fully Fatigued and cannot turn the crank any longer.

Treadmill models are not portable, unless carried piecemeal. A description of a Rube Goldberg sort of treadmill generator is found in Walter Miller's novel *A Canticle for Liebowitz*. Their current has a wattage equal to the total Strength Groups of the characters on the treadmill. The Gamesmaster should assign a maximum wattage to the generator, as there is a point of diminishing returns to such addition. The characters can keep the generator going on the same basis as they can keep walking, as if they were traveling in Strategic Scale. "Fast March" can be used to increase the current for a short period, doubling the output. "Long March" can be used to put out more power in the day. It should be mentioned that unscrupulous communities in need of power might turn to a slave economy to turn treadmill generators.

The movie *Soylent Green* features the late Edward G. Robinson pumping a bicycle generator at one point. These are more in the line of an "exercycle." The bike does not travel, but turns the shaft of a small generator. The base current is equal to the character's Strength Group in watts, with a multiplier of 2-3 for the bike's mechanical leverage. Bicycle Skill is not required to use it.

Constructing a generator of one of these types requires materials (and a bicycle if you are making the third kind). The relevant Skills are Electrcal Power Generation, Mechanical Power Generation, and any other Mechanical Skill that the Gamesmaster feels is relevant. Task Points run from about 50 to build a crank generator, to 100 or more for a large treadmill. Task Periods are in 1-day increments.

Hooking the generator up to anything but a leech transformer for Eternabattery charging, or some device designed to be powered by a small generator, is a Task for the Electrician.

Wind and Water Power

The mechanical energy derived from the swift passage of air or water is a potential source of power, one recognized today by the enormous hydroelectrical plants of the power utilities and the small windmills of the farmer and commune dweller alike.

There is no real way to work out a consistent formula for a windmill's output. If the only figures of significance are Charges generated over a given period (say a week) then 1D100 + 20 seems a decent amount for a small unit.

If the current being generated at a given moment is important, roll 1D10 and 1D6. Read the 0 on the D10 as a zero, not a 10. Multiply the two rolls. That is the current being generated at that time. Roll again every hour to deal with changes in the weather, unless there is some reason to

assume a longer or shorter period of stability.

Hydroelectric power is more constant. The Gamesmaster must assign a value to the flow of the body of water being used. Small streams or natural small waterfalls would have a value of 1D6 x 100. The generator must be designed before it is built a Task requiring Skill in Electrical Power Generation and Physics. When the design Task is done, the Gamesmaster should roll 1D20 until he scores less than the Average BCS in these Skills. The Effect Number from this roll divided by 10 will provide a factor of efficiency for the generator. This factor times the water source's constant value is the current that will be generated by the device. It is then built using the appropriate construction Skills.

There may be seasonal fluctuations in the water's constant, based on rainfall and local climate. This is completely up to the Gamesmaster and his sense of detail. It is probably not worth the trouble except for campaigns where Players are running whole communities, and getting into simulations of the ecological factors which govern their lives.

Motorized Generators

Any internal combustion engine can be rigged to turn a generator shaft. So can an electric motor for that matter, but to prevent Players from exploiting loopholes in the following rules, we shall decree that such a hookup will generate electricity at exactly half the rate that the engine consumes it!

The Maximum Safe Speed for the type of engine being used is the basis for the current's wattage. It will generate power equal to that figure times 10 watts, consuming fuel as if traveling at that rate. This is probably over-generous.

Unless using a motorized generator that was made for the purpose, substantial modification to the device is called for. It will certainly not be able to run as a vehicle while so altered.

The relevant Skills for the conversion are Power Generation and the Mechanic Skill for the type of vehicle. It can then be hooked up as Eternabatteries are, with Electrician Skill. The Task Points will be on the order of 50-100, with a Task Period of about 1 hour. Tools are needed. Changing your car back into a car is a Task of half the Task Point cost for the switch from vehicle to generator.

FUEL CELLS

Fuel Cells are the first of several power sources we will examine that produce current by non-mechanical means. They derive electricity from the chemical action of breaking down certain substances (water, methane, oil) in a manner that we confess we do not quite understand. But as research in forging ahead on these, let's posit the design achieved before the Ruin as something like this.

Water is passed through a specially designed membrane that chemically separates the hydrogen and oxygen in it, tapping the small amount of electricity which derives from the reaction. The fuel cell is a small cube, 50cm on a side, weighing about 2 ENC, and designed to be hooked up in series to produce any desired current. Each fuel cell produces a current of 10 watts, running for 1 hour on .5 liter of water. This should be distilled or filtered water, to avoid clogging the membrane with debris.

SOLAR SCREENS

If you wish to use true solar power (i.e., "photovoltaic" power, electricity derived directly from sunlight), here is a system designed for use in ***Aftermath!***

A screen-like device was discovered shortly before the Ruin. Cheap, easily transportable, and completely modular, it is manufactured in 1-square-meter units, and was widely distributed before the end came.

A single Solar Screen weighs 1.5 ENC. It will convert about 10% of impinging sunlight into current. This works out to about 100 watts under ideal conditions. To figure the daily output in a lump sum of watt-hours, multiply the area of the screen in square meters by 900. This represents the output in 24 hours if the weather is clear. If overcast, raining, at the North Pole, or what have you, divide the figure by 2.

If you wish the hourly values of the current in watts, here is a table figuring sunrise at 0600 and sunset at 1800 hours.

0600-0900	50 watts per Screen used
0900-1500	100 watts per Screen used (max. efficiency)
1500-1800	50 watts per Screen used

Again, halve these values if it is an overcast day. If anything cuts off the light entirely (like a thick coating of snow, spray paint, etc.) cut the current to 0.

Setting up Solar Screen arrays, rigging them to feed normal power supplies, and other such manipulations, are in the province of Solar Power Generation Skill.

NUCLEAR POWER

This subject is not going to be treated exhaustively here; it is just too darn big. Suffice it to say that in the author's opinion, if large power plants can be kept alive by automated controls or survivor groups, they will probably be nuclear rather than other types that we have today. At that, modern fission reactors may not outlive the technology that bore them by long, requiring too many external facilities (fuels, waste disposal) to survive in the jungle of the Aftermath. But we can always assume cleaner reactor designs have been introduced. Moreover, nuclear fusion provides a very hopeful picture, producing minimal wastes, and possibly requiring less complicated rare fuels to operate.

Building such plants is not within the scope of the Nuclear Power Generation Skill. This is an operator's knowledge of such plants: how to handle routine maintenance, minor troubleshooting, and ongoing production of energy.

The main reason for keeping a nuclear capability in the campaign is to provide a rationale for the next section.

SALVAGING ELECTRICITY

If an area, probably a city, is still in the service network of a large power plant, presumably nuclear, then there may yet be live electric circuits in its buildings. If this is the case, then electricity becomes another resource to be scavenged by the characters.

This power is available over one of four types of line: Household, Hvy. Household, Lt. Industrial, Hvy. Industrial. The wattage available from such lines is based on the voltage of the line, controlled by its construction, and the amperage, controlled by the type of fuse or circuit breaker used on the line.

Voltage x Amperage = Wattage. Attempting to draw more power than this at any one moment will cause the fusing device to blow out. If it is a standard fuse, it must be completely replaced. If it is a circuit-breaker switch, it must be manually reset. Such switches are not always in the same area as the outlets that were used. In large offices or apartment complexes, they may be in some entirely different part of the building.

WATTAGE OUTPUT TABLE

	Voltage	Amperage	Current
Household	110	20	2200 watts
Hvy. Household	220	30	6600 watts
Lt. Industrial	440	50-100	22-44 kilowatts
Hvy. Industrial	1000	100-200	100-200 kilowatts

Household Lines may be used directly to power appliances, small power tools, anything that would be run on normal current today.

Hvy. Household is used to operate large appliances (washers, deep-freezes, air conditioner or ventilating pumps) and heavy duty equipment (commercial radio transmitters, large spotlights, heavy shop tools).

Light Industrial Lines provide the power for large printing presses, assembly lines, any large industrial plant's heaviest equipment.

Hvy. Industrial Lines are not used directly. They are feeders from the even higher voltages used in transmission lines to carry power from generator plant to users. One would expect to find this kind of line feeding into the sub-station at an industrial site.

An Electrician can convert the current from any higher line into two of the next lower lines. I.e., a 440-volt Lt. Industrial Line could be run through a transformer to generate current for two 220-volt Hvy. Household Lines. One of these could, in turn, be converted into two 110-volt Household Lines. The process can be reversed in the same way.

A useful rule of thumb for figuring the Task Points on this job is to give it a number of points equal to the difference in voltage between the lines used, divided by 10. The Task Period is based on the more powerful of the two lines involved. Hvy. Household: 1 hour; Lt. Industrial: 5 hours; Hvy. Industrial: 10 hours.

The Task Points or Period may be modified down if the necessary circuitry is all intact, and simple reconnections are needed. The base values assume the Electrician is cobbling a transformer station together.

USING SALVAGED CURRENT

There are two ways in which this may be used, or rather, two ways to keep track of power drains on the line.

If electricity is being tapped for storage in a battery, the only significant question is how long it will take to put a full Charge into the device. The formula is: Hours = (Battery Capacity in Charges x 100)/Wattage of the Line. Thus a 2200-watt Household Line will fully charge an E-5 in 500/2200 hours, or slightly under .25 hours.

If using the power in continuous drain, the Players and Gamesmaster should be aware that the maximum wattage in devices that may be operated off of it at any one time is equal to the wattage rating for the line. One can run 2000 watts worth of equipment on a 2200-watt Household Line with no problem. 2300 watts on the line will blow the fuse. If charging batteries from a line which has steady drainage from equipment of it as well, the leech transformer will draw only the surplus power. If 2000 watts of current are being used to run equipment, the battery will take only 200 watts. This will naturally increase the time needed to run up a Charge.

Overloading a line will blow out the breaker or fuse as stated above.

ELECTRICITY IN THE "200 YEARS AFTER" CAMPAIGN

The prevalence of electrical knowledge and resources in such a campaign is not something that can be legislated by the rules. If the Gamesmaster decides that some large plant (almost certainly nuclear if it is still operating) is still producing power, then it will exist. If he wants to posit the smaller generators as being in the body of common knowledge, that is also completely feasible. Temples dedicated to the Sun God, who makes the old magic work again (i.e. a Solar Screen installation) are a distinct possibility. The potentials in such a setup are very interesting. The priesthood of such a temple can be sincere believers, maintaining the plant by rote from the instructions in their "Holy Books" (maintenance manuals). Or they might know the truth of what they are doing. If so, are they unscrupulously perpetuating the myth of the Sun God to achieve power in their society, with impressive and very authentic "miracles" engineered by their preserved technology, or are they using the cloak of religion to preserve and protect the old knowledge until it is time to release it to the world again?

It is a safe bet, in a campaign where old devices abound that do not function for want of power, that characters who achieve some ability in generating electricity will be able to parlay this into significant prestige. As the majority of desirable high-technology artifacts in use will be battery-powered, the campaign can probably do very nicely with no power available except from portable crank generators, treadmills in cities, and so on. Of course high-technology places of mystery (old security bases and such) will need some kind of constant power supply if their "magical" dangers and defenses are to function. This feature alone may be sufficient justification for the characters to risk penetrating such dangerous spots. Legends might develop about the lost magic of the old tools, recoverable only by confronting the demons of the lost cities.

ELECTROCUTION

When dealing with electricity, the subject of electrocution must be mentioned. A character may be exposed to this hazard by accident (a Critical Miss while working with a hot circuit), carelessness (messing with a hot circuit without proper tools or Skills), or attack (electroweapons, electrified fences, lightning bolts, etc.).

If the damage is being put out by a battery, i.e., dumping a bolt of power out in one shot, the base damage is 1D10 per Charge.

If the shock comes from a live wire, one carrying current, then the base damage is derived as if the line were attacking. An Effect Die is calculated as if the "Strength" of the line = Voltage/10. The Effect Die roll receives a multiplier, like the WDM, equal to the Amperage/10. Thus, a 110-volt line with a 20-amp fuse will have a score of 110/10, or 11, for a Group of 3, and will therefore roll a base damage of 1D10. This die roll receives a multiplier of 20/10, or 2.

Electrocution does Subdual damage, capable of killing only if it exceeds the DRT, as specified in Book 1.

OPTION

Burn Damage

The Gamesmaster may specify that the hand/hands grasping the wire, if that is how the damage was taken, is/are disabled with burns. The character will suffer Critical Damage to his hand(s) equal to 10% of the Lethal damage done by the shock (i.e., of the damage done in excess of the DRT). A Speed CST allows him to have released his grip before the burns had this effect and only the normal damage is suffered.

INSULATION

Insulation can be derived from specially-designed materials, which reduce the base damage of electrical shock, or from protective clothes or armor designed to stop more material hazards, but which provide some protection.

If using, say, insulated gloves to handle a line, we are in the first case given above. Such insulation is rated as class 1, 2, 3, and so on. It will stop 1 Charge per point of insulation if the shock derives from a battery, or reduce the base damage Group by 1 per point if a current is being used.

If the protection is from armor, the Armor Value reduces the points of damage done by the shock. Plastic armor receives its full Armor Value against such damage. Natural materials (cloth, leathers) receive half their Armor Value (round up). Metal armor does not impede electrical shock at all.

In manipulating electrified objects, a piece of plastic or wood will be quite safe. Metallic items, unless insulated for such use, will be exposed to current. If a character is touching the base metal at the other end of the item, he will

receive a shock. Read Mark Twain's *A Connecticut Yankee in King Arthur's Court* for a homily on the unwisdom of trying to hack through an electrified fence with a sword while dressed in full plate armor.

COMPUTERS

The big machines are perhaps the single most pivotal change in human resources in the late 20th century's impressive list of such marvels.

The principal uses of Computers in ***Aftermath!*** are:

Data Storage: Material of all kinds can be retrieved by proper use of the system, according to the Gamesmaster's decision as to what is in there in the first place. In playtest, we posited a number of access points (terminals) tied into a Public Data Bank, which could produce hard copy from libraries, news services, etc. Mack Reynolds's novel/projection *Looking Backwards From the Year 2000* shows the capabilities of such a system when fully supported by a working technology.

Processing of Models: The Programmer sets up a model of some Task on the computer and has it run through a simulation of the process. In any Task where possible errors exist, or variable efficiency due to design can occur, this allows the character to do the Task on the computer first, and keep a record of the processes. When he finds a method that suits him, he may proceed to do it for real, and will be able to reproduce that outcome exactly, as long as he has all the resources that were in the computer model.

Systems Control: The System Designer creates a program and servomechanism system allowing the computer to control some process or device. Highly sophisticated applications of this type maintain automated power plants, factories, and defensive systems. The character in this way creates a Robot Controlled Device.

DATA STORAGE

Requires a Programming BCS. Locating a given piece of information is a 10-Task-Point job for every level of specification, with a 10-minute Task Period. So a Character wants printout on a Reference manual: find Reference section of data bank (10 points). Next, find Skill or Knowledge in question (10 points). Activate printer now if you want a copy of the text. If you are looking for a specific reference only—that is, the answer to only one query—then that is another 10-point Task. When it is finished, the answer prints out. Hardcopy devices are quite valuable, since they allow the work retrieved to be taken with the character. As paper is going to be hard to find, the Gamesmaster can avoid a sudden wealth of books from developing by limiting most terminals found to the CRT (Cathode Ray Tube) type, where data is displayed on a T.V. screen.

PROCESSING MODELS

Programming Skill is used, averaged with the Skills governing the process being simulated. The Programming job has 5 times the Task Cost of the actual work under study, and a 1-day Task Period as a rule.

Once the program is completed, however, it can run through probable outcomes of the Task under study at a rate of 100 Task Points per hour, or faster (see Computer Resources below). It requires 1 hour and a System Design BCS to interpret the printout back into the terms of the actual Task. Once a satisfactory way to do the job has been found, the Task will always come out that way when done according to the computer's instructions.

This is valuable in that it allows the character to avoid processes which might produce dangerous or inert materials.

SYSTEMS CONTROL

Programming is used to set up the Task for the automated shop or other system as specified above. The System Designer then performs his Task of tying in the various devices to proper computer control.

Linkages between the computer and the device must be built if they do not already exist.

COMPUTER RESOURCES

These are the capabilities the Gamesmaster has designed into the computer system. The categories are:

Task Points per Hour: Used to see how fast the system can run through Process Models. The default value is 100 Task Points of simulated work per hour. Mini- or Micro-Computers will be much slower (by up to a factor of 10). Big systems (IBM 370) will be much faster, about as fast as you care to name in most cases.

Power Consumption: Like any other electrically-powered device, computers have a wattage rating. Normal systems draw from a Lt. Industrial Line at 5000 watts. Mini-Computers use Household Lines at 800 watts.

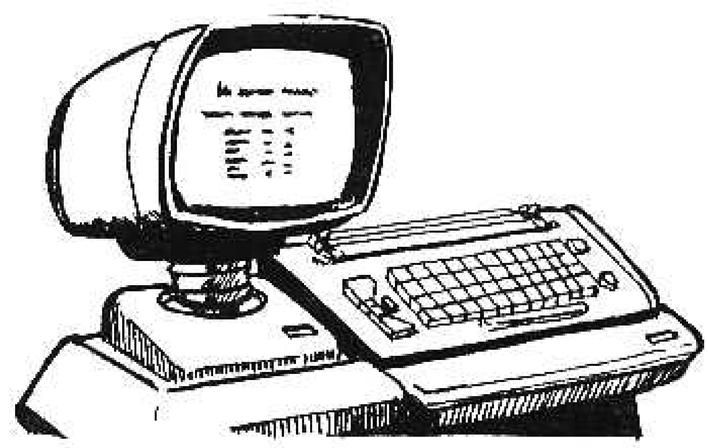
Memory: A figure expresing how much data can be stored in the system. Really big systems you don't have to worry about. They'll hold what they are given (the total human body of literature cannot fill them to capacity). Smaller units will be rated in terms of how many Skill points (not BCS points) they can store. A 1000-point unit (quite small) could store all of the data to give Reference BCS scores of 20 (i.e., Skill scores of 100) in 10 Skills.

The Gamesmaster will be the one to assign the chances of a malfunction in the computer. A fairly stingy rule is: after completing a given Task on the computer, there is a percentage chance equal to .1 times the Memory, Task Points, or what have you, processed in that Task, that the computer system will develop a bug and shut down. Systems fitted with automated maintenance controlled by backup systems will repair themselves at some fixed rate, while others will require human attention.

CYBERNETICS

Cybernetics, as used in this game, covers several topics often used in Science Fiction: Robots, Robot-Controlled Devices, and Artificial Intelligence. Robots are machines designed to perform some function on their own without human guidance. They can range from industrial robots for welding car frames to surveying robots such as have been sent to Mars to the utility devices commonly found in SF stories. We distinguish robots designed to look like humans, and often to stand in for humans, by the name of Animatron.

Robot-Controlled Devices are machines or mechanisms normally controlled by a human or several humans, but which have been put under the control of a robot brain. Such machines may be simple or complex. The after-hours walk-up window used by many banks is a good example of this kind of device.



Artificial Intelligence is used to cover the concept of machines that "think" for themselves. This is intended to represent machines that deal with a wide variety of circumstances beyond a limited pre-programmed range. Chess-playing computers do not qualify under this definition. Artificial Intelligences usually have the capability of changing their programming in response to new data. For game purposes, a robot or computer that will be treated as if it had a human or near-human capability to think will be classed as an Artificial Intelligence.

ROBOTS

Robots can be built in many ways to serve many functions. They may or may not be mobile. They may or may not have a self-contained power source. In general, they will only be capable of a certain number of functions which will be guided by a basic set of programmed instructions.

Robots will tend to be large, bulky, and awkward. Power will generally be supplied by cable to non-mobile Robots and, while mobile Robots often are battery-powered, they will usually contain an adaptor to allow them to draw power from a live circuit.

The exact specifics of a Robot's design will be left to the Gamesmaster, as many such things are still prototypes and one-of-a-kind items. Production Line Robots will tend to be simple, rugged, dumb, and basically harmless. The Gamesmaster is enjoined to consider such things as power sources and demands on that source. Difficult or complex tasks will require the Robot to expend more power. If the Robot has a limited power source, it will eventually run down. If it has a limit on the amount of power that it can draw on, some tasks will be beyond its power.

Also consider the nature of the device and the tasks for which it is programmed. A Robot will have a limited number of tasks which it may be programmed to perform. Simple tasks would not take up much of the Robot's memory capability, while complex tasks or tasks requiring many decisions to be made during the execution will often take large amounts of memory capacity.

A Robot is designed for a laboratory as an aid to scientists. It is to lift and hold objects and move them about the room. It is given motion sensors to respond to hand signals for activation of the system. It is given audio receptors to respond to a limited range of verbal commands such as Stop, Lift, Lower, Release, etc. It is also connected to a control board by which its actions may be directed by a human operator. The brain of the device will hold 22 units of memory. Each command uses 1. The manual override function uses 2. The motion control circuitry which allows it to move back and forth across the room takes 5. The programming allowing it the basic operations of lifting and opening and closing the hand takes 10. Besides the commands specifically mentioned, the Robot could be programmed for another simple command.

Now consider this Robot reprogrammed to sinister ends. The manual override is removed, as are the verbal commands. Two units of memory are used to allow it to locate audio sources in the room. Three units are used to allow it to move toward motion and attempt to grasp and squeeze anything that moves. The last two units are used to let it beat moving objects that it is holding against a wall until they stop moving. The Robot has become a dumb but dangerous guardian of the room.

The Gamesmaster is the final arbiter of the amount of memory the instructions for a task will fill. He also will decide on power expenditure to fulfill a task. Some guidelines are presented in the chart below.

ROBOT-CONTROLLED DEVICES

Such devices could be almost anything. If the device does not use its own power to function, the Robot Controller would have to supply power for the device as well as for itself. Such devices are usually maintenance units allowing a human controller to leave and still have whatever the device does continue even though no human is there to supervise. Alternatively, a Robot Controller would be used to control a device or mechanism which will go where a human controller cannot or will not go. Such a device would have to carry its own power supply with it.

Robot Controllers would be constructed by the Gamesmaster in the same way as regular Robots in terms of power and memory considerations.

An example of a Robot-Controlled Device might be a Cybernetic Tank. Such a device would operate exactly like a vehicle crewed by men. The capacity of the

ROBOT TASKS

Function	Memory	Power
Perform an action	variable by complexity	.2 Charge per Action spent
Perform a Combat Action	based on Skill	.5 Charges per Action
Use a Combat Skill	2 per BCS point	see above
Knowledge Memory	1 per point of BCS in the knowledge	.5 Charges times Effect number of die roll when knowledge used
Knowledge Integration with Performance of Skill	10	Simple tasks: 1 "E" charge per hour. More complex tasks will vary by the Gamesmaster's evaluation
Maintenance function allowing Robot to be aware and wait for a specific signal to return to full operation.	3	.01 Charge per hour

Cyber-tank to respond would be based on the Robot Brain. Such a device would fill the tank, precluding human control. It could be programmed to conduct maneuvers, fire the weapons, call for resupply of fuel and ammunition, and report enemy actions visible to its sensors.

A more advanced version, probably requiring Artificial Intelligence, would be able to make tactical decisions regarding its own safety on the battlefield and evidence a better ability to select suitable targets.

Such devices would probably have a power source separate from the vehicle's power source. Damage that would affect the crew would affect the Robot Brain.

ARTIFICIAL INTELLIGENCE

No hard-and-fast rules will be given concerning Artificial Intelligence. The Gamesmaster must decide on the limitations and power requirements of such things. A system of computers simulating a living intelligence, if it could be built today, would be quite large. With the advances in computer technology that are occurring even today, such a system might be smaller by a power of ten in twenty years or less.

An Artificial Intelligence should be given goals to accomplish and parameters inside which it will function. Traditionally, such things are emotionless.

The Gamesmaster will have to decide if the general opinion of the populace and/or the legal system sees intelligent machines as entities due treatment as any other intelligent entity, or if they are considered non-persons.

Although such things may not be possible in the near future, they can make for an interesting scenario if handled properly.

ANIMATRONS

Animatrons are Robots designed to function and look like humans. A prototype of such machines can be seen in the audio-animatronic creations of Walt Disney Enterprises. These represent a first generation of device. The power source and "brain" are not included in the body of the Robot. Motions and actions are preprogrammed and restricted to a fairly limited repertoire. These Robots are effectively non-mobile.

We postulate several "generations" for each major system in Animatron construction. These are presented in brief in this chart:

	FIRST GENERATION	SECOND GENERATION	THIRD GENERATION
MOBILITY	Non-mobile	Limited mobility to the length of a power cord	Fully mobile
POWER	External source	External main source with limited internal emergency supply equivalent to an Ev-20	Internal power source equivalent to an Ev-150
BRAIN	Pre-programmed specific instructions	Limited response but some decision-making capability	Wide range of response within areas of programming

A fourth-generation brain would be Artificial Intelligence.

The "brain" in all cases need not be incorporated into the Robot body. It may be connected by a transmission cord or have its instructions relayed to the body by radio, microwave, or some other form of wireless communications.

Animatrons are designed in several models. Each model is intended for a specific type of duty and is constructed to reflect this. The basic types are:

Demonstration: This kind is generally non-mobile. It is used in stores, amusement parks, and in a receptionist capacity by businesses.

Servant: The principal function of this type is expressed in the name. Servant models are usually limited to one type of service, although more expensive and complex models can serve in more than one capacity.

Simulation: This type is used for testing purposes in such research as into the effects of automobile crashes on humans. Some are non-mobile and simply record effects on the body. Others are mobile and are programmed to respond in specific ways to the circumstance being tested. This series is also used at certain high-priced fantasy parks where customers pay to live out fantasies. The choice of this model for such use is based on its ability to simulate damage received as if it were human. This includes System Shock and efficiency reductions due to damage.

Surrogate: This type is designed to perform functions normally done by humans, but in environments which might be hazardous to human life due to the nature of the environment or the length of time required to perform the function.

Wardroid: A self-explanatory purpose. Still expensive and prototypical at the time of the Ruin. It was not yet cost-effective, so humans were still used as soldiers.

Animatrons can be programmed to move, act, and perform as a human. Each 5 points of Attribute score require 1 memory unit. Animatrons do not require Will and Health, and Wit is only pertinent for determining the sensors' ability to distinguish Hidden Things. Most models are limited to human maxima. Wardroids have maxima of 50.

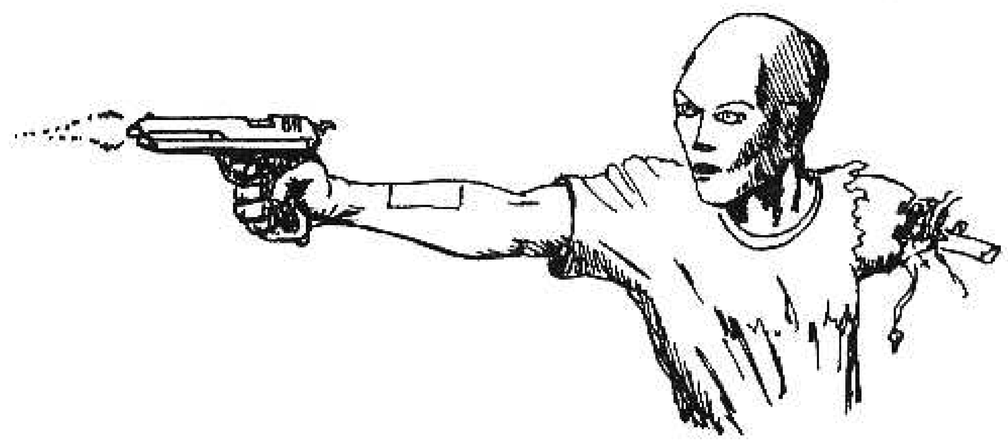
The number of memory units available to an Animatron will vary. If the "brain" is external, it may be any size. If internal, the usual capacity will depend on the "generation" of the "brain." For game purposes, 50 times the "generation" number will give a good base.

Animatrons do not take damage as humans do. Each portion of the body has a Damage Resistance Total. That portion will continue to operate until the total damage received exceeds the Damage Resistance Total. Subdual damage from weapons does not affect an Animatron. Except for the Simulation type, Animatrons are not subject to System Shock.

Different models have different Armor Values for the covering of the body. This basic Armor Value will add to the AV of any armor or clothing worn by the Animatron.

Construction of Animatrons follows the basic design of humans. Sensors are in the head and the power source is in the body. If the sensors are destroyed, the Animatron will be blind, and if the power source is destroyed, it will cease to function.

Critical Hits against an Animatron are resolved on a special table. A Missile Special Effect against an Animatron uses the usual table. A Daze or Stun result against an Animatron will only last for a number of Action Phases equal to the machine's Phases Consumed in Action number.



ANIMATRON STATISTICS BY MODEL

Model	Damage Resistance Total	Structure Rating	Armor Value	Mass
Demonstration	Head: 15	5	5	8
	Body: 25			
	Limb: 10			
Servant	Head: 15	5	5	8
	Body: 25			
	Limb: 10			
Simulation	Head: 20	5	1	8.4
	Body: 35			
	Limb: 15			
Usually contains sufficient "blood" to simulate 20 wounds.				
Surrogate	Head: 30	7	9	9
	Body: 50			
	Limb: 20			
Often incorporates special equipment specific to its job.				
Wardroid	Head: 50	10	15	10
	Body: 80			
	Limb: 30			
IR and light amplification sensors standard. Frequently contains a self-destruct device to prevent capture.				

ANIMATRON CRITICAL HIT TABLE

Die Roll	Effect
01-10	No effect
11-20	Daze
21-40	Stun
41-60	General Efficiency reduction. Attributes reduced by 10% and BCS by 2
Systems loss:	
61-64	Fine Control. Unit must make a Deftness AST to perform any function requiring fine coordination. This includes such things as firing a gun
65-68	Identification. Unit will not recognize normal controllers or deactivation orders
69-72	Logic. Unit effectively acts in a random fashion
73-75	Manipulative. Unit may not manipulate objects
76-77	Motive. Unit is frozen where it is. It may not move on the DAT display or change facing
78-80	Sensory. Unit's sensory apparatus is destroyed
81-95	Power outage. Unit goes on reserve power or ceases function
96-00	Destructive dysfunction. Unit is junked. A 40% chance of destruction beyond repair

REPAIR AND REPROGRAMMING

The Gamesmaster who incorporates Cybernetic devices into his campaign may also wish to add a Skill in Robotic Design, which would function similarly to Computer Design Skill.

Repair is accomplished as repair for vehicles, but Electrician Skill is used to do the work once the repair program is laid out by a qualified designer, that is, a character who has whatever Skill the Gamesmaster has designated as capable of understanding Cybernetic devices. Each portion (head, limb, body) is treated as a separate Task.

Repair is accomplished as a Task. The repair program must first be laid out as a design Task to determine the repairs to be made. Each portion of the Cybernetic device is treated as a separate Task. This includes head, limb, body, and "brain." Losses due to critical system loss must be repaired following a program similar to that used when repairing a vehicle with a system loss. Once the repair program is laid out, a character with Electrician Skill and an Animatron Repair Kit may proceed on the Task of repair. The Task Value is twice the damage sustained. Task period will be by the day. Besides the time required to perform the task, a repair Task will require a minimum of 2D6 units of parts.

A Cybernetic device is Disrepaired when its Damage Resistance Total is exceeded by the damage taken. Then its Structure Rating plus its DRT is exceeded, it is Junked. When its DRT plus twice its Structure Rating is exceeded it is destroyed beyond repair. Desrepaired and Junked units yield parts as the corresponding non-functional vehicles.

Reprogramming a Cybernetic device is possible, but will be limited to the functions that the device can perform and by its memory capacity. Reprogramming is a Computer Science, Programming Task. The Gamesmaster may assign whatever Task Value he deems appropriate. A value of 5 or 10 per memory unit would be reasonable. Some devices such as Wardroids or security devices would have anti-tamper mechanisms that could do anything ranging from self-destruction to simply requiring a Task, albeit a difficult one, be performed before the character could begin reprogramming. Such a Task would represent breaking the device's security systems and could have a Task Value in the hundreds for a well-protected device.

HIGH TECH WEAPONS

There are several potential developments in arms manufacture which are just coming off the drawing boards now, or are still on them in some cases, which the Gamesmaster may or may not wish to include in the campaign. Some represent improvements on existing weapons, others totally new concepts in destruction.

LASERS

If a workable "ray gun" is going to evolve from our present technology, it will be based on the Laser principle. While there are several ways in which Laser action can be simulated, the simplest one we have found posits that the amount of power used to generate the beam, modified by the tightness of the beam's collimation, determines the weapon's damage potential.

Assume Lasers eat power in Charges. If fitted with a power source drawing current, they must recycle between shots until the desired amount of power has built up in a capacitor as Charges. The Laser's base damage potential is 1D10 per Charge. The weapons should be assigned a maximum number of Charges per shot by the Gamesmaster, an upper limit on how much they can pump out at one time. The collimation of the Laser acts as a WDM for this power. It may be fixed or adjustable. Laser fire is handled as if it were a "Single Action" firearm: 1 Shot per Action is fired, resolving

the BCS on the middle Action Phase of the firer's PCA. The Skill used to aim and fire is the Small Arms Skill appropriate to the form of the Laser gun (it is shaped like a Pistol or a Rifle). But a permanent bonus equal to the user's Deftness score is added to the Skill score. If the user has no Firearms Skill, he will still have a BCS derived from his Combative Talent plus his Deftness.

Firing Stance does not affect Lasers, as there is no recoil and the beam goes exactly where you point it. Likewise, no bonuses to BCS derive from Brace Weapon, Rest Weapon, or other steadying modifiers.

Range with Lasers boils down to Short (10 meters), Medium (100 meters), and Long (over 100 meters). These are qualities of human vision rather than the weapon. The BCS modifiers for Range are +1, +0, and -1 respectively. As there is no BDG, no ballistic modifiers apply as such.

A Laser will shed 1 Charge for every 500 meters of distance traveled: out to 500 meters it is at full power; from 500 to 1000, it is down 1 Charge; and so on. Thus, a 3-Charge Laser has a maximum range of 1500 meters.

This is the situation in comparatively clear air. Light rain or misty air will alter the distance from 500 meters to 100 meters. Heavy rain will knock it down to 50 meters. A Smoke grenade cloud or similar dense smoke concentrations will reduce Laser fire traversing it by a factor of 1 Charge per (10 meters/Smoke's rating). A cloud of Smoke rated 1, i.e., reducing Light conditions 1 step, will knock 1 Charge off of a Laser beam for every 10 meters it travels through the cloud. Smoke rated at 2 will do so for every 5 meters traversed.

If the Gamesmaster wishes to introduce Smoke charges specifically designed to limit the effectiveness of Lasers in a battlefield situation, then the Beam will suffer the attrition as given for normal Smoke, but does so if it traverses any fraction of the stipulated distance, instead of only after it has traveled the entire distance.

When a Laser hits a flammable material, it will have a chance of igniting it as open flame does. It has a Strength Rating for this purpose equal to the Group derived from its damage potential times the collimation. Use the fire rules in Book 1, page 48.

Maintenance, repair, and modification of Laser devices is a function of the averaged Skills of Laser Technology and Electrician.

OPTION

Laser Trauma

The effects of a high-energy Laser beam passing through a human body are pretty gruesome. The heat of the beam will blast the water in the tissues into steam in micro-seconds, causing extensive damage. There is a chance of taking an automatic Critical Hit effect of Trauma to the affected Location. This is a percentage equal to the damage that penetrates the Armor Value on that Location: the actual damage suffered.

If the percentage roll indicated Trauma, half the total damage done is the amount of damage taken as Critical Disabling damage. The victim should be permitted a Health AST to resist this effect.

Note: Sever effects due to Laser Trauma are cauterized by the beam. Bleeding to death is not possible.

So Wild Winifred is potted by a Laser-firing sniper on a housetop. The weapon is a 4-Charge Laser Rifle with Collimation of 3. That will do 4D10 of base damage with a WDM of 3. Winnie is hit! The Laser pulse sizzles through her shoulder (Location 22) where she is wearing heavy leather (Armor Value of 4). The damage roll scores a 10, with a multiplier of 3 that gives a damage potential of 30. Wild Winifred will take 26 points of damage from the Laser hit. 30 points of damage gives the fire effect of the Laser a strength group of 4. That is not twice the Armor Value of the Leather, so her clothes do not catch fire. But as the damage done exceeds three times the Armor Value, the armor on Location 22 is destroyed. Since Winifred suffered 26 points of damage, she has a 26% chance of suffering Laser Trauma. If this occurs, her shoulder takes 13 points of Critical damage, which has a flat 13% chance of severing the arm.

SAMPLE LASER WEAPONS

U.S. Army XLM-2: Max. Charge per Shot = 2.
Collimation = 2.

A Laser pistol loading two E-5 batteries in a clip-type magazine. ENC of .7. DUR of 2.

U.S. Army XLM-3: Max. Charges per Shot = 1.
Collimation = 2.

Lighter version of the XLM-2, for riot control and police use. Carries a single E-5 for power, loaded into the handle as in an autoloading Pistol. ENC of .4. DUR of 2.

U.S. Army XLMR-4: Max. Charges per Shot = 4.
Collimation = 3.

A Laser rifle drawing power from a backpack-type harness, containing an Ev-50. ENC of 1.2 for the gun and 1.5 for the backpack. DUR of 3.

Eastinghome Mining Laser Drill: Max Charges per Shot = 5.
Collimation = 1.5.

A fixed-mount device, about 2 meters long by 1.5 meters high. The relevant Combat Skill for its use is Direct Fire Cannon. The weapon can draw power from an Ev-50 or from a direct source of current. It contains a capacitor adjustable to complete charging at number of Charges from 1 to 5. DUR of 4.

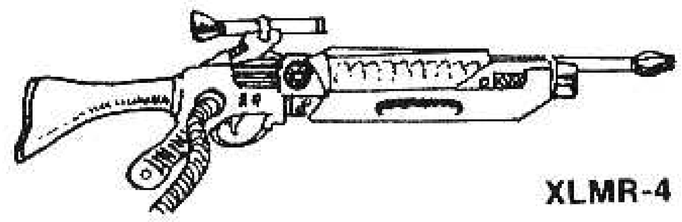
LAZAB

A special bonded, spray-on material that will "take" on any plastic armor or clothing, or a Rigid non-plastic armor. Dispensed in 100-unit sprayers; 1 unit of this material, called "Lazab" (for Laser Ablative), will coat 1 Location on the user's person.

1 layer of Lazab will reduce the Collimation of impinging Laser fire by 1. Each such reduction also evaporates the layer. The material functions by subliming into a vapor which breaks up the coherent light beam of the Laser. A character treats a plastic breastplate with 3 layers of Lazab. He is later hit on a chest Location by a beam from a Laser with Collimation 2. The Lazab cancels both points of Collimation, leaving 1 layer still on that Location. A subsequent hit on the same Location is also at Collimation 2. 1 factor of this is cancelled, so that the impinging beam has a multiplier of 1 for its damage potential. The Lazab on that Location is now gone.

Optionally, the Gamesmaster may simply rate various pieces of treated armor as having a given Lazab factor, if the potential bookkeeping problems involved in the spray-on system dismay him. A constant divisor might be a better way of measuring its protective value in this case, so that complete immunity to Laser fire is never achieved by wearing Lazab with a greater value than most Collimations. Lazab 2 would halve the Collimation, Lazab 3 reduce it to 1/3 of its full value, and so on. This saves a good deal of record-keeping. If the Laser still manages to eliminate the Location's armor despite the reductions of the Lazab, then both the Armor Value and the Lazab value are gone.

Alternatively, an armor material with integral Lazab may have its Armor Value reduced by the Collimation of the hit. If this method is used, the Lazab need not be rated for strength factors.



XLMR-4

ELECTROWEAPONS

These are hand-to-hand weapons developed from the cattle prod. The theory is simple: modify a handweapon to deliver an electric shock in connection with a physical blow. Any standard weapon in the Gear section can be found in Electroweapon form. The most common are: Mace, Baton (Club), Sword, Knife, Spear. Military models were in field test when the Ruin struck, for both Electroweapon bayonets and trench knives, although Pentagon sources admited that these were principally intended to improve troop morale, rather than to increase fighting effectiveness.

The standard Electroweapon carries an E-5 in its haft or handle. When the shock function is switched on (requiring 1 Action), the weapon will emit a 1-Charge jolt of power whenever it hits a grounded object. The Gamesmaster will have to determine if the object is really grounded or not.

If the weapon hits the target (i.e., the BCS is successfully rolled) then the Charge does damage in one of two ways. If the normal damage for the blow penetrates the armor at that Location on the target's body, the 1D10 of electrical damage is added to the damage that penetrated. If the damage potential was insufficient to penetrate the armor, the electrical damage is rolled separately in an attack upon that armor. This is defended against by the armor as described under Insulators in the Electrocution rules (p. 37).

It is therefore possible for a steel breastplate, Armor Value 9, to completely stop the damage from the sword blow of an Electrosword, but presenting no defense against the electrical current, expose its wearer to the full value of the damage die for shock.

Remember that the electrical damage done will be Subdual damage, no matter what kind of damage the weapon does as a physical weapon.

TASERS

A form of Electroweapon is use today, in limited circumstances, is the "Taser." This is a small air gun, modified to fire a short "harpoon," a missile fitted with a barbed point. The harpoon is attached to the gun by a fine wire. Once the weapon has hit the target, the firer can press a stud which will release current into the wire and thus the victim.

Specifications for the Taser as it is used in ***Aftermath!*** are:

Skill Used: Pistol

ENC: .5 Single Barrel .75 Double Barrel

Range: 25 meters

The weapon can be pumped up to firing pressure (5 Task Points required to charge it with enough air pressure to fire once). The reservoir holds 20 "Task Points" of air at a time. A Strength AST allows the pumper to put Task Points equal to his Effect Die roll into the reservoir and the Task Period is 1 Action. Air guns using CO_2 cartridges can fire 10 shots on one cartridge. A battery case holding an E-5 is attached to the gun, providing power for the electric effect.

The Taser's harpoon is about pencil-sized and barbed. It will hit the target with 1D10 of force, and if it penetrates, it will sink its nasty head into the victim. This only causes 1 point of actual lethal damage. He must expend an Action to try to pull it out. To do so, he must roll a score on his Strength Effect Die that is higher than the damage done by the dart when it hit him. This will do him another D3 of damage as the barbs tear loose.

Meanwhile, once the barb is sticking in the target, all the firer need do is press a button mounted on the battery case. He may continue doing this until he runs out of power or the victim pulls the barb out. If the victim is still holding on to the barb when the Charge is sent, he may take the shock in his hand.

Tasers may be fitted with quick-retrieval systems, which will reel back the harpoon if it is not stuck in something, or may require manual rewinding (1 Action/10m). It takes 1 Action to load the harpoon back into the gun barrel when the wire has been reeled in. Critical Hits add 2D5 to the "penetrative force" when it hits. Critical Misses are treated as for arrows. A "String Breaks" result means that the wire has broken. Assume that the wire has about 10 points of resistance to being severed by cutting or breaking in the victim's hands if he tries to disable the Taser that way.

The relevant Skill for shooting a Taser is the Pistol, Modern Skill, but Average BCS is used due to the lower accuracy of the Taser. Repairing a Taser, or making one, is a Task combining the Gunsmith and Electricial Skills.

The Gamesmaster may want to develop larger, more powerful Taser-type weapons for use in special situations. One playtest gimmick that worked rather well was a little servomechanism on a wheeled base that scooted around under tables and behind crates shooting a Taser with a 3-Charge jolt behind it.

EXOTIC FIREARM AMMO

Another form of optional high tech weaponry we will discuss are cartridges used in small arms to enhance bullet damage or other ballistic factors, or to produce other effects.

SABOT ROUNDS

A cartridge case is loaded with a bullet of smaller caliber than the case's. Surrounding the bullet is a plastic sheath, or "sabot." The force of the burning powder can impart a much higher velocity to the lighter bullet, so that it maintains its speed far longer than do ordinary projectiles. Since the velocity is higher, the BDG is not appreciably affected by the use of a smaller slug.

Firing a sabot round will have the same effect as the Match Weapons feature: 50% increase in the Range Steps for the weapon. This reflects the lack of BDG loss over longer rounds and the flatter trajectory of the bullet.

EXPLOSIVE ROUNDS

The bullets are made of a high-impact-triggered explosive, producing a Blast of 1 for a 1-meter radius. If the shot misses its target, roll for scatter as for a miss with any missile weapon (roll a D6 for direction of scatter) with a distance off target equal to the effective BDG in meters times 1D10. Read a roll of 0 as zero, not ten. If the hit is within 1 meter of a character, he gets the Blast 1 effects. If the bullet hits the target, add 1D10 to the damage roll for the effective BDG. If the bullet is stopped by cover, apply the Blast effect to the cover, as if using explosives in an Unskilled manner. Also, the target will experience the Blast 1 effects if any part of his body is not behind the cover, i.e., if he is not completely behind it.

INCENDIARY ROUNDS

The bullet is packed with a high-temperature incendiary compound. On impact, it does not do normal bullet damage, but spatters into an small area of intensely hot fire, which will burn for 1D3 Combat Turns. The initial strength group of this fire is 4. Use the fire rules from Book 1.

FLAME WEAPONS

These are the flamethrowers, white phosphorus shells and grenades, napalm bombs, and so on.

FLAMETHROWERS

These are capable of squrting a stream of napalm for a maximum distance of about 100 meters. No Skill directly governs their use, the BCS (if needed) being derived by adding the user's Combative Talent and Deftness as a score. Actually, if you know how to operate it, all that need be done

is to point the muzzle of the weapon in the general direction of the target and pull the release trigger. Any non-moving target in range can be hit if all you want to do is to splash the outside. If firing at a small part of the target item (a machine gun slit in a pillbox, for example), roll the BCS to do so.

Against targets in the open, or moving targets, roll the BCS. A miss will scatter. Roll the D6 for the direction of scatter and place the end of the spray in that direction at a number of meters equal to the Effect Number of the die roll.

Once an area has been hit by the spray, the user can "traverse" the end of the stream one meter per Action Phase as long as he keeps triggering the flamethrower. He may do this as if moving normally, but is himself limited to a 1-meter move per Action while firing. There is no Stance or aiming modifier to consider with the flamethrower. Just point and shoot.

The weapon operates like a garden hose. To fire at more distant targets, you lift the nozzle, and the stream splatters to the ground farther away. Lower the nozzle and the arc of fluid moves closer to you. Where the stream comes to earth, it will spatter napalm for a radius of 2 meters.

The average flamethrower consists of a long, rifle-sized sprayer, attached to a backpack harness holding tanks of napalm and a pressure tank to push it out. It has sufficient fuel for 10 normal shots, or 20 Action Phases of traversing. 2 phases will consume 1 shot's worth. ENC of sprayer is 1.5, of backpack 2.

FLAME RIFLE

Functions as does the Flamethrower, but lacks its bulk and its capacity. The maximum range is only about 20 meters, the splash radius where the stream hits the ground is only 1 meter, and the Flame Rifle does not have traverse capability.

It has an ENC of 2. No backpack for fuel is needed. Small canisters of pressurized napalm are loaded under the barrel, providing fuel for 5 shots. If a shot misses, check scatter as with the larger weapon.

In the event of a Critical Miss, a scatter result with either weapon which shows the stream landing with the firer in range is allowed. Otherwise, such a scatter cannot occur. Roll again for the vector in such a case.

NAPALM

Napalm is the incendiary fuel made for flamethrowers, flame rifles, and aerial napalm bombs. It can be extinguished by rolling or smothering, by chemical extinguishers, and in water it will float off the victim if he can immerse himself completely, although if he surfaces into a patch of floating napalm it will cover him again. If hit by napalm splatter from a flame weapon, the victim is assumed to be fairly evenly covered by the stuff. It will attack his Average Armor Value for purposes of doing damage, and the fire effects on armor are applied to everything he is wearing. At the Gamesmaster's option, a Location roll may be made, and that part of the body (limb, torso, or head) is what is attacked by the fire.

Napalm has an initial strength Rating of 4 for fire effects, and will burn for 2D3 Combat Turns before going out on its own, if not extinguished earlier.

WHITE PHOSPHORUS

Powdered white phosphorus burns fiercely once ignited, settling over an area in a fine drift of dust. Roll for the Location hit by exposure to White Phosphorus and apply the effects to the part of the body indicated, as was suggested for napalm. White Phosphorus will burn for 2D6 Combat Turns or until extinguished. It has an initial Strength Rating of 3 for fire effects, but it increases that figure by 2 for every Combat Turn of burning, instead of by 1!

White Phosphorus can be extinguished by rolling or smothering, or by chemical extinguishers. Water has no effect on it.

Weapons using White Phosphorus are:

Hand Grenade: 1 Combat Turn fuse, like explosive grenades. Scatters phosphorus for 2D3 meters from point of explosion with a BCS of 12 to hit characters in range. This is subject to Target modifiers for movement and Location rolls are subject to cover.

Mortar Shell: Scatters phosphorus over a radius of 20 meters, with a BCS equal to 14 to hit exposed characters in range. Again, target movement will increase CDA against this attack.

Rifle Grenade: Scatters phosphorus to a radius of 10 meters with a BCS of 12.

Air Bursts will double the effective radius of the scattering effect, but the phosphorus will not start reaching the ground for 1 full Combat Turn after detonation, at which point the BCS rolls for hits are made.

Anyone facing the direction of a White Phosphorus detonation within a range of 50 meters must make a Speed AST to cover his eyes or be blinded by the intense actinic light such weapons give off. If he does not make his roll successfully, he will be blinded for 1D10 Combat Turns.

NUCLEAR WEAPONS

How much higher can the technology behind a weapon get? The first major assumption to be made is that no matter how you ended the world in your campaign, there are not a lot of strategic nukes left. If you want the characters to find (or at least seek) a legendary "last big bomb" in a silo somewhere, then fine. But there is really no reason to put them in possession of a city-killer more than once.

This leaves us the tactical stuff, including the so-called "neutron" bomb. Even here, unless you are positing some pretty remarkable weapons research breakthroughs, the smallest delivery system around will be a 105mm howitzer. The Gamesmaster will have to do the research on this subject in terms of delivery systems.

Our concern here is the potential destructiveness of nuclear explosives. Even a "small" nuke will reduce most buildings to rubble for a radius of almost 1 km. It will put out lethal levels of gamma radiation to the same distance, sentencing the unprotected to slow death. For a slightly greater radius, exposed individuals will suffer third degree burns from the heat pulse of the weapon, which is almost certain to bring death within hours at the most. And that is for a 1 kiloton weapon—almost picayune by modern standards.

The new Neutron bomb, or Enhanced Radiation, Reduced Blast (ERRB) in polite company, does not, as popular belief would have it, noiselessly emit a blast of radiation which sweeps people down in windrows while leaving buildings intact. In fact, it puts out blast effects equivalent to that 1 kiloton weapon we described. Lethal radiation, however, is present at out to 3 kilometers! Significant radiation hazards are encountered as far away as 6 or 7 km. Within the primary radation zone, even personnel protected by the heavy steel armor of tanks would suffer serious overdoses of gamma radiation. Unshielded individuals would almost surely suffer a killing dose.

The rule of thumb for exposure to a nuclear blast is: within the total destruction area of the blast, there will be no survivors, unless in a hardened site or a tank or other vehicle hardened to withstand the weapon's effects. Within an inner radius of the zone (say half its overall radius) there will be no chance of survival. Beyond this, anyone inside substantial coverage (concrete buildings, dugouts, tanks) will ride out the detonation of the device fairly safely. Exposed personnel, however, will suffer casualties out to the full radius of nuclear frightfulness.

These are the tactical nukes (with the exception of the 1 megaton warhead, which represents a fairly small strategic

RANGE EFFECTS OF NUCLEAR WEAPONS

Weapon Size	Total Destruction	Major Destruction	3rd Degree Burns	2nd Degree Burns	1st Degree Burns	500 REM	200 REM	100 REM
1 kiloton	.25 km	.5 km	.75 km	1.5 km	2.0 km	.5 km	.75 km	1.0 km
100 kiloton	1.0 km	2.0 km	3.0 km	10 km	15 km	1.0 km	2.5 km	5.0 km
1 megaton	4.0 km	10 km	15 km	25 km	50 km	10 km	20 km	25 km
ERRB (Neutron)	.2 km	.5 km	.6km	.8 km	1.0 km	3.0 km	5.0 km	8.0 km

weapon). Pace off a brisk stroll of about 5 minutes' length from the center of your home city. If your starting point is Ground Zero for a 1-kiloton blast, everything you have passed will be either flattened, or a tottering hulk if it is very solidly constructed. The sights you pass in the next 5 minutes will still be standing, but severely weakened. Frame houses will probably still be rubbled. Solid structures probably have had their Structural Stability knocked down to 5 or so. Another five minutes' walk brings you to the end of the main heat pulse's range. All unprotected individuals you have passed will be dead of extensive third-degree burns in a few hours. The rubble is probably starting to burn.

As you can see, there is not a whole lot of purpose in trying to stage a defense against nuclear strikes on an individual character basis. The bomb does not care.

The only real game factor that is of general interest in ***Aftermath!*** when it comes to nukes is the question of radiation, specifically of lingering contamination. How does that invisible killer work? How can you stop it?

Well, actually, you can't stop it. If you are exposed to x amount of radiation, so many REM, then you have such-and-such a chance of dying. This is (in game terms) boring.

Let us assume that areas of radioactive contamination still exist. Some authorities state that they will be with us for centuries; others are equally sure that the effects will become insignificant within a few years.

The Gamesmaster should assign a value to such contamination in REM per Hour. When the characters have absorbed a given number of REM, they will contract the appropriate "degree" of Radiation Poisoning.

First Degree (200 REM): The character will become Fully Fatigued and show the Nausea symptom given in Book 1 after a number of hours equal to his Health Group plus the roll of 1D10. He will remain in this state for a number of hours equal to 30 minus his Health AST. There are no further symptoms.

Second Degree (500 REM): The character evinces First Degree symptoms as given above. He will than be apparently normal for a number of weeks equal to his Health Group. After this time he will show the next set of symptoms. Hair will be lost, he will display the symptom of Purpura, and he will suffer a lowered white blood cell count, so that any wound can cause infection. He will be in a state of permanent Partial Fatigue, and further stress will Fully Fatigue him.

He will remain in this state until he can make a Health AST, rolling daily. He will then recover within a number of days equal to 6 minus his Health Group.

Third Degree (750 REM): The character evinces the same symptoms as in Second Degree Radiation Poisoning, but the second onset of the symptoms is accompanied by an Advance up Health. When the Advance reaches the CST, the character is permanently Fully Fatigued. When it reaches the AST, he will become delirious and feverish. At an Advance equal to the Health score, Crisis occurs. The "Virulence" of the condition is 3.

Fourth Degree (1000 REM): The same as Third Degree, but the Virulence of the condition if 4, and the Advance is down the Health: when the effective health is reduced to the current AST, Full Fatigue results. At the CST, delirium. When Health is reduced below 1, Crisis.

During every week that a Character avoids further exposure to radiation, his system will purge itself of REM equal to his Health score. A physician's care can increase this figure by the doctor's Wit Group Effect Die roll, if daily attention can be given to the case. Roll the Advanced Medical Skill BCS at the end of the week, when the REM purged are calculated. The use of 1 Medikit Unit per day in the week will increase the BCS by 1 and the effective Wit Group by the same.

Special drugs are also available which can increase the purge rate if properly administered.

If the character can reduce the degree of Radiation Poisoning to First or even down to none between the time of the symptoms described in First Degree Poisoning and the more severe symptoms of higher Degrees, then the advanced forms of the affliction will not manifest themselves.

For Gamesmasters who wish to use the device, we end this section with a "Neutron Grenade." God only knows how the thing works.

It is a Rifle Grenade, 22mm type, available in Ballistite-launched forms only. It has a Blast of 50 and no Frag. The weapon also generates 1500 REM at the point of detonation. This is reduced by 50 per meter from "Ground Zero."

GASES

Gas weapons may be delivered by hand grenade, 40mm or 22mm grenades from launchers or rifles, artillery shells, or aerial bombs. They range from the ubiquitous but essentially merciful Tear Gas and other riot control substances, to the Nerve Gases (Sarin, VN, and their lethal kin).

Any Gas delivery system will be rated for base volume and duration. These terms refer to how much Gas they will put out in a Combat Turn, and how many Combat Turns they will continue to give off Gas. A 5/5 Tear Gas Grenade will put out a cloud of Tear Gas to the radius of 5 meters, and will do so for 5 Combat Turns. Each Combat Turn after the first will extend the radius of the Gas by the volume figure, so that after the full 5 Combat Turns, a cloud of gas will extend from the grenade for 25 meters in all directions, wherever space exists for it.

Some standard Gas deliver systems are:

- Police Tear Gas Hand Grenade: ENC of .2, Volume/Duration of 1/10, 2/5, or 5/5
- 40mm Launcher Grenade: ENC of .4, Volume/Duration of 3/10
- 22mm Rifle Grenade: ENC of .8, Volume/Duration of 10/3
- 105mm Shell: Volume/Duration of 20/3
- 30 Kilogram Aerial Bomb: Volume/Duration of 50/2

NON-LETHAL GASES

Tear Gas (C-type)

The mainstay of riot control the world over. The gas will impose 1D10 of non-ignorable Distractions and Partial Blindness on anyone in the cloud area without a gas mask of some kind. It will add 1D10 to the Distractions every Combat Turn of exposure. When the total Distractions are greater than the victim's Will score, he will be seized only by the motivation to get out of the cloud. If he cannot make a Will AST, he does not even get to pick the direction of flight, but will charge blindly off in a randomly rolled direction. He will not change direction until he runs into something. A character in the cloud with no protection can resist the first Combat Turn of exposure if he makes a Health AST. He can resist the second Turn if he makes a CST, and if he rolls a 1 on the D20, he can hold out for a third Turn. After that, the Gas takes effect normally. A makeshift mask of wet cloth held or tied over the face will hold off the effects of the Gas for 1D3 Combat Turns.

Retch Gas (CL-type): Acts as Tear Gas, but also causes violent Nausea. It advances up the Health score, immobilizing the victim with cramping heaves and vomiting when that figure is exceeded. The gas advances by 1D6 per Combat Turn of exposure. The victim is subject to the Nausea symptom when the accumulated advance exceeds his Health AST.

Mace Gas (CN-type): Also called "Pepper Gas." Tear Gas in which the chemical Mace is in suspension. This will expose victims to the effects of Mace (see p. 47) on all unprotected portions of their bodies. Any Location not covered by armor or clothing of some kind is subject to attack. The stuff will penetrate clothing not sealed against Gas after a number of Combat Turns equal to the Average Armor Value of the wearer in any case. It will proceed to affect the body moving inward from the extremities (head, hands, feet) toward the center of the torso.

Smoke

Any of the above Gases can be mixed with a Smoke compound. Smoke charges in this application do not act as Narcotic poisons, but only reduce visibility. They have a normal density of 2. Smoke charges also are loaded into Gas systems alone, to provide visual cover for troop movements, defense against lasers, and so on.

LETHAL GASES

Mustard Gas

Discovered in WWI, this nasty substance is a poison both to breathe and to skin contact. It is not only a chemical poison, but a vesicant or blister gas, acting on unprotected flesh like an Acid.

A gas mask is required to withstand the effects of inhaled Mustard Gas.

Mustard Gas: A,(D)—(-)—HLH—1 Combat Turn—3—
1 Combat Turn/1 Hour—Lethal Poison

The two values for the Cycle represent the values when in the cloud as opposed to those in force once out of the cloud. While exposed to Mustard Gas, or any other poison gas, it is not possible to throw off the effects until out of the cloud, as it just repoisons the victim. The Gas does its damage every Cycle period, with no Saving Throw possible.

Due to the vesicant action of Mustard Gas, those who have breathed it face a further danger once the principal effects have been thrown off: pneumonia. The effects of this infection are given later in this section (Germ Warfare). The chance a Mustard Gas Victim will contract the disease is equal to the total Advance of the poisoning down the Health score, before it was thrown off, as a percentage. If the D100 roll indicates that this has occurred, the character must save as if exposed to the disease, and if he fails his Health AST, he will contract it.

The vesicant action of Mustard Gas acts as an acid on the victim as long as he is in the cloud. It does not attack armor, but will eventually penetrate any clothing or armor not sealed or otherwise treated to resist chemical warfare. It is not impeded by materials rated to protect only against riot control gases. When, in any Combat Turn, the Gas damage for acid attacks exceeds the Average Armor Value of the victim, it will do all further damage directly to the character's DRT as Combination Damage (half Lethal and half Subdual). As long as the victim is in the cloud, the acid group of the attack is 5, rolling 2D10 for damage. If the face is unprotected by a gas mask, the Gas will immediately do the Acid Special Effects given in Book 1 on page 49.

All vesicant action ceases upon leaving the Gas cloud.

Sarin

A Nerve Gas, acting to destroy directly the function of the victim's central nervous system. It can be breathed in, or absorbed through the skin. Personnel not wearing gas masks and protective clothing rated to defend against war gases will be affected. Sarin is both colorless and odorless, being detectable only by devices or chemically treated paper, which turns different colors in its presence.

In the first Combat Turn of exposure, all unmasked characters will be affected, and masked characters without protective clothing will resist the Gas with a Health AST, to which their Average Armor Value has been added. On the next Combat Turn of exposure, such characters receive an unaugmented Health AST. On the third Combat Turn, they receive only a CST as a chance of resisting exposure, and on the fourth Combat Turn, only a die roll of 1 will save them. Thereafter, they are exposed.

Sarin: A,D—(+)—HLH—1 to 4 Combat Turns—4—
10 minutes

When Advance exceeds Health CST, the victim becomes Fully Fatigued, his vision is affected, reducing his perception of local Light conditions one step (Good to Dim, Dim to Poor, etc.), and severe confusion doubles the character's PCA since he must concentrate harder to accomplish an Action. When the Advance exceeds the Health AST, the previous conditions persist, and Nausea sets in along with a loss of voluntary motor control which halves the character's BMA. When the full Health score is exceeded, Crisis occurs as with Lethal Poisons.

If the victim is still in the cloud at the end of a Cycle period, there is no chance he will be allowed a Saving Throw to throw off the effects of the Poison. This assumes he is still exposed to the Gas directly, instead of in protective gear.

Standard military issue today is Atropine, which acts to negate the effects of Sarin. It is issued in individual syrettes. Injection of Atropine before the end of the first Cycle will cancel the poison's effect entirely. This effect will last for 10 minutes plus the character's Health Group in minutes, should he still be exposed to the Gas. After that, he had best be out of the cloud or in protective gear, because further injections of Atropine will act as a Lethal Poison,

I—(-)—HLH—1 Combat Turn—2—5 Combat Turns

PERSISTENCE OF GASES

There are two classes of Persistence: Long and Short. Long Persistence Gases will clear from the air in 2D10 + 10 minutes, multiplied by 10, i.e. 120 to 300 minutes. Winds or rain will eliminate the multiplier. The cloud may drift in this period, maintaining its overall shape and dimensions, at a rate of 2D6 kph, in a random direction.

Long Persistence Gases are Mustard Gas, C-type and CL-type Tear Gases, and VX, a newer form of Sarin.

Short Persistence Gases will dissipate in 2D10 minutes, divided by 5 in the case of high local winds or rain. They are

also subject to drift, albeit this is not as vital a factor under the circumstances.

Short Persistence Gases are Mace Gas, Sarin, and T-Gas, a special form of Mustard Gas.

MACE

Mace is not a Gas but an aerosol spray, used in Mace Gas to augment its effects, or from a small spray can as a personal weapon. In this latter form it has an optimum range of 2-3 meters. If the target is at that range, the spray will hit if the Attacker can roll a Deftness AST. From 4-6 meters, a CST will hit. The Target may use his flat CDA to dodge, receiving no bonuses for movement since the spray covers a wide area.

At 1 meter or less, the Attacker must make a Deftness CST just to get the sprayer in position to use. If he succeeds, he also uses a CST to try to hit the target as given out above.

A shot of Mace will hit 1 Location on the Target's body. It will automatically penetrate any Flexible non-plastic clothing with an Armor Value of 4 or less. Plastic cloth will be penetrated only if it has an Armor Value of 3 or less.

The number of Locations affected by Mace, divided by 2, up, represents a Group. When the Group is increased, roll the Effect Die for that Group. This score represents a number of non-ignorable Distractions that the character will suffer until the Mace wears off. When another increase occurs, roll again. If the new die roll exceeds the highest previous score, that die roll is the number of Distractions in force. If it is lower than the current number of Distractions, there is no change.

A Mace Hit to a Head Location (Locations 1-3) will have more pronounced effects. This is treated as a case of System Shock. Even if the victim makes his Health CST, to avoid unconsciousness, he will be Partially Blinded until the Mace effects wear off. Any hit to the Head will also increase the current Group of the Mace effects by 1 full point, not half a point, as others do. The protection on these locations must provide facial coverage for Location 2, to defend against the Mace hit. Otherwise, the armor protection described for other Locations applies.

The Mace victim may make a Health AST to throw off the effects of the Mace every 5 Combat Turns. Special formulae for persistent Mace exist, requiring longer Cycles (up to 10 minutes). These are generally available only from military or police supplies.

GERM WARFARE

If a standard Ruin due to internecine war may be said to exist in the concepts used for ***Aftermath!***, it is that after the major powers divested themselves of nuclear arms, they proceeded to re-arm with biological weapons: germ warfare.

The resulting conflict is quite lethal enough to clear the Earth of the requisite population, but leaves the resources available for salvage by the survivors. This is perhaps a cold-blooded sort of rationale for using Germ Warfare in your campaign, but it does allow a fairly fast flow of the character's search for survival equipment.

The brief list of symptoms given in Book 1 should serve as a model for designing others. The essential nature of a disease (natural or laboratory-bred) is to attack the system of the patient, displaying certain symptoms outwardly while the bacteria or viruses do their nefarious work. Our coding system for diseases will allow the plotting of the course for any number of conditions, from the common cold to the most lethal plagues. The apocalyptic literature which fuels the concept for ***Aftermath!*** is filled with examples of diseases that seem tailor-made for Germ Warfare use, and we will give the specifications for some of these here. Also included in this section are common diseases likely to be suffered in the normal course of daily life in the post-Ruin world.

BIOLOGICAL WEAPONS

Strains of disease bred for Germ Warfare. It is assumed that they were mutated to sporulate, go into a form of hibernation, when a host is not present to be infected. This could have been a lab-developed trait or one which occurred via a random mutation after the germs were released.

Anthrax

D or A—(+)—HLH—1D3 Days—3—2 Days—Lesions. Nausea. Pain.

There is also a chance that the disease will cause the loss of facial and head hair. When the disease is cured, roll a Health AST. If it fails, the character is permanently bald. Once this disease has been overcome, the character is immune to it.

Cholera

G—(0)—None—1D3 Days—Special—1 Day

The victim of Cholera begins dying of thirst as described in Book 2 under Survival. This process continues until he is healed. He will remain at the stage of the dehydration process he reached when he overcame the disease until he makes a Health AST, rolling once per day. He will then be fully recovered. Cholera is generally contracted by drinking impure water, infected with the bacteria of the disease.

Boiled water will not carry the disease.

Pneumonic Plague

A—(-)—HLH—2D6 Hours—4—2 Hours—Nausea. Weakness. Fainting.

Once the disease passes the Health CST in its Advance, the victim will just go into delirium until death or healing takes place.

GENERAL DISEASES

These are likely to reappear in even the healthiest of regions when modern medical science is no longer controlling their spread.

Pneumonia

A—(-)—HLH—1D3 Hours—3—3 Hours—Pain. Weakness.

The victim has a chance of Infection if exposed to any kind of wound while suffering from pneumonia. There is also a much milder form of the disease, with a Virulence of 1 and all the time periods above given in Days, not Hours. This is often called "Walking Pneumonia."

Victims of exposure or damage to lung tissue can develop the disease without any apparent exposure to a carrier, as most humans carry the pneumococcus dormant in their lungs, ready to become active if the immune system of the victim is weakened.

Rabies

I—(+)—DFT—1D3 +5 Days—5—1 Day—Rheumatoid condition of arms and legs. Nausea. Pain.

Rabies is transmitted by the bite of a rabid animal.

Hepatitis

G or A—(+)—STR—1D3 Days—3—1 Day—Weakness. Nausea. Dizziness.

MODIFIED DISEASES

Diseases show a distressing sameness. If we have mutated people and animals, we can surely mutate the teeming swarms of bacilli to produce new, mad, exotic plagues. Some of those which strike terror into our playtesters' hearts include:

Brain Lighting

A—(-)—WL—2D6 Hours—3—1 Hour.

The sufferer will complain of hideous headaches once the Advance has wiped out half his Will score. He will become insane and require restraint if he is not to run madly about at random once the disease has reduced the Attribute below its current CST value.

Eyeburn

I—(+)—WL—1 day—2—12 Hours—Dystopia.

If the Crisis is not survived, the character is still alive, but

his optic nerve has been destroyed, leaving him permanently blinded. The disease is transmitted by the bite or claws of infected animals. It seems to be a mutant form of Rabies, which has become specific to the tissues of the optic nerve.

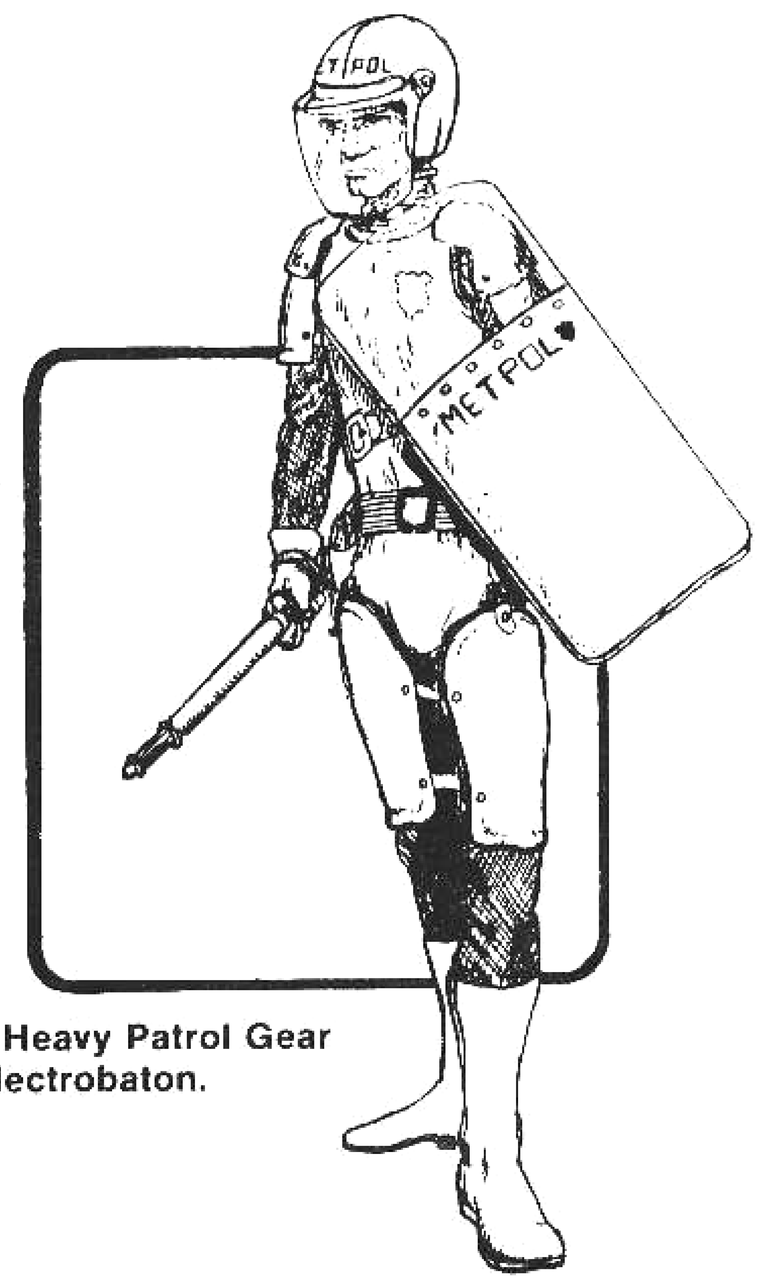
These two examples should put medically-inclined Gamesmasters on the right track toward breeding their own unique compendium of plagues with which to afflict their Players.

ARMOR

The kind you wear, not the kind you drive. We have discussed the materials pretty thoroughly in the Equipment rules. However, as far as military and police applications go, personnel will not be outfitted in piecemeal array like the average character is. Integral, standardized suits would be the rule, and when such suits, or certain parts of them, have been assembled, special capabilities will be gained.

POLICE ISSUE

If your campaign assumes, as our test campaigns did, that a time of grievous social disorder preceded the Ruin proper, then metropolitan police units will be outfitted with fairly heavy riot armor by the time the end comes. Light, quickly-assembled suits would be dispensed to normal officers, activated for riot control. SWAT teams and Civil Disorder Units would be issued more durable stuff, since their standard assignments will put them in positions of greater personal danger.



Metpol trooper in Heavy Patrol Gear with Shield and Electrobaton.

Item	Locations Covered	ENC	Material
Jumper	4-12	.018	PX
Upper Arm Guards	21-24	.096	MP
Thigh Guards	13-14	.048	MP

Coverall, helmet, gloves are standard Metpol issue.

The Metpol (Metropolitan Police) Patrolman's Issue Armor

Item	Locations Covered	ENC	Material
Helmet	1-2	.048	MP
Gorget	3	.024	MP
Flak Jacket	4-12	.288	LP-MP
Coverall	4-18, 21-28	.046	PH
Boots	17-20	.016	LL
Gloves	29-30	.008	LL
w/Cuffs	27-28	.020	SY

Average AV: 6 Total ENC: .450

Features: When Helmet and Gorget are worn together, the protection over the Face (Location 2) locks down into the Gorget, forming a gas mask (filter type), effective against most standard gases but not biological contaminants. Plastihide Coverall is specially treated to protect against contact vector irritants, as are Gloves and Boots. Thus, integral suit is a defense against most chemical attacks.

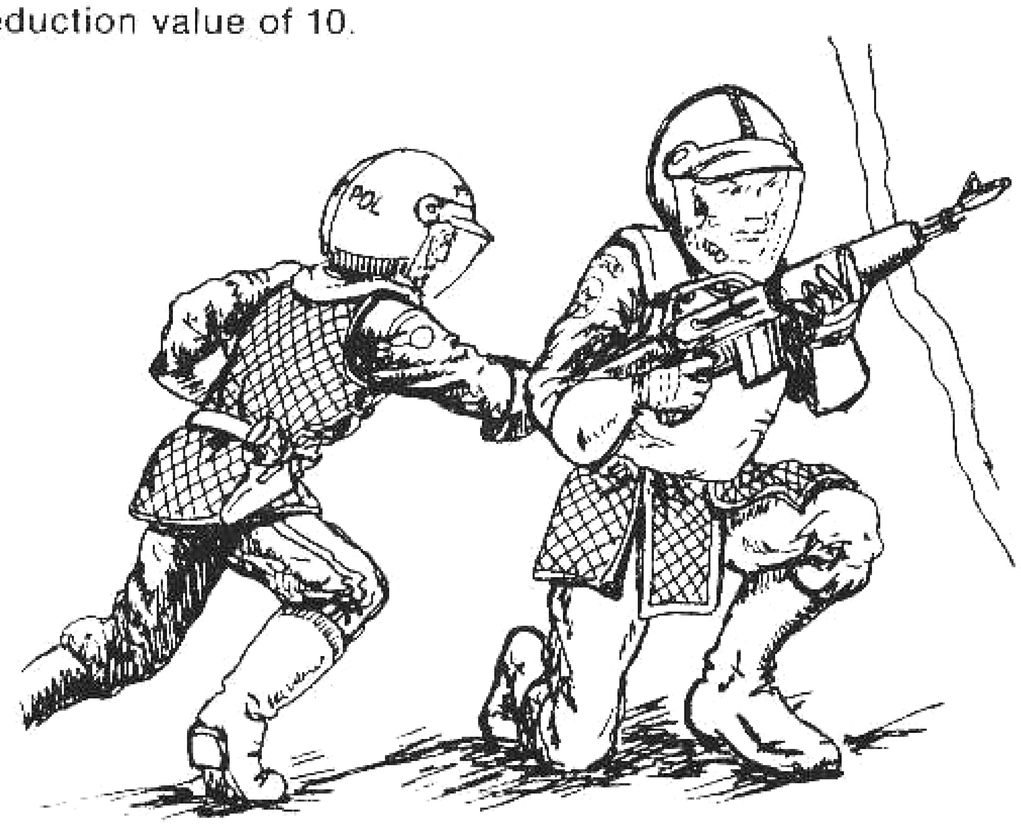
The Helmet has a built-in portable communications unit (Com-Link), powered by an E-1. This is the equivalent of a hand-held Police radio. Reception can be switched to one of three police frequencies. Transmission is by voice-activated throat mike.

The Metpol SWAT/CDU Issue Armor

Item	Locations Covered	ENC	Material
Helmet	1-2	.06	DP
Gorget	3	.03	DP
Breastplate	4-9	.18	DP
Hip Guards	10-12	.096	LP-MP
Coverall	4-18, 21-28	.046	PH
Boots	17-20	.016	LL
Gloves	29-30	.008	LL
w/Cuffs	27-28	.020	SY
Joint Guards	15-16, 25-26	.280	LP-PS

Average AV: 7 Total ENC: .736

Features: Same as Patrolman's Issue plus optional Ballistic Cloth sheathing for Locations 4-14, looking like a short poncho, strapped to the armor. This garment has a BDG reduction value of 10.



Patrolman **SWAT Team Member**

MILITARY ISSUE

The combination of protection and lightness which plastics bring to the field of personal armor may well give us infantryment who look like medieval knights, or at least Cromwellian "Ironsides." Military troop specialization will be more extensive than police (unless the cities get *very* hostile before the Ruin hits them). Here, we give the statistics for four of the most common types of armor in modern military issue (circa 2000).

Field Infantry Mark I

Item	Locations Covered	ENC	Material
Helm	1-3	.108	AP 13
Torso Protection	4-9	.18	DP 11
Hip Guards	10-12	.096	DP 11
Arm Harness	21-30	.36	M-MP 6
Leg Harness	13-20	.288	M-MP 6
Boots	17-20	.04	SY 5
Joint Guards	15-16,25-26	.28	LP-PS 13

Average AV: 9 Total ENC: 1.352

Features: Helm contains military issue Com-Link, powered by an E-5. Breathing intakes fitted with Micropor Mk.IV anti-viral filter, providing protection against aerosol biowar agents. Also resists gas attacks by standard military or police gases. Undersuit available providing protection against contact chemical and biological weapons. Also available is ballistic cloth oversuit, in assorted camouflage patterns (Green, White, Sand, and Grey). Provides 15 points of BDG reduction.

Heavy Infantry Armor Mark IIIa

Item	Locations Covered	ENC	Material
Helm	1-3	.12	PS
Articulated Body Unit	4-12	.48	PS
Articulated Leg Harness	13-20	.32	PS
Articulated Arm Harness	14-28	.20	PS
Gauntlets	29-30	.08	PS

Average AV: 15 Total ENC: 1.2

Features: Articulated pieces are gasketed at flex points (waist, joints). Overlap of rigid material at joints provides equivalent protection to that afforded areas behind solid plate. Due to its construction, the integral unit can be sealed against any form of CBW attack. Suit is potentially multi-environmental, can be equipped with breathing gear (standard Mk.II UAW unit) capable of providing fresh air supply for 2 hours.

Helm equipped with Micropor Mk.IV anti-viral filter and Com-Link. Flip-down Star-Light filters available for use in reduced visual conditions. All powered systems in suit draw from two E-5 batteries carried in case at hip. At full power, with internal air circulation, Star-Light scope, and Com-Link operating, suit draws 100 watts. It is thus good for ten hours' operation on one set of batteries.

The Mark IIIb version of this armor system is provided with an exoskeleton MAMP (Man AMPlification) unit. This provides a 50% increase in effective Strength of personnel. It draws power from an independent power supply, consisting of two E-10 in a backpack. It increases ENC by 1.5 and is rated at 250 watts.

Both versions of the Mark III are equipped with Blast Buffering rated at 10 and are issued with a Lazab Factor of 5 on all points of the body. Camouflage coveralls are available as for the Mark I.

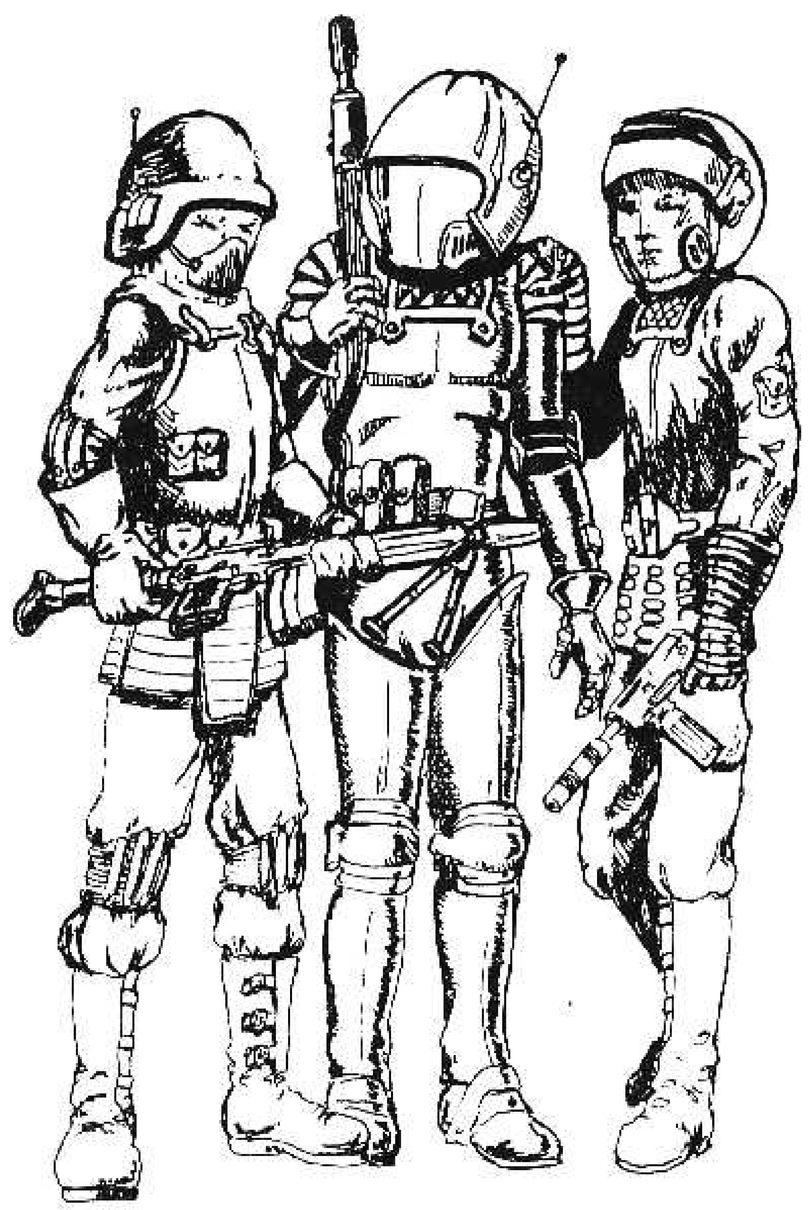
Light Reconnaissance Unit Armor ("Intruder" System)

Item	Locations Covered	ENC	Material
Helmet	1-2	.072	AP
Gorget	3	.036	AP
Body Armor	4-9	.270	DP
Hip Protection	10-12	.120	LP-DP
Fatigues	4-18, 21-28	.460	PX
Gauntlets	27-30	.150	LP-DP
Boots	17-20	.040	SY

Average AV: 8 Total ENC: 1.158

Features: Convertible flip-up vision units on helmet faceplate, allowing unaided, Star-Light, or Infra-Red visual scans. Also contains Com-Link, Micropor filter and audio-boost aural input units. These increase effective hearing range to about 60 meters in omnidirectional mode, or they may be tuned to a given vector for about 100-meter pickup. Their use makes normal sounds clearly audible at these ranges, and quiet noises are also possible to hear (as Hidden Things). Allows Wit AST when listening for noises through doors, etc., instead of usual Critical Saving Throw.

The suits were designed for use by units on scout and sentry duty. Options on certain experimental models released just prior to the Ruin include the "Intruder Chameleon," fitted with a switchable camouflage setting. Adjusting the controls caused the specially-treated materials of the suit to assume one of five camouflage patterns: Green, Brown, White, Grey, or Black. Accessories also included anti-biological and chemical oversuits, and a built-in Blast Buffer harness, rated at 5 points of Blast reduction.



Mark I **Mark IIIa** **"Intruder"**

MILITARY ANTI-RADIATION PROTECTION

A spray-on protection, much like Lazab. The rating of the protection is 1 per layer applied, to a maximum of 5, and is divided into the REM per hour of exposure in contaminated areas. The coverage breaks down by 1 factor per 100 REM of exposure. Partial coverage has a factor equal to the total number of layers divided by 30. Coverage of 3 layers on Locations 1-10 would not effectively reduce exposure, as 3 layers times 10 Locations is 30, and 30/30 = 1. A factor of 1 is not effective. The first layer of such protection acts as a "primer," also working to absorb secondary contamination as the shielding breaks down. This substance is usually dispensed in 100-unit aerosols (ENC of .2). This is applied like Lazab.

CIVILIAN ARMOR & HIGH TECH CLOTHES

These spring from one of two sources: armor and other protective coverings developed for workers in high-risk environments and disaster control, and civilian protective garments designed to meet crime in the streets during the grim times of the Pre-Ruin Unrest period.

Fire Protection Suit

The familiar asbestos coverall. Silvered on the outside to reflect heat, and with room inside for self-contained breathing apparatus, the suit will present an effective Armor Value of 10 to Fire and Fire Damage, although its physical Armor Value vs. blows and other damage is only 5.

Anti-Radiation Suit

For use by disaster workers or plant workers in radioactively contaminated areas. A simple air filter keeps radioactive particles out of the wearer's lungs, so no breathing apparatus is needed. The exposure to local radioactivity is cut by 100% when the suit is at full efficiency (i.e., never before used). This protection is degraded by 5% per 100 REM of exposure taken by the suit. In a 500-REM-per-Hour area of contamination, the suit will be reduced 5% in efficiency every .2 hours, or 12 minutes. It will be down to 75% after the first hour, 50% after the second, and completely useless after a total of four hours. Its wearer will be exposed to increasing dosages of radiactivity as his protection erodes. Rips or tears in the suit negate is effect by 5% per Location torn. "Used-up" suits are at best no good and should be discarded. They have a high likelihood of being contaminated themselves (say 10-60 REM per hour) and should not be handled over-much. They are Armor Value 5 vs. normal damage.

Civilian CBW Suit

A Civil Defense unit. A large coverall with hood, made of light plastic. It has a small air tank of spun fiberglass, holding 30 minutes of air. The suit protects against any CBW agent as long as it remains sealed. It is designed to be used once and destroyed. Its Armor Value is 2.

Street Suits

Plastex (PX, Armor Value 6) coveralls worn by the inhabitants of urban areas with high crime rates. Deluxe models incorporated Ballistic Cloth into the torso (Locations 4-12). They often came equipped with hoods of quilted Plastex, with Armor Value 7, covering Locations 1-2. Gas masks were also part of the suit, or its optional accessories. Street Suits were often decorated in garish patterns, both in obediance to the dictates of fashion, and in an attempt to deny the grim necessities that forced the wearing of armor in one's own city.

Electro-Thermal Sporting Clothes

The ultimate in winter-weather protection. A suit of thermal underwear including socks, wired to maintain even warmth in the iciest of conditions. It will operate for ten hours continuously with 1 Charge of battery power, and has a battery case at the waist designed to hold an E-1. It counts as Heavy Cloth.

Crash Suits

Designed for use by racing drivers, stunt men, etc., these are constructed of a unique material called Rigiplast. Rigiplast is an impact-sensitive plastic, soft and malleable under most circumstances, with an ENC of .005 per Location covered. But when it is struck with any force, it will become momentarily rigid, presenting an Armor Value of 7.

When worn as a suit, Rigiplast acts to provide Blast Buffering with a base value of 5. If only partial coverage is acheived (say by a jacket or trousers), the Blast Buffering is equal to 5 times the number of Locations covered, divided by 30. Round fractions nearest.

Crash suits may also be provided with flame protection, as are the Fire Protection Suits.

Rigi-Gloves

Gloves made of Rigiplast are much favored, since they add so appreciably to the impact of blows. Such hand protections will add 1 to the WDM of punches or chops, using any unarmed combat Skill (Brawling or Skilled Unarmed Combat). These are known as karatands.

MEDICINE

As the technological arts of destruction are much advanced, so are the healing disciplines. Wondrous drugs, remarkable devices cooperate with the skills of the physician to offset the hideous damage of wounds, the killing diseases of the Ruin. Even death, if it be not too long in control and the cause of death has left some shell into which life may flow again.

Here we give some samples of the medicinal arts that flourished before the Ruin. As with much of our material it includes things known to us now, sometimes without any real change in how the device operates. Other entries here are developments that may be seen occurring in modern medicine, some laudable, some not. We will posit that they were brought to fruition before the end came.

INJECTORS

We have stated that the advances in packaging will permit drugs to be preserved without degeneration for an indefinite period. The forms of such materials will be in pills for some drugs, but mainly we envision them in single-dose, disposable syrettes. Pre-loaded with the proper dosage, sterilized and ready to inject when the cap protecting the needle is removed, these little plastic hypos weigh a mere .01 ENC.

The needle can penetrate non-Rigid armors with an Armor Value of 4 or less. Any Location of the body may be used to inject the subject, unless the specific description of the drug states otherwise.

DRUGS

Polycellulac-3

Heals 2D10 of Lethal Damage per dose. Must be administered within 10 minutes of suffering the damage. The drug's action accelerates the normal healing systems of the body tremendously. As a result, the Healing Rate is reduced by 1 per dose. When the Healing Rate is 0, further doses will have no effect. The lost Healing Rate is restored at 1 point per day. Note that the character's Shock Factor will be reduced while his Healing Rate is reduced.

Polycellulac-4

Same as Polycellulac-3 but this formula is not subject to the time limits regarding when the damage was received. It will act upon any Lethal Damage currently in the patient's system.

Neo-Heroin

A very potent pain-killer. Reduces the effects of being wounded. If the damage total taken exceeds 50% of the DRT, the patient has no penalties for this state; he is effectively unwounded. If over 75% of the DRT, he suffers only the penalty for being over 50%. If his damage total exceeds his DRT by less than his Healing Rate, he is not comatose, which would be normal, but suffers the penalties for wounds past 75% of the DRT. Damage exceeding the kill point is still fatal, or incapacitating in the case of Subdual Damage. The patient's Shock Factor is increased under the influence of Neo-Heroin, by 5.

The drug is addictive. For every dose taken, a Health AST must be made, or the user will pick up a habit. It requires 72 hours of cold turkey from the drug to kick the habit. After an addict's last dose wears off, he will be unaffected for hours equal to his Health AST. He will become Partially Fatigued after that, until the time in hours since the last dose equals his Health score. He will then become Fully Fatigued. He must roll a Health AST and Will AST at this point (or rather, the Gamesmaster should roll for him). If he fails the first roll, he will collapse, delirious, after a number of hours equal to the Health Group Effect Die roll. If he makes the Health AST but fails the Will AST, he will retain consciousness but will do anything to get another shot of the drug during the remainder of the 72-hour detoxification period. The Gamesmaster may dictate his actions, or let the Player control them if he can be trusted to play the addict's desperate craving properly. We would remind readers that a junkie undergoing withdrawal is not entirely sane. He will undertake any course, no matter how slim its chance of success, that seems likely to get him that next shot.

A dose of Neo-Heroin will last for 2D3 hours. During that time, it controls the wound effects as stated. When it wears off, all wounds will revert to normal effects.

Cardiacine

An extremely powerful cardiac stimulator. Can restore the heartbeat in the newly "dead." The body must be intact enough to support life: no severs, no enormous holes in the guts, etc. The Gamesmaster is the final arbiter on this point.

The injection must be made directly into the heart (i.e., Location 6 must be used to inject) within 3 minutes of "death." Only one shot is allowed. The patient is permitted a Health CST when injected. If he makes it, he will have 0 DRT, and be comatose but alive. If he fails to make it, he does not revive, and is dead.

OPTION

Brain Damage

This is a gruesome but accurate element of any simulation of non-magical "resurrection." If the Cardiacine is not injected within 5 Combat Turns of "death," the patient will start to lose Wit and Will points. These losses are permanent. The character can still gain in these Attributes, but his maximum possible score is reduced from 40 by the number of points lost due to oxygen starvation while his heart was stopped.

If the injection is given 6-10 Combat Turns after "death," 1D3 of Wit and Will are lost. From 11-15 Combat Turns after the heart stopped, 1D6 is lost in addition. From 16-20, 1D10 more is lost. During the period 21-30 Combat Turns after heart activity stopped, a further 1D20 is lost. After 30 Combat Turns, it is irrelevant, as the 3-minute limit is up.

If the current Wit or Will score is reduced to 0 or less, the physical revivification of the patient if still possible, but not really desirable, as he will be a permanent vegetable, brain activity wiped out by oxygen starvation.

Syrette

Panomycin

A broad-band antibiotic. 1 Dose allows +1 to any Saving Throws the patient attempts against any form of disease. 1 Dose per Saving Throw attempt is allowed.

OPTION

Superior Broad-Band Antibiotics

The Gamesmaster may introduce more powerful, general remedies into his campaign's pharmacopeia. Assign a value of 2D3 to such drugs, which otherwise operate as does Panomycin. Alternatively, massive Panomycin treatment can fill this function, two Doses acting to give +1 to the base value of the first Dose. Thus, 3 Doses give +2 to the Saving Throw in question, 5 doses give +3, and so on.

Tailored Antibiotic

There is, theoretically, one of these for every disease the Gamesmaster has put in the Campaign. The antibiotic has a "formula" written exactly as is the formula for the disease. If used in a different case (i.e., for another disease) it will still give a bonus to the Saving Throw as does Panomycin, with a +1 for every element in its formula that matches the coding of the disease it is fighting.

An injection of the tailored antibiotic that exactly matches the disease code is the same thing as making the relevant Saving Throw. It cures the disease.

HDAP (Hyper-dexamylophet)

A powerful amphetamine. Reduces fatigue by 1 step. If the patient is not currently Fatigued, it will add 2D5 to Deftness and Speed. When the drug wears off (2D6 hours later), the patient will be Fully Fatigued until he has slept for 24 hours minus his Health AST. If another Dose is taken while under the influence of HDAP or in the Fully Fatigued state that follows its use, a Health CST is needed if the drug is to have its usual effect. Failure means that the patient's system will not accept more HDAP at that time, and will not do so until he has slept for the specified period. A Critical Failure will cause collapse for 2D10 hours.

HDAP is addictive, exactly as is Neo-Heroin. This is for convenience. The detoxification period for the amphetamines is much more drawn-out than that of heroin. If the Gamesmaster is interested, there is a glut of data available in modern books on the effects of drugs.

8-Gamma-PCP-III

Derived from the notorious drug PCP ("angel dust" or "KW" in modern slang). It was developed by the Army in experiments seeking a drug to increase the effectiveness of the infantryman in combat.

Strength, Deftness, and Speed are all increased by 50%, although the Strength bonus does not increase the DRT. The Shock Factor is increased by 10. Wounds are resisted as when under the influence of Neo-Heroin. The effect lasts 3D3 hours.

In stress (combat, hostile activities, personal danger, pain, etc.) the victim/user must make a Will AST to control himself (one such roll at the onset of the situation is enough, unless it is very drawn out, in which case the Gamesmaster may choose to require subsequent re-rolls). If he fails, he will go berserk, attacking any apparent threat in his vicinity, including armed or violent-looking members of his own party. He will not break off a fight until his opponent is obviously dead, and he will try to kill with no regard for other factors. In this state, the user will *double* the Effect Die rolls for such things as breaking restraints, great leaps, etc. He will be absolutely fearless, but will view any opposition to his ideas as a direct attack. He is immune to Fatigue.

When the drug wears off, the user must make an immediate Health AST, as well as checking for any results of losing his drug-given powers (wounds, pain, fatigue, etc.). If he fails to make the roll, he will undergo a mental flashback 2D12 hours later, lasting for 10-60 minutes. His mental attitudes will be the same as in the berserk state, but he will have none of the

physical advantages of the drug. After this spell ends, he must roll the Health AST again, repeating the flashback process over and over until the Saving Throw succeeds.

Anagathon

The pinnacle of medical research before the Ruin. The drug reverses the degenerative effects of age over 40 years. This is not a single-dose operation. A graded series of injections of various components of Anagathon are required over an unbroken period of one month. The full set of syrettes has an ENC of .5. Each such regimen cancels 2D3 of the effective age as far as the losses of physical Attributes go. As the effective age is lowered past the 3-year "break points" the reductions suffered due to age are restored.

The patient may not exert himself during this period, his food and water requirements are doubled, and there must be no more than three days at a time lost between treatment days or the process breaks down.

CPC (Catabolic Potential Catalyst)

This is a drug discovered earlier in the research that produced Anagathon. Following a regimen similar to that described for the other drug will extend the Character's "prime" by 1D3 years. In other words, after a 1-month CPC protocol, the Character will not start "aging" as is usual until he is 43, instead of 40. A maximum 5-year extension can be maintained at one time. If the "prime" has been extended to 45 years, no further treatment will have a result until the patient is at least 41.

NOTE: Neither of the above drugs restore or extend youthful looks. The patients still look aged, though hearty, after treatment. It is the effect on muscle, bone, and neural tissues that is combatted, not wrinkles, graying hair, and so on.

Anarad

A chemical compound of the versene series, operating to flush radioactive ions from tissues of the human body. A "Dose" of Anarad is a series of graded injections, used daily over the course of a week. It increases the rate at which REM are purged from the body by 20. A full set is .25 ENC.

Anti-REM

An injection which helps the body resist external levels of high radiation. Rated from 1 to 5, a Dose of Anti-REM will cause the actual REM rating of the environment to be multiplied by a factor equal to (10-Drug Rating)/10. A shot of Anti-REM 1 will cause only 90% of impinging radiation to be absorbed. Anti-REM 5 halves the effects of radioactive exposure.

One Dose will last for 48 hours. Multiple Doses may be used to add up the effects, as in taking two Doses of Anti-REM 1 to get the effect of Anti-REM 2, but the maximum protection the drug can afford is a rating of 5. Further Doses have no effect.

Memory RNA

Doses are rated from 1-10. This represents a BCS in some Skill. When the Dose takes effect, the character acquires the specified BCS in the Skill. If he already possesses the Skill, the figure is a bonus to his current BCS. If not, it is his total BCS in the Skill.

Alternatively, the drug may be rated with a Skill and a score (01-30, 51-75, etc.). If the character does not have that score in the Skill, he will acquire it. He cannot use it unless he possesses a total score from 1 to the lowest point to be acquired. Thus, the data acquired from a Dose of Memory RNA for Driving Skill, 51-80, is useless to the character until he gains a score of his own up to 50.

The former type is suitable for RNA Doses designed to act as temporary boosts to knowledge, the latter for permanent implants of knowledge.

It is not advisable for very physical Skills to be included in those available from Memory RNA, although some fictional treatments of the subject use them this way. The premise is that the reflexes and muscles are adapted by the injection as well as the brain cells.

Temporary Doses of the drug will endure for one week.

MEDICAL TECHNOLOGY

Beside the wonder drugs listed, the equipment and resources available to the physician in ***Aftermath!*** can spell the difference between life and death for his patients.

Defibrillator

If the physician has this device (1.2 ENC, operating from the charge in an E-10) he may use it in lieu of Cardiacine, subject to the same restrictions. The defibrillator is a small valise, and if you do not recognize the name, it is used to administer an electric shock to restart a heartbeat.

The defibrillator consumes 1 Charge per use. The patient's chest (Locations 4-7) must be exposed, and the device itself open and turned on (1 Action to get it ready).

Upon applying the Charge, the physician must make an Advanced Medical Skill BCS. If he succeeds, the patient may make the Health CST as with Cardiacine. Unlike Cardiacine use, the defibrillator may be used more than once, until:

1. The physician makes a Critical Miss in his BCS roll.
2. The patient makes a Critical Miss in his Health CST.
3. Brain death ensues (3 minutes after heart action stops).
4. No more power is available.

Cardio-Pulmonary Resuscitation (CPR)

A technique, not a drug or device. It uses pressure from external "massage" over the heart (Location 6) to keep it pumping when it has ceased to do so on its own. It is part of the knowledge conferred by Advanced Medical Skill.

The Location must not be in Semi-Rigid or Rigid armor, and the Armor Value may nor exceed the physician's Strength Group in any case. To apply CPR, a BCS roll in Advanced Medical Skill must be made. Success will keep the heart beating for a number of Combat Turns equal to the physician's Deftness Group Effect Die roll, after which a second BCS roll is needed. Each subsequent BCS attempt receives a cumulative penalty of -1. That is, for the second roll, a -1, for the third a -2, and so on. This applies for any character attempting to make the roll, and reflects the patient's worsening condition.

When a BCS roll is not made, then the patient will not respond to further CPR.

While CPR is being applied successfully, the "clock is stopped" on the results of heart inactivity. The effects of oxygen starvation do not advance past the stage they had reached when CPR was started. This can buy valuable time while preparing Cardiacine or a defibrillator.

Of course, applying CPR requires the continuous attention of the physician. He may attend to nothing else while performing this technique on a patient.

At the Gamesmaster's option, a Critical Hit when rolling the BCS for CPR results will permit the patient to make a Health CST. If it succeeds, heart activity will start up again.

Electric Cautery/Knife

Uses electrical current to cut or cauterize tissues. In surgical applications gives a +2 to the Advanced Medical BCS and to the patient's saving throws if any are used to avoid bad reactions to surgery. If used to cauterize Severed wounds, to prevent bleeding, the patient need not roll the Health AST to survive. It does put him into shock, but the tissue damage is more controlled, and unlikely to kill the victim. The device is about the size of a soldering iron, attached to a control pack which can be powered off an E-10 or Hvy. Household Current. It is rated at 2500 watts (that will consume .05 Charges per Combat Turn when operating on battery).

Inflatable Splints

Plastic bags, inflatable in 10 Actions, which can be fitted

around a broken limb before being blown up, like big balloons, to immobilize broken limbs. We will posit that the current models have been improved by the time of the Ruin to allow a character with a limb immobilized to move as if the limb were merely disabled. The splints come in three formats: arm, leg, and torso. A deflated splint folds down into a packet with ENC of .05.

Encephalographic Educator

A large and intricate computer and equipment complex capable of inscribing a permanent range of Skill score onto the memory of a character over a course of days (1 Skill point can be transmitted per hour). The maximum daily session is a number of hours equal to the sum of the Wit, Will, and Health Groups.

It is a very large unit, non-portable, requiring a Lt. Industrial Line of at least 22 kilowatts rating to operate. It can "instruct" only one subject at a time, since it must be attuned to that individual's brain-wave pattern, a process requiring a 20-point Task by a Computer Science user.

The Task Period is one day.

TACTICAL BATTLES AND LARGE-SCALE COMBATS

In the course of a campaign, the Gamesmaster may come to a situation which calls for combat but is too large to handle with the basic man-to-man rules. That is when this section will become useful.

This system is deliberately designed as a "shorthand" form. No great details are given and a character's individual actions are lost in the overview. The principal advantage of using this system is the quick resolution of combat situations beyond the scope of small man-to-man battles.

The basic rule is that two die rolls are compared and the difference is the basic loss to the strength rating of the sides involved. This is modified by the results of the application of the appropriate Skill by the commander. If the battle represents a fight with only about 20 men on a side, the appropriate Skill is Tactics. Larger battles use Operational Command Skill and the clash of whole armies over the course of a military campaign uses Strategic Command Skill.

THE COURSE OF A BATTLE

Each side in a battle is rated for Troop Strength Points (TSP). This is an abstract number representing the combat capability of the side.

Each Battle Turn represents about an hour. The battle will continue until one side is reduced to zero or less Troop Strength Points, one side retreats from battle, or prevailing conditions force an end to current hostilities.

On each Battle Turn, 1D6 will be rolled for each side. This is the Battle Determination roll. The side with the higher modified roll is considered to be Winning This Turn. The lower modified roll is considered to be Losing This Turn. If the modified rolls are equal, the turn is Deadlocked.

On a Turn when one side is reduced below 1 TSP, the side(s) which has (have) a TSP less that 1 is (are) considered to have Lost the Battle. The other side, if there is one, is considered to be Victorious.

The commander of each side (in some circumstances this may be a Player Character) will make a BCS roll on the appropriate Command Skill. A critical success will add the character's Wit Group to the D6 rolled for the Battle Turn results. A critical failure will subtract the opposing commander's Wit Group from the result of the failing character's Battle Determination roll, and the opposing side in considered to have made the Command BCS roll for purposes of Loss modification to the side with the Critical Miss. These die rolls will be used to modify the effects of the Battle Turn determination.

These steps are repeated until the battle is resolved or halted.

MODIFICATIONS TO THE DIE ROLL

The Battle Determination die roll is modified for several things. The result of the 1D6 roll is modified to get the number which will be compared to the modified die roll result

for the other side to determine the winner of that Battle Turn. These modifications are:

Superior Numbers: The side with superior numbers may add to the die roll result. The TSP of the stronger side is divided by the TSP of the weaker and rounded down. This gives a superiority factor which is referenced on this chart to get the add to the die roll.

Superiority Factor	Die Roll Modification
1 or less	+0
2	+1
3	+2
4	+3
5 or more	+4

Critical results of the commander's die roll

Retreat (see below): The side conducting the Retreat receives a -1.

Rout (see below): The side suffering from a Rout receives a -2.

Other: At the Gamesmaster's discretion he may apply other modifiers as he feels represent the situation.

RESULTS OF THE BATTLE DETERMINATION

Once both die roll results are modified, the smaller will be subtracted from the larger. The result is the Base Loss of Troop Strength Points for that Battle Turn. If both modified die rolls are equal, the Base Loss is 1.

The modification tø the Base Loss is found on the Loss Modification Chart below. All numbers are rounded to the nearest whole number.

In a Deadlock, only a critical success with the Command BCS will cut the Loss to one-quarter and thus, rounded down, to nothing. A critical failure will increase the Loss to 2. In all other Deadlock situations, each side will suffer a 1 TSP Loss.

The modified Base Loss for a side is the number of Troop Strength Points which are subtracted from that side's total TSP.

MORALE FAILURE

A side in a Tactical Battle will have to check for its morale in one of three circumstances.

- Loss in one Battle Turn exceeds 25% of the side's original TSP total.
- The character making the Command BCS rolls (the commander) is killed or incapacitated.
- The commander has a critical failure on his Command BCS roll.

When one of these circumstances arises, the Gamesmaster will check to see if the side's morale will fail. The base percentage chance that it will fail is equal to 100 minus the side's current TSP total divided by the original TSP total, rounded nearest. This can be modified by another Command BCS roll made by the commander. This is called the Rally Roll. A successful Rally Roll will subtract 2 times the Effect Number from the percentage chance. An unsuccessful Roll will add 2 times the Effect Number to the percentage chance of morale failure.

If a side's morale fails, that side will conduct a Retreat on the next Battle Turn. A critical failure when rolling on the morale check (a die roll in the 96-100 range) or a critical failure on the Rally Roll means that the side will Rout on the next Battle Turn.

If a morale check is called for during a Retreat, the Retreat immediately becomes a Rout.

ENDING A BATTLE

A battle is ended when one side loses all its TSP points, Retreats, Routs, or Surrenders. A Battle may also end by mutual consent of the commanders. The latter case is usually due to such things as the fall of night (Command BCSs receive a -10 at night), adverse weather conditions (a variable modifier to the Command BCS), advent of a new force into the Battle (particularly if neither side knows if it is friendly), or any other circumstance that the Gamesmaster feels is sufficient cause.

A **Retreat** may be called at any time by the commander or forced on a side by the fortunes of war. Once it is determined that a Retreat will occur, that side will participate in one more Battle Turn. On this Turn, that side will receive a -1 modification to its Determination die roll. After this turn, the Battle is ended. The other side (neither side if both Retreat) is left in possession of the field. The Retreating side is treated as Losing that Turn even if it has the higher modified Battle Determination roll. It is not treated as if it had Lost the Battle.

A **Rout** will occur with a severe morale failure. The Routing side will participate in one more Battle Turn unless already in Retreat. It receives a -2 to its Battle Determination roll. It is treated as Losing that Turn even if it has the higher modified Determination result. It has lost the Battle.

A **Surrender** will occur when the commander of the opposing side accepts the offer of the side wishing to Surrender. No further Battle Turns are conducted.

STRENGTH DETERMINATIONS

If a Custom Army is not in use, one side will have its Troop Strength Points determined by rolling 2D6 and adding 10.

LOSS MODIFICATION CHART

	Side With Higher Modified Battle Determination Roll	Side With Lower Modified Battle Determination Roll
Winner of Battle Turn Made Command BCS	1/4 Base Loss	Base Loss
Loser of Battle Turn Made Command BCS	1/2 Base Loss	1/2 Base Loss
Both Sides Made Command BCS	1/4 Base Loss	1/2 Base Loss
Neither Side Made Command BCS	1/2 Base Loss	Base Loss

The other side's TSP may be determined in the same way, or the Gamesmaster may roll on the Reaction Table (Book 1, Appendix 1) and multiply the Value Number by 10%. This percentage will be added to 100% to determine what percentage of the TSP of the first side is the TSP of the second.

Thus, a Value Number of -1 multiplied by 10% for -10%, indicates that the second side has 100% + (-10%) or 90% of the strength of the first side. If the first side has a TSP of 15, the second side has 90% of 15 or a TSP of 13.5, or 14, since the value is rounded to the nearest.

The second method is advised for creating an army to face a Custom Army, unless the opposing army is also a Custom Army.

Shay commands an army with the strength of 15 TSP and his opponent, Thomas, has an army of 14 TSP. Neither receives advantage for being significantly stronger that the other at this point. Shay's Operational Command BCS is 12 and Thomas's is 14.

On the first Battle Turn, Shay rolls a 3 for the Determination roll and a 5 for his BCS. Thomas rolls a 3 and a 19 respectively. The Battle is Deadlocked. Each side loses 1 TSP. Their new strengths are Shay 14 and Thomas 13.

On the second Battle Turn. Shay rolls a 1 and a 2, while Thomas rolls a 6 and a 6. Thomas's side is Winning this Turn. The Base Loss is 5. Shay, with the lower Determination result and a successful Command BCS, will actually lose one-half of the Base since Thomas also made his BCS. This is a Loss of 2.5 rounded to 3 for a new TSP of 11. Thomas's Loss is one-quarter of the Base of 5/4 = 1.25 rounded to 1, giving him a new TSP strength of 11.

On the third Battle Turn, Shay rolls a 4 and a 20, while Thomas rolls a 4 and a 17. Neither has made his Command BCS and Shay has Critically Missed. Thomas's Wit Group is 2, so this is the modification to Shay's Battle Determination result. If Shay had not Critically Missed on his Command BCS, the Battle would have been Deadlocked. As it is, his side has Lost that Turn and the Base Loss is 4 - (4 - 2) = 4 - 2 = 2. As far as Shay's side is concerned, Thomas's side has had a successful Command BCS roll, even though this is not the case. Shay's side will thus take the Base Loss. Thomas's side, since neither made the Command BCS and they Won the Turn, will take half the Base Loss or 1. The new strengths are Shay 9 and Thomas 10.

But Shay has critically failed on his Command BCS roll and his side must check for morale failure. His current strength is 9. This divided by his original strength of 15 and subtracted from 100% yields a base percentage chance of 40 for morale failure. Shay fails his Rally Roll with a die roll of 17. Two times the Effect Number of 5 gives an additional 10% chance of failure for a total 50% chance of morale failure. The die roll is 33, indicating that Shay's side has had a morale failure. it will conduct a Retreat on the next Battle Turn.

On the fourth Battle Turn, Shay rolls a 5 and another 20, while Thomas rolls a 3 and a 10. Shay's modified Determination result is 3 instead of the 4 it would have been due to the Retreat, since he has once again Critically Missed. This immediately turns his Retreat into a Rout which has a -2 modifier to the Determination result. For Thomas's Side, this makes the Battle Turn a Deadlock resulting in a Base Loss of 1 which will reduce his TSP to 9; but Shay's side takes double that to reduce his side's strength to 7 TSP. Ths Battle is over since Shay's side Routed. Thomas has been Victorious and Shay has Lost the Battle on this Battle Turn. Thomas's side is left in possession of the field.

MILITARY CAMPAIGNS

In the course of a game campaign, one or more military campaigns may be waged. The simplest and fastest way to resolve a military campaign is to total all the Troop Strength points available to each side and treat the entire military campaign as if it were a single Battle. The appropriate Command Skill for this would be Strategic Command.

A more interesting way to deal with it is to treat the military campaign as a series of battles. This requires the Gamesmaster to make a number of decisions with regard to available supplies and facilities for transporting them, continuing morale modifications, positional Battles, re-engagements, and other such details as apply to military campaigns. The rules presented in this section are provided as a guideline for this sort of thing.

In a military campaign, a commander may have a large number of Troop Strength Points available to him. These probably will not be all in the same location.

An army's TSP will be classed as Ready and Unready. If used in a Battle, Unready TSP are at one-third of their value, rounded down. Thus, it requires 3 Unready TSP to equal 1 Ready TSP.

All TSP, on both sides, are Unready at the end of a Battle. The rate at which they may be made Ready will vary by how the side fared in the last Battle in which the particular TSP was engaged.

- A Victorious army may check for Battle-Ready TSP each day after the Battle. A successful Operational Command BCS roll will allow a number of TSP equal to the commander's Wit Group Effect Die roll to be Readied. Failure results in no additional TSP being Readied. Critical success adds 1 Group to the commander's effective Wit Group and critical failure means that the commander may not make a roll on the following day (in addition to none being Readied that day).
- An army which has Retreated from Battle may Ready TSP in a similar fashion but the commander's effective Wit Group is reduced by 1.
- An army which has Routed from Battle will roll for readying TSP once in a number of days equal to 5 minus the commander's Wit Group. Otherwise they are treated as if they had Retreated.
- An army reduced to zero TSP has no forces to Ready.

After a Battle some of the TSP losses will be returned to a commander's control. These are the recovered wounded, the units which just lost cohesion but were not destroyed, and a small pool of reinforcements. One the first day after a Battle, the side will receive 25% of the TSP lost. This number is rounded down. At the end of the week following the Battle, another 25% will be received. At the end of the month, a further 10% will be received. All of these TSP are Unready.

Thus, Thomas, the victor from the example of Tactical Combat, had a total TSP Loss of 5. Twenty-five percent of that is 1.25, rounded to 1, and 10% is .5, rounded to 0. At the end of the day following the Battle, he will receive back 1 Unready TSP. At the end of the week following the Battle, Thomas will receive 1 more Unready TSP. He will not receive any more TSP from that Battle at the end of a month.

On the day after the Battle, he will ready a number of TSP equal to his Wit Group Effect Die roll. He makes his Operational Command BCS with a die roll of 9. His Wit Group Effect Die is 1D6 and his roll is a 3. He will have 3 of his 9 TSP Ready and will add 1 TSP to his Unready TSP due to after-Battle recovery, giving him a force breakdown of 3 Ready TSP and 7 Unready TSP.

On the next day, his BCS roll is a 17, so he will not ready any troops that day.

On the third day, he makes his BCS with a die roll of 12. His Effect Die roll is a 5. His total force is now 8 Ready and 2 Unready TSP.

On the fourth day, he again makes his Operational Command BCS (with a 4), and his Effect Die roll is a 6. That is more than enough, so his remaining 2 Unready TSP are now Ready.

LOGISTICS

If the Gamesmaster desires, he may assign an upper limit to the number of Unready TSP that may be made into Ready TSP during a campaign. This is the simplest way of representing the resources available to a side.

Alternatively, a side may be given an upper limit which represents the stockpiled resources and a rate of production which will raise that limit. This allows planning of campaign strategy to eliminate stockpiles, resource centers, and production facilities.

ARMY MOVEMENT

An army, represented by even 1 TSP, has a base marching allowance of 8 kilometers a day. Vehicle-borne TSP have a base of 20 kilometers per day. This is used in Tactical Scale travel as a character's Speed is used.

For purposes of using Forced March, an army has a pseudo-DRT of 20. The reductions in Attributes called for by fatigue represent the percent of the total TSP that become Unready. If they are already Unready, one-half of the number called for are actually lost. *A completely Unready army may not use Forced March.*

Thomas of the previous example decides to move out before he has readied all his TSP. He leaves on the third day with 3 Ready and 7 Unready TSP. He travels with Forced March until he accumulates 16 "subdual points." This would reduce a character's Deftness and Speed to 50%. Thus, 50% of Thomas's army is made Unready. Fifty percent of his total of 10 is 5. His 3 Ready TSP become Unready but he must still account for 2 more TSP. Since the rest are Unready, he will lose one-half of the unaccounted-for TSP, or 1/2 of 2 = 1. Thomas's army has been reduced to 9 TSP and all are Unready.

POSITIONAL BATTLES

When one side is attacking another which is holding a given position, the defending side will be given additional TSP representing the advantage of the position. This additional TSP should be kept separate from the defending side's normal TSP.

When Losses are assessed, one-half of the actual Loss will be assessed against the defender's normal TSP and one-half against the position's TSP. Fractions are rounded in the usual fashion for the defender but are retained for the position. Fractional position TSP are treated as having the Strength of the next-higher whole number. Thus, a positional TSP reduced to 5.5 still functions as if it were 6.

Once the position's TSP has been eliminated, the Battle proceeds in the normal fashion.

CUSTOM ARMIES

This section gives guidelines for evaluating a force composed of disparate elements. It is of greatest use when a character acquires sufficient forces to require combat to be resolved on a Tactical Battle scale.

Each Custom Army will be composed of "units." Each units is a separate entity.

A unit of a Custom Army is made up of all the men of one Training Category who are armed and armored alike. A unit may also be a combat vehicle or a crew-served weapon.

Each unit will have three values calculated for it. A Defensive TSP, an Offensive TSP, and an Offensive TSP with Ammo are required. The last is used on any Battle Turn for which the unit is supplied; the second is used when the unit runs out of ammunition, or if the unit is only armed with hand-to-hand weapons. However, only one is used for calculating the comparative strengths for the Battle Turn.

Each unit's appropriate Offensive TSP is added to that of the other units on its side and rounded to the nearest to get the side's effective TSP for that Battle Turn. This is subject to Position benefits.

When Losses are taken by a Custom Army, they are applied at random to individual units. The Gamesmaster will assign each unit a number and roll a die with a range as large as the highest assigned number. If no die is available with a convenient range and a flat (equal probability for each number) curve, he will pick the next largest range with a flat curve and roll until he gets a number in the correct range. The number rolled will be the unit to first take damage. If the TSP indicated to be lost is greater than the Defensive TSP of the unit, the unit is destroyed and the excess points are applied to another unit determined at random.

If a unit is only partially destroyed by Losses, the percentage of the unit's Defensive TSP lost is the percentage of its Offensive TSP that will be lost for subsequent Battle Turns.

When assessing Losses for a Custom Army, do *not* round off the Loss. Fractional values can be significant to a Custom Army, which will often have TSP values to two decimal places.

Player characters in a Custom Army take the usual chances of Battle but add their available Offensive TSP into the total for that side.

CALCULATING VALUES FOR A CUSTOM ARMY

In order to determine the TSP for a unit of a Custom Army, its value must be assessed. Unready units have 1/3 the normal values.

The value of the unit in each category (Offensive, Offensive with Ammo and Defensive) will be divided by a number chosen by the Gamesmaster to yield values in a convenient range for play. Divisors of 5, 10, or 20 will not affect the scale of Battle Turns. Increasing the divisor by a power of 10 (50, 100, 200 respectively) will double ammunition expenditures and the "time taken" by a Battle Turn.

Values for each unit are calculated separately and rounded to the nearest hundredth when the conversion to TSP is made.

A unit's Defensive value is equal to the Average Armor Value of a man in the unit times the Training Rating times the number of men in the unit. A crew-served weapon works the same way. A vehicle has a Defensive rating equal to its Vehicle Armor Value converted to regular Armor Value (i.e., multiplied by 10). If the vehicle is currently suffering a reduction in maximum speed due to reduced Durability, this same reduction is applied to its Defensive value.

A unit's Offensive value is equal to its Defensive value, if infantry. A crew-served weapon has no Offensive rating but that of its crew (to be used when the ammunition is gone). A vehicle has an Offensive value equal to its Structural Rating times the crew's Training rating when it carries no weapons or is out of ammunition.

A unit's Offensive Value with Ammo only applies to units which use firearms. For these units, the value of a single weapon is added to the base value. For infantry the Average AV of a man is added to the value for the weapon being used, at the rate being used, and the result is multiplied by the Training Rating. For crew-served weapons, the BDG of the weapon is the base. If a full crew is not present, the base is

CUSTOM ARMY VALUES

Gun Action	Value	Rounds per Battle Turn
Black Powder	1	5
SA, DA, SS, PA	2	20
AL, SB	5	50
FA	10	100
Machine Gun	15	1000
Artillery	*	20

Weapon Ratings

Weapon Type	Value
Hand-to-hand	0
Bow	Pound Pull x .05
Crossbow	Pound Pull x .02
Firearm	BDG of 1 round x .1 x Gun Action Value
Artillery	VDG x % of qualified crew active

Training Ratings

Training Category	Value Multiplier
Green (untrained)	x .25
Novice	x .5
Trained	x 1
Veteran/Elite	x 1.5
Player Character/Heroic	x 2

reduced to the percentage of the crew which is present before being multiplied by the Training Rating. Vehicles work the same way except that the Defensive value is added to the base value for all weapons able to be brought to bear before being multiplied by the Training Rating of the crew.

Reversing the calculations at the end of a Battle will indicate how many survivors there are in a unit. If a partial man is indicated, assume he is wounded. If a partial vehicle is indicated, determine the percentage damage and treat it as a percentage Durability loss.

Ammunition supply is dealt with on a rudimentary scale. Each Gun Action or class of weapon, if larger than small arms, is assigned a number of rounds expended in a Battle Turn. If a character using a firearm is to get the value of that firearm, he must have sufficient rounds to match the required expenditure. If insufficient rounds are available, the Offensive Value without ammunition will be used. A character able to use a slower rate of fire with his weapon may do so, but he will only receive the Value for the Gun Action firing with the lesser ammunition expenditure.

EXAMPLE OF A CUSTOM ARMY

J. Caldwell has assembled an army. He commands 25 Trained soldiers in Average AV 8, 50 Green troops in Average AV 6, another 50 Green troops in Average AV5, one Heavy Machine Gun with a crew of 2 (full

Infantry	***Defensive (1 man)***	***Offensive***	***Offensive with Ammo***
Trained Riflemen	*(8 x 1) = 8*	*same*	*firing 30-06 at BDG 26, AL ((26 x .1 x 5) + 8) x 1 = 21*
Green Riflemen	*(6 x .25) = 1.5*	*same*	*firing same as veterans (((26 x .1 x 5) + 6) x .25 = 4.75*
Other Infantry	*(5 x .25) = 1.25*	*same*	*none*
Caldwell *(first 6 Turns)*	—	—	*firing .223 at BDG 20, FA ((20 x .1 x 10) + 10) x 2 = 60*
(7th Turn)	—	—	*firing .45 ACP at BDG 11, AL ((11 x .1 x 5) + 10) x 2 = 31*
(after 7th Turn)	—	*(10 x 2) = 20*	*none*
Heavy Machine Gun *with full crew firing 7.62 NATO at BDG 27*	*as men: (8 x 1) = 8*	*8*	*((27 x .1 x 15) +8) x 1 = 48.5*
Tank *with 50% crew firing 105mm gun (no MG) at VDG 56 and Vehicle AV 10, speed reuction 10%*	*(10 x 10) x 90% = 90*	*(5 x 1) = 5*	*((50% of 56) + 90) x 1 = 118*

This results in Caldwell's army having units with TSP values listed below. The Gamesmaster decided to divide by 20.

Unit	***Defensive Value (TSP)***	***Offensive (TSP)***	***Offensive with Ammo (TSP)***
#1 Trained Rifles (25 men)	*200 (10)*	*200 (10)*	*525 (26.25)*
#2 Green Rifles (50 men)	*75 (3.75)*	*75 (3.75)*	*237.5 (11.88)*
#3 Green Infantry (50 men)	*62.5 (3.13)*	*62.5 (3.13)*	—
#4 HMG crew (2 men)	*16 (.8)*	*16 (.8)*	*60 (3)*
#5 Tank	*90 (4.5)*	*5 (.25)*	*118 (5.9)*
plus Caldwell			
Turns 1-6	—	—	*60 (3)*
Turn 7	—	—	*31 (1.55)*
After Turn 7	—	*20 (1)*	—

crew), and a Tank mounting a 105mm gun, with 50% crew. The HMG and tank crews are Trained. The first two units of infantry are armed with M-1 Garand Semi-Automatic rifles and the third has only Hand-to-hand weapons. Caldwell himself is a Player Character, has an Average AV of 10, and is armed with an M-16 Assault Rifle and a .45 automatic.

He has stockpiled enough ammunition for two Battle Turns for the riflemen and the tank, four turns for the HMG, and 6 Turns for himself with the M-16 and 1 with the pistol. This means 7500 rounds ((50 + 25) X 50 X 2) for the M-1s, 40 rounds (1 x 20 x 2) for the tank, 4000 rounds (1 x 1000 x 4) for the HMG, 600 rounds (since he will be using his M-16 at Full Automatic) for the M-16, and 50 rounds for the .45.

The Battle engaged in by Caldwell's army is presented only in terms of Losses to demonstrate the procedure for dealing with them and their effects on the offensive ability of the army.

On the first Turn, the army generates the maximum Offensive value since all units with firearms have ammunition. This gives a TSP of 53.14 rounded to 53. The army is slated to take a Loss of 1 TSP. The Gamesmaster rolls 1D5 with a result of 4, which indicates the HMG crew. The Defensive TSP of that unit is .8. It is destroyed and its Offensive value will not be counted for the rest of the Battle. This still leaves .2 TSP to be assessed against Caldwell's army. The Gamesmaster rolls his die again and this time it indicates Unit 1. The Defensive value of this unit is reduced by .2 TSP to 9.8. This is 98% of its original value, so its Offensive value on the next Battle Turn will be at 98% of its value, that is, 98% of 26.25 or 25.73.

On the next Battle Turn, Caldwell's Offensive capability is reduced significantly by the loss of the HMG crew. His new total is 49.62, rounded to 50. On this Turn, the army takes no Losses.

Even though his army took no Losses on the last Battle Turn, Caldwell's Offensive power is reduced greatly because his riflemen and tank are out of ammunition. His total Offensive TSP is now 19.93 or 20. This is a loss of more than half of his Offensive Capability. Unfortunately for Caldwell, his enemies' ammunition supplies were greater and he finds his Offensive capability outstripped significantly. His opponent thus gets an additive modification to his Battle Determination result which permits him to inflict great casualties on Caldwell's army. The Loss is 8 TSP. The unit taking the casualties is indicated as No. 2. They are annihilated and 4.75 TSP are still to be allocated. The next unit indicated is No. 3. They also are annihilated, and 1.62 TSP are still to be allocated. The next unit indicated is No. 5, which has its Defensive TSP reduced to 2.88. This loss is greater than 25% of his original Defensive TSP, so the army is subject to a morale check. It fails and will Retreat on the next Battle Turn.

Miraculously, Caldwell's army escapes without further casualties.

CUSTOM ARMIES AFTER THE BATTLE

Like regular armies, a Custom Army will regain TSP after a Battle. These will be apportioned randomly among the units of the army. *A unit annihilated in the Battle cannot receive any of these replacement TSPs until all units which survived the Battle are brought up to the strength they were at before the Battle.* The Defensive TSP is used.

Once a unit is made Ready after a Battle, the men in it will have their Training Classification raised to the next higher category if they are Green or Novice. If they are Trained or Veteran, they will be raised only on a die roll of 1 on the Operational Command roll used to Ready them. If the TSP value to be raised to Ready status was beyond what it would take to raise the unit so elevated in status category, the excess may not be used on another unit.

Ammunition resupply of units in a Custom Army is handled separately from getting them Ready for Battle again. Such resupply problems are campaign dependent and, as such, are in the province of the individual Gamesmaster.

Caldwell's total Losses in TSP were 9 TSP. Twenty-five percent of that is 2.25 and ten percent is .9. On the day after the Battle, his army receives 2.25 TSP randomly assigned to Unit 1. Their Loss was only .2 TSP, so they are back to full strength. The still unallocated TSP would normally be rolled for randomly, but Caldwell has only one other surviving unit, which is Unit 5, the tank. Its TSP loss was 1.62, which is replaced, leaving .43 still to be allocated. The lost units are eligible. The die roll indicates Unit 4, the HMG crew. This is over half the TSP. The machine gun itself is lost since the opponent holds the field of Battle. Making a color call, the Gamesmaster describes this result as the machine-gunner staggering into camp, dragging his wounded loader.

Caldwell decides to Ready his Trained Riflemen first. His Operational Command roll is a 1. His Wit Group is raised by 1 to its normal value (he was effectively lowered 1 Group due to the Retreat) and the die roll is 1D10 with a result of 6. Six TSP of Caldwell's Trained Riflemen are now Veterans and are Ready for Battle. If only they had ammunition! What has happened is that a new unit has effectively been created, since the Training Classification of the Unit 1 riflemen has been split.

On the next day Caldwell continues to Ready more of his Unit 1 riflemen. His die roll is a success, but not critically so. He uses his normal Wit Group for the Effect Die, which is 1D6. His roll is a 2. Two TSP worth of Trained Riflemen are now Ready. This still leaves 2 TSP of Unit 1 Unready.

Unfortunately for Caldwell's ambitions, his former opponent catches up with him on the third day. Unsupplied, his men still showing the effects of the previous Battle, Caldwell surrenders. He no longer has to worry about Readying the rest of his army.

CHARACTERS IN A TACTICAL BATTLE

Characters may participate in a large-scale combat. Their fates, though related to that of the side on which they are fighting, are determined in a different way than that of the whole army.

Each character should have his Offensive Value assessed if a Custom Army is in use. If the Gamesmaster feels that this will involve too much work he may dispense with the calculations but should still charge the characters for ammunition expended in the battle. This should be done for the rate at which the character normally fires when in combat. If no normal pattern is established, assume the highest rate possible.

The calculated Offensive value for the characters is added to the total of the side on which they fight.

If a randomly-generated army is in use, the characters' offensive capabilities are ignored, although they are still assessed for ammunition expenditure.

For each Battle Turn, a character must choose a level of participation. A character may change from one level to the next between Battle Turns. He may not change more than one level at once. That is, he may not go from Courageous to Hanging Back or vice versa in one Turn. He must first spend a Battle Turn at Average level of participation.

The levels of participation are cross-indexed with the Battle Determination result for a Turn to find the probabilities character being wounded acquiring loot, or modifying his chance for recognition at the end of the Battle. These levels are:

Courageous: The character is in the forefront of the Battle. This is a dangerous position but tends to have a positive effect on the character's being recognized by the commanders of a Victorious army.

Average: The character does not seek out glory or withhold himself from the conflict. He takes the normal, not inconsiderable, risks of battle.

Hanging Back: The character does his best to avoid the thick of the fighting. Although safer than the other two levels of participation, participating in this fashion may well bring a character to the attention of his commanders in a very unflattering way.

BATTLE RESULTS FOR CHARACTERS

On each Battle Turn, the Gamesmaster will ask the players what level of participation their characters will be at during the Turn about to happen. Their decisions are recorded and the Battle Turn is conducted. When the Gamesmaster knows the status of the side on which the characters are participating, he can cross-index each character's level of participation with the status of the army for that Turn to get the die rolls to be used for determining how the character fared in that Turn.

Three letters will be found on the chart: W, L, and R. Each will be followed by a number. The letter indicates the category of fortune. W is for Wounds, L is for Loot, and R is for Recognition. The numbers represent a modified BCS which, when compared with the roll of 1D20, will determine an Effect Number. Each category is rolled for separately.

The Effect Number generated is a base number for that area. This may be multiplied by a factor representing the intensity or danger inherent to the circumstances. Specifics will vary by the category.

Wounds: Only if the die roll is less than the number indicated will the character receive wounds on that Battle Turn. The Effect Number of a successful roll is multiplied by the factor for an army with the appropriate status to give the number of points of lethal damage taken by the character on that Battle Turn. This may kill the character.

CRITICAL BATTLE RESULTS

Die Roll	Result
01-30	No special result
31-60	Character must make Health AST or treat as 61-90 below
61-90	Character is rendered unconscious for 1D3 Battle Turns. When he is conscious again, if the Battle is still continuing, his level of participation will be determined randomly for that first Turn. He may adjust it on the next Turn. If the Battle has ended and the enemy holds the field, he will be captured. If his side holds the field, he will be subject to normal After-Battle results.
91-00	Damage taken is critical damage. Roll Hit Location for results. The character will experience a Trauma Critical Effect (see page 30 in Book 1). If Location 2 was indicated, also treat as a Critical Acid Effect (see page 49 in Book 1).

If the Wounds roll was a 20, the character will receive medical care that will heal 1D10 of the damage accumulated so far.

If the character has First Aid Skill, he may apply it to himself and any other characters in a unit with him during the time between Battle Turns. Any character with a Bandage may apply it to himself.

If the Wounds die roll was a 1, the character may receive a Critical Battle Result. A D100 is rolled and the damage received that Turn is added to the result. The modified D100 roll is checked on the chart above.

Characters may add a number equal to one-half of the percentage of their total DRT accounted for by wounds to the After-Battle die roll.

Loot: The character will maintain a running total of the results for this category. A successful roll will result in the Effect Number, as modified by the correct factor, being added to his total. An unsuccessful roll will result in the modified Effect Number being subtracted from his total.

A negative result at the end of the Battle means that no loot was gained.

A positive result is the Barter Point value of the Loot

FORTUNES OF WAR TABLE

	Victorious	Winning That Turn	Deadlock	Losing That Turn	Lost
Courageous	W:9 L:16 R:30	W:11 L:12 R:25	W:13 L:8 R:20	W:15* L:4 R:15	W:17* L:0 R:10
Average	W:7 L:18 R:20	W:9 L:14 R:15	W:11 L:10 R:10	W:13* L:6 R:5	W:15* L:2 R:0
Hanging Back	W:5 L:20 R:10	W:7 L:16 R:5	W:9 L:12 R:0	W:11* L:8 R:-5	W:11* L:4 R:-10
Modifying Factors					
Wounds	.5	1	1	1	1.5
Loot, successful roll	3	2	1.5	1	1
unsuccessful roll	1	1	1.5	2	3
Recognition, successful roll	2	1.5	1	1	.5
unsuccessful roll	.5	1	1	1.5	2

* The amount of damage taken that Turn is the percent chance that the character has been captured. All captives of a totally defeated army (TSP reduced to zero) or a Routed army are freed.

gained. The Gamesmaster may wish to handle this as ammunition for whatever firearm the character was using. If the character had no firearm, the Loot may still be represented as easily-bartered ammunition.

Recognition: Recognition is calculated as Loot and a running total is kept. The result at the end of the Battle is the modification which will be made to the character's After-Battle Reaction Roll.

Since officers are not supposed to throw their lives away, the Gamesmaster may wish to modify the Recognition BCS for characters functioning in that capacity. This modification is to the BCS indicated for Recognition.

Some suggested values are:

Sergeant equivalent	+5
Lieutenant/Captain equivalent	+10
Major/Colonel equivalent	+15
General equivalent	+20

AFTER-BATTLE RESULTS

There are no hard-and-fast rules to follow when dealing with the results of a Battle, but some guidelines can be presented.

The Gamesmaster may make a Reaction Roll for each character. This is modified by the character's Recognition total. The purpose of this roll is to get the evaluation of the character's performance in the eyes of his superiors. The Gamesmaster knows the results of the Battle and the character's actions in it. Using this, he should decide whether a character should be castigated or congratulated. The coward in a Victorious army is often ignored, while even the brave man in a defeated army may face hard times.

The Gamesmaster should also modify the results for player character officers. A defeat is harder on the officer corps than on the soldiers in terms of the wrath it brings from an army's superiors and/or sponsors.

In general, a negative result may only bring a reprimand and a fine, or it may be serious enough to have the character brought up on charges of cowardice which could result in an execution. Player Characters should be allowed a chance for a jailbreak to avoid such unpleasant side-effects. This can provide material for a gaming session.

A good result may earn the character a commendation, a medal, or a reward in the form of more pay. A very good result may cause the character to be promoted or to receive an exceptional reward.

In any case, the characters should be rewarded or punished according to their actions and the Gamesmaster's view of how those actions fit in with the situation. The nature of the army is also important. A Gamesmaster's shrewdest judgements can be called for in these situations.

Sal has gotten herself involved in a Battle. On the first Battle Turn, she decides to be Average and the side she is on Wins that Turn. The 1D20 rolls for each area are 6, 18, and 19. She receives 3 points of Lethal damage (9 - 6 = 3 x 1 = 3). She starts with a negative Loot total of 4 (14 - 18 = -4 x 1 = -4) and a negative Recognition total of 4 (15 - 19 = -4 x 1 = -4).

On the next turn, she opts to be Courageous. This time, her side is in a Deadlock. The rolls are 1, 9, and 14. She takes 12 more points of Lethal damage and is subject to Critical Battle Results. Her Loot total now stands at -6 (8-9 = -1 x 1.5 = -1.5 rounded to -2 and raising the loss to -6). She does, however, garner 6 points of Recognition which eliminates the earlier negative total and leaves her with a positive total of 2. For the Critical Battle Results, she rolls 1D5 and adds 12 to the die roll. The result is a die roll of 25 modified to 37. She fails her Health AST and is rendered unconscious for 1D3 Battle Turns. The die result is 2.

For Battle Turns 3 and 4, Sal is unconsious. She will participate in Battle Turn 5 but her level of participation is determined at random. It is determined to be Hanging Back. This indicates that the tide of battle has moved away from where she had been knocked unconscious. The die roll results are made once the Battle Determination is made. The side is Victorious on that Turn. Sal has no chance to move to the forefront of the Battle again. The die results are 20, 11, and 12. The 20 indicates that she is healed for 1D10 points of damage. The die roll here is a 6. She is still carrying 9 points of damage. She has gained a base amount of 9 Loot points which is multiplied by 3 for a result of 29 points; added to her previous negative total of 6, this leaves her with a net of 21 Loot points. Her Recognition roll gives a base loss of 2 points multiplied by .5 for a net loss of 1, leaving her final total at 1 Recognition point.

Since her side won, there will definitely be an After-Battle Reaction Roll. She receives a modification of +1 for her Recognition total and +14 for her wounds (total damage received was 15 points, which is 37.5 or 38% of her 40 points of DRT; divided by 2 and rounded nearest this gives 14). This is a total modification of +15. The result of 1D100 is 57 modified to 72. This is a "Good" result. Being a mercenary, she has her base pay multiplied by the Value Number for that reaction, which is a positive 2. The Gamesmaster decides that this reaction also entitles her to priority medical care, resulting in good, restful facilities and a doctor's care until she is healed.

For Loot she receives 21 Barter Points worth of ammunition. Had her Loot total remained negative, she would have received no Loot.

THE CHANGED

This is a brief outline of the mutations of human stock to be encountered in ***Aftermath!*** Primary consideration is given to the basic forms of alteration in the first five generations or so, although some comments will be made on potentials for development in later generations.

PHYSICAL MUTATIONS

These are Changed features which act upon the physical senses, the Attributes, and other features of physiological and neural configurations, having effect upon the mind, body, and senses of the mutant but not significantly allowing him to act upon the exterior world. Unless otherwise specified, Physical Mutations are always working, although some applications require specific calls to that effect by a Player.

STRONGS

Strongs *add 10* to their Strength (i.e., they effectively go up a Group). Gamesmaster's Option: allow Strongs to train to 50 in Strength, as opposed to 40. For a more normal version, allow a score greater than 40 in a Changed Attribute only if the initial Permanent score reached such a figure. If points are lost due to healable Attribute damage, allow healing back to Permanent Value. If points are lost due to re-trainable damage, allow training back to Permanent Value.

Strongs also suffer losses in other Attributes, proportionately based on their gains in Strength. Gamesmaster and Player may exercise options:

- Reduce Deftness and Speed by 5 each
- Reduce Wit by 10 (or amount of Strength increase)
- Allow Player to "rob Peter to pay Paul." He may increase Strength by transferring points from Attributes at a rate designated by the Gamesmaster (e.g., boost Strength by 3 points per 2 points reduced in Deftness)

In any case, the principal effect of being a Strong is going to be based on hormonal balance altered by the mutagens in the post-Ruin environment. This will cause increased production of usable heavy muscle tissue, but will tend to reduce movility and flexibility (Deftness and Speed) or mentation (Wit and Will). The options given above are to permit tailoring the character to an image pleasing to Player and Gamesmaster.

QUICKS

Quicks receive enhancements to Deftness and Speed in the same way that Strongs get enhanced Strength. They may have a boost in only one of these Attributes or in both. Penalties are levied against them as with Strongs, but are probably targeted at Strength and Health. This is based on the image of their mutation as an increase in the basal metabolic rate, permitting greater reflex speed and muscle "firing" at a cost in the storage of protein as muscle and the general ability of the system to maintain homeostasis, reflected by Health reductions.

Other requirements based on this image could include doubled requirements for rations by the Quick, as well as player design of habits and quirks that non-Quick humans are likely to find highly irritating.

TOUGHS

Toughs resist physical damage in a gross anatomical sense. Possessed of metabolisms which fiercely resist certain forms of injury, they also have heavier skeletal structures and tough hide in place of normal human skin. Gamesmaster or Player may wish to work out a highly-visible image of this latter mutation (scales, or a wrinkled, "elephant hide" appearance).

The Tough receives the following abilities.

- Generate a number from, say, the roll of 2D2. This will be used in all the following operations. It is called the Resistance Number.
- The Tough's skin has an inherent Armor Value equal to the Resistance Number. This figure is *added* to the Armor Value of whatever armor he is wearing over a given Location.
- Increase the Tough's Shock Factor by the Resistance Number. In addition, the period of time the Tough is unconscious due to Shock will be reduced by a number of Combat Turns equal to the Resistance Number.
- Add the Resistance number to all STs against succumbing to physical damage effects such as being winded, knocked out by a sandbag effect, stunned by falls, and so on.
- The Tough will not die, if knocked below 0 in his DRT, until the total damage below 0 is greater than his Healing Rate plus Resistance Number.

Interesting options with this mutation might include tying the Resistance Number into the Power Rolls discussed under Psionics later on. The Resistance Number equals the Tough's Power Group. Thus, the changes start in early adolescence and continue into young adulthood. Outward manifestations of the mutation would be less noticeable for those with low Resistance Numbers, but as such factors as inherent AV increase, the coarsening of skin, the roughening of voice as cartilage in the throat thickens, the stiffening of joints as bone cells increase in density, will mark him for a Changed One.

Penalties to abilities of Toughs are potentially numerous and the Gamesmaster should balance their severity with the levels of superiority gined by the mutant. Some possibilities inclued:

- Reduce all BCS and Saving Throws based on sensitivity of touch or lightness of movement by the Resistance Number. The heavy bones and thick, insensitive skin do not do much for such operations.
- Obviously, the Tough is no beauty. Figure this into the Changed One's interactions with people, especially ones with no love for mutants.
- The Tough could easily lose Speed and Deftness comparable with the Strong, by some number based on Resistance. A 1:1 ratio is certainly possible.

There are other options, too numerous to analyze in detail. The Gamesmaster is free to work out details with players, as well as to design his own variants.

IMMUNES

Immunes have systems which responded to the bacterial fury of germ warfare by developing tremendous resistance to subtler forms of injury than the Toughs. They also have a Resistance Number,but it acts as follows.

- Add to Saving Throws versus all forms of drugs and poisons.

- At the Gamesmaster's option, Immunes can be assumed to be totally immune to *all* forms of disease, *or* to have a chance equal to 10% x Resistance Number that their systems will eliminate a disease during incubation, with the Resistance Number added to Saving Throws in the event that it does not.
- Also at the Gamesmaster's option, transfusions of Immune blood could act for the recipient in the same way as for the donor. Some interesting scenario possibilities arise that way.

As to the penalties for immunes, they must *fail* their Health Saving Throw for beneficial drugs to work on them, and if the Gamesmaster feels that it is called for, their systems can oppose *any* medical care with a Health roll (a CST if drugs are involved). A bandage, of course, would not be resisted, and most forms of first aid are probably not a problem, but the use of medkit units, Pathology Skill care, etc., might be read as an attack by the hyper-active immunoresponse system of the Immune.

SMARTS

As you might guess, Smarts have increased Mental Attributes. If the *only* form of the mutation is a flat add to Wit and Will, there is no reason to penalize them in any other area. Such a change is certainly in homo sapiens's main evolutionary stream, and increased power of mentation in itself will not affect the biological balance as extremely as the more overt mutations do.

However, we can also posit the "super-minds" among the Changed, even though we are not yet speaking of the psionically gifted ones, who whould suffer some offsetting penalty to preserve game balance. A case can be made that this increased mental ability will adversely affect physical development.

For such advanced Smarts, the abilities gained could be:

- Hidden Thing detection by AST rather than CST
- For Knowledges at least, a gain of the Initial Score in the Skill *every time* a full month is spent on the subject. This might *not* apply to Skills having a strongly physical side, as abstract theory is less important than reflex training and exercise. The Gamesmaster must apply his own view of hermeneutics to the question.
- No limit to Freely Improvable Skills
- Allowed "intuitions" (hints from the Gamesmaster) on making a Wit CST, allowed once in a given situation

In either type of mutation, the Smart will enjoy an increase of around 10 in Wit and Will, and in the case of "Super-Smarts" should suffer reductions in proportion of *all Physical Attributes* (say 5 apiece).

The nice thing about Super-Smarts is that they present a new thought process as the mutation, without necessarily requiring a measurable increase in brain-power. This is a truer kind of change than a straight jump in "IQ."

SENSERS

These are mutations enhancing the physical senses and the neural structures devoted to their interpretation. Do not confuse them with the ESP abilities described under Psionics. Basically, Senser abilities can run in two directions: increased power of reception (i.e., response to lower threshold of stimulation than normal) or increased range of perception (e.g., seeing farther into the spectrum, hearing higher or lower frequencies, etc.). The latter is a lesser form of the mutation and less prone to compensating penalties.

EYES: Eyes have an enhanced visual sense. In the perceptive form of the mutation, the Eye can see slightly farther into the ultraviolet and infrared than normal. Thus, he can perceive such phenomena as the UV aura caused by ionization of air by radioactives or, in the presence of strong IR sources, see as if a visible light were present. The power is probably *not* strong enough in itself to allow seeing things by IR signature alone.

The receptive form of the mutation operates in a different way. The Changed has catlike eyes, capable of seeing clearly by low starlight levels. In game terms, the Eye in this form receives no penalty when operating in light levels lower than Good. However, in Good light (defined as ranging from a well-lit room on up to bright sunlight) the Eye is *totally blind!* To function in this environment, he requires sunglasses or similar protection, and when wearing such, his vision is on a par with normal human capability.

Strictly speaking, total darkness should be impenetrable to the receptive Eye as much as to the human norm. However, a mutant with *both* receptive and perceptive forms of the mutation will be able to operate in total darkness as well as near-total.

Rapid changes in brightness will be crippling to the Eye. If he is dumped from bright light to dim, of course, he need only remove his shades. Exposure to sudden light (turning on the switch in a dark room, flashbulbs, flares, etc.) will impact his visual centers so harshly that a Will AST is needed to prevent being Dazed (as by a Critical Hit) for the next 1D3 minutes. Even if it is made, he will be in a blinded state for that period after being protected from the glare (by closing his eyes, donning shades, getting out of the light, etc.).

If an Eye is exposed to such attacks, all relevant Saving Throws for avoiding their effects are halved. If an attack does succeed, then the procedures above are applied.

EARS: Ears have enhanced hearing. This also occurs in perceptive and receptive forms.

The perceptive Ear has a range of hearing covering a wider frequency response than the normal human (30-15000 hertz or so). This would enable them to hear such things as ultrasonic alarm triggers (such as are used in many modern anti-intruder systems), the distant pulse of turbines, or the sound of sonic sensors, and to penetrate white noise sound masking, hearing "around" the masking frequency. There is no particular penalty involved in this form of the mutation alone.

The receptive form of the mutation increases the sensitivity of hearing as if all input were amplified many times. Normal human hearing has a lower threshold of 2db; the receptive Ear has one much lower. On the other hand, the human threshold of pain is around 80db, with damage to neural tissue starting at 100. The Ear is much more vulnerable.

It is difficult to list all the things that can endanger the Ear. Any loud noise above the level of a human shout will at least tend to distract him. We must let a few common examples serve.

Gunfire: Outside, any report within 10 meters will impose Distractions (ringing head) for a period of time. Pistols and small-caliber Rifles do 1D6 of such effect, larger weapons (including some of the big pistols like the Magnums) 1D10. Distraction lasts for a full Combat Turn of firing at least. Thereafter, the Ear may spend an Action trying to get his nerves under control. A Will AST does so on the first try and a second Action will always succeed if the first fails.

Indoors, if in any enclosed space up to the size of a large auditorium with gunfire, the Ear is exposed to this attack. If he is within the 10-meter range, double all effects of the noise.

Explosions: If close enough to be attacked by the blast (i.e., Concussion) the sound will knock the Ear out unless he makes a Will CST. Otherwise, if the

Gamesmaster judges him to be in range (and that can be up to a kilometer) he must still make a Will AST or pass out. If he saves, he is Dazed for 1D3 minutes.

Continuous Sound: A loud stereo can be annoying to normal ears. To an Ear, it can be maddening. The bombardment by constant loud sounds will have a value set by the Gamesmaster at, for example, 1D3 for a phonograph, 2D3 for a loud PA system, 2D6 for feedback over a powerful amp and speakers, a flat 15 or 20 for a stamping mill, etc. In each Combat Turn where the Ear is trying to do *anything*, he must roll a Will AST or operate under the specified Distractions. If he makes a CST range, he has transcended the noise and receives no penalty. If he makes AST only, he is under half the Distractions (round up). If he fails, he cannot even move except at half his BMA. At the Gamesmaster's option, he may try to react to the environment if the Distraction level is less than his Will Group, but at large penalties.

Constant exposure to very loud sounds will act like explosions, attacking the Ear on every Combat Turn of exposure until he passes out.

Ears can protect themselves in one of two ways: by stopping their ears altogether (going deaf) or by wearing earpads or plugs designed to filter noise levels down, such as many shooters, press operators, and airport ground crewmen use on the job.

Total stoppage means that the Ear cannot hear at all. Reducing plugs or pads put his hearing on a par with normal human capabilities.

USES OF CHANGED SENSES

When using Changed senses to find things out, for example to find Hidden Things, the rules are as follows.

Attempt to find Hidden Thing using Changed sense that would normally be detectable by that sense in normal form: the mutant gets a Wit AST instead of a CST. If scanning for data that would not normally be detectable, a CST is still rolled. This latter use puts a burden on the player: he must specify that he is pushing his mutant senses to the limit. The Gamesmaster should then make a secret roll for the character's Wit Saving Throw. If it is successful, the Gamesmaster must decide what, if anything, such a scan will pick up. Of course, some things will be detected that have no relevance to the situation in hand.

When using Changed senses to influence Skills, the player must specify that he is attempting to use his mutation to enhance some Skill. Usually, this will be limited to Knowledges or Physical Skills using sensory input to operate. "Search" will be subject to bonuses for Eyes, "Safecracking" for Ears, etc. The Gamesmaster and player can discuss the relevance of the sense to the Skill in the particular use in application. If they agree that it is relevant, the player may roll a Will CST to see if he can interpolate the input into his BCS use. If he makes it, add a relevant bonus to the attempt, such as his Wit Group or a Group derived from his Power score.

It is hard to say just what can be done with senses we do not possess. If the Gamesmaster agrees to allow some extraordinary use of the Changed Skill, the relevant Saving Throw is Will (to focus the perceptions on that sense) and should be a CST. Results of success should be worked out by the Gamesmaster and player (or Gamesmaster alone if appropriate) in advance. If a Changed is exposed to his weakness as a Senser while occupied in this act, he should suffer the maximum penalty with no Saving Throw allowed.

BALANCERS

One could argue for putting such a mutant under Sensers, but the Balancer is quite unique. He has a heightened kinesthetic sense with the following abilities as a result.

- No penalties for movement on Treacherous Ground, or moving backward (other than running into something).
- Double the usual Base Movement Allowance used for climbing movement.
- Strike to Side Hexes as if Frontal and Rear Hexes as if Side.
- Allow movement on slackwires, tightropes, branches, ledges, etc., at about half his Base Movement Allowance. Deftness AST to move at full Base Movement Allowance without falling.
- Allow longer fall increments for measuring danger and damage.

A Balancer has a tendency toward attacks of motion sickness. Cars or boats on calm waters, or commercial jets, have a constant Distraction Factor a 1D6. Rough driving, heavy seas, light planes would all have around D3 +3. Worse conditions have increased effects. Add 1 to the Distractions per hour that the condition continues. Resisting these effects requires a Saving Throw using the *average* of the Wit and Health ASTs. It is up to the Gamesmaster to decide if Balancers are potentially the best zero-gravity operators or permanent groundhogs.

BLENDS

The Blend is equipped with a photosensitive skin, some control over his body chemistry and involuntary muscular movements, and an instinctive sense of his surroundings. He is essentially a human chameleon. A Blend (stripped) can develop astoundingly effective personal camouflage, becoming a Hidden Thing.

If motionless, the Blend is a fully Hidden Thing, requiring a Wit CST to detect (for normal human senses). He will only assume a skin coloration matching his background, but his Infrared signature, scent, etc., will not match the environment.

In motion, the Blend's power will still maintain visible coverage, though he must use Stealth to cover the sounds of movement. His Infrared signature is still detectable to Infrared scans. It requires a Wit AST to spot the Blend in motion, with a bonus of +1 if he is running and +1 if he is dodging (cumulative).

In close combat, the Blend is visible enough to his opponent to hit effectively, although the bewildering shifting colors and patterns of his skin will confuse attempts to strike precisely. If the Gamesmaster feels that this rather neutral little mutation needs some frosting to make it appealing, the Blend's opponent in hand-to-hand combat needs to use his Average BCS.

Missile fire against the Blend *always* uses an Average BCS.

The penalties levied on the Blend vary and should be minor if the heftier benefits are not used.

The powers of the Blend do not work if he is clothed. One might permit a breechclout in the Comics Code tradition.

The heavier version of this imposes a constant irritation at wearing an Average Armor Value higher than the Blend's Will Group, due to the increased pressure sensitivity of his skin.

Blends are a Changed type that presents a challenge to the player. A multiple Changed, such as a Blend who is an Eye, might be a lethally successful night fighter, effectively invisible but capable of moving freely. With proper training, he would be a near-perfect commando.

PSIONICS

Besides changes in gross physical anatomy and body chemistry, one might expect to see mental mutation in the mutagen-rich wake of NBC warfare. Sections of the brain now unused by Man could become active or more powerful.

The powers now studied by the psychic investigators could become concrete realities for the survivors of the Ruin.

All Psionically Changed will acquire psionic power with the amount based on their ages. It is assumed that psychic ability starts to manifest at the onset of puberty, based on the findings of some modern parapsychologists. Let us assume a base starting age of 14 in the ***Aftermath!*** system. That year, and every year thereafter until the age of 26 (the average age at which the growth process levels off in human beings), the Changed will gain 1D3 of psionic power, called "Psi" (pronounced like "sigh."). The initial score in Psi will be equal to: 1D3 per year at a value of the character's age minus 13. Thus, a 22-year-old character starting out in the Campaign would have 22-13 or 9D3 of Psi.

It will be seen that at full majority the range of Psi power in a normal Changed will be 13-39. In essence, the new ability is treated like an additional Attribute in many ways. The two principal areas in which the Psi score functions are:

- The effects of certain Psi Powers (see below) are measured by the number generated by rolling Effect Dice, just as Damage Dice determine the effects of using Strength. Calculate the "Psi Group" for the character as you would for any Attribute.
- A Psi "Saving Throw" should be generated, as for any Attribute. This will determine the Changed's success in using his Powers, as stipulated in the rules later on.

There are several broad categories of psychic phenomena recognized today. In ***Aftermath!*** these categories are called Functions. The are:

Telepathy: Forms of psionic ability dealing with contact or communication between two or more minds.

ESP: Short for "Extra-Sensory Perception." Psychic phenomena in which data are gathered which are beyond the reach of the character's physical senses.

Psychokinesis: "Mind over matter." Causing changes in matter by mental force.

Precognition: Sensing events or data before they actually occur or impinge upon the other senses.

All Psionically Changed will have at least one Psi Function. It will be rare for early generations of the Changed to display more than one Psi Function to any great extent. The Functions, in conjunction with his Talents, will determine what Powers a Changed has.

For every Talent in which the Changed has a score greater than 10, a Power will be gained, as described below.

In using Psi Powers, the Effect Die roll made for the output of such Powers will be multiplied by a factor equal to (Talent/10).

Vern has active Psi, with a Function in Telepathy. He has Communicative Talent of 14 and Combative Talent of 18. He will thus receive the Psi Powers ascribed to Telepathy in those two Talents. In using Effect Dice for the Communicative Power, his base die roll will be multiplied by (14/10) or 1.4. In the Combative Power the Effect roll is multiplied by 1.8.

PSIONIC POWERS

There are two main formats governing the use of Psi Powers in ***Aftermath!***: Projected (P) and Receptive (R). You may also think of them as "active" and "passive."

Projected Powers

P-Powers require active concentration by the user to work and using them may exert a strain on his system.

The player controlling the Changed must declare that he is trying to use a P-Power. He then must make a Will AST to "tune in" the character's Psi abilities. This attempt requires 1 Action. Retries in the event of failure are permitted. There are no Critical Miss penalties or Critical Save bonuses.

The Changed may now direct the Power in some allowed manner. The direction requires 1 Action. Make a Psi AST. If it is made, the Power will take effect normally. If the throw is not made, the Power has not taken effect. On a Critical Miss, the Changed's Psi score will be reduced by the Psi Group of the Power projection he was attempting. The player must have declared the effective Psi power he was putting into the effort before attempting the Psi AST. He has the option of using less than his full score. If no such declaration was made, the Gamesmaster may assume that the full power was being used.

Murian tries to project a Psionic Power. Her Psi is 25, for a Psi Group of 4. She rolls a 20 on her Psi AST! Not only has her effort failed, but her Psi score will be reduced by 4 points, to an effective value of 21! This is sufficient to limit her to Group 3 until she recovers some of the lost Psi.

Psi is recovered at a rate per day equal to the Changed's Will Group. No means of increasing this is known to pre-Ruin science, and the Gamesmaster has discretion in allowing the development of any Psionic Skills in his Campaign.

Once the direction attempt has been made, whether it succeeded or not, the Changed will check to see if the strain of using the Power has affected his system. He must roll a Health Saving Throw. If a CST is made, then no deleterious effect occurs. If an AST is made, the character takes half the Psi Group used for the Power in Subdual Damage. If the Saving Throw is not made, he takes the full value of the Psi Group in Subdual Damage. On a Critical Miss, he takes damage as for a normal miss, and is subject to System Shock as if he had taken a severe wound.

If the direction attempt succeeded, then the Power works, even if the user passes out as a result of the strain.

Receptive Powers

Unlike the Projected Powers, these Receptive, or R-Powers, function continuously, doing their office for the user at a level of effectiveness dictated by the Changed's Psi Group. Let us say that an R-Power gives a permanent plus to the Changed's score in some area, such as a Saving Throw, a BCS, or some other Ability. The user recives such a bonus equal to his Psi Group at all times, every time the affected Abilities, Attributes, or Skills are used.

TELEPATHIC POWERS

The Powers listed below are usable by all Changed with the Telepathic Function if they have a score above 10 in the indicated Talent.

Charismatic

Psychic Induction (P). The Changed may attempt to take over the mind of a victim by mental invasion. The modified Effect Die roll must exceed the target's Will for this to occur.

The Changed may implant a strong belief, image, or suggestion in the victim's mind. The victim will act upon this as if it were his own conviction until he is released from control by psionic activity (a Psychic Induction to that end must generate an Effect score greater than the victim's CST to work), or until his senses provide proof that the suggestion is untrue. In all such actions the victim acts at full efficiency. This form of Psychic Induction may be used as often as desired by the Changed.

Alternatively, the Changed may take over the victim's body entirely. Resistance to such domination will have the effect of Fatiguing the victim 1 level while under such control. The Changed will have the use of his own Skills and mental Attributes, but the possessed body exercises its own Physical Attributes and Activities. The Changed may *not* use the victim's Skills in this case, as they are "walled away" from the controlling centers of the brain along with the victim's consciousness. The Changed may so control only one victim at a time, but he *can* switch from victim to victim without

returning to his own body. Such an attack requires a Psi CST to direct properly.

The Changed's own body is in an unconscious state during the second form of this Power. It is as if he had projected his consciousness into the other form. He may return to his own form at will, and must do so when the victim passes out of range, or is knocked out or killed. This takes 1 Action using the Changed's own PCA.

Half of all damage suffered by the possessed body is suffered by the Changed as Subdual Damage. If the victim is knocked out, the Changed must save against System Shock using Will instead of Health. If the victim is killed while possessed, the Changed must make a Saving Throw or suffer a fatal heart attack, again with a Will CST.

The Psychic Induction Power only functions against a sentient opponent (one of more or less human intellect).

Combative

Mind Bomb (P). The Changed can blast at the victim's consciousness with volts of mental force, confusing him or even rendering him unconscious.

If the Effect Die roll exceeds the victim's Will CST, he is Dazed for a full Combat Turn.

If the Effect Die roll exceeds the victim's Will AST, he is Stunned for a full Combat Turn.

If the Effect Die roll exceeds the victim's Will, he is exposed to System Shock.

The victim will reduce the effect of the mental attack if he can make a Will Saving Throw, with a penalty equal to the Changed's Psi Group, based on the Power used. An AST result will reduce the severity of the effect by one step. A CST reduces it by two steps.

Effects are cumulative. If a Changed can hit a Dazed victim with another Daze before he comes out of it, the victim suffers the Stunned result. If he Stuns a Dazed victim, the victim may suffer System Shock. A Daze effect against a victim suffering any effect of Mental Stun will put the target in danger of System Shock.

Communicative

Mental Telepathy (P or R). This is pure and simple telepathic communication: two or more minds linked together in an exchange of information. Range and effectiveness of communication will vary.

Among Telepaths

If all involved in communication have the Mental Telepathy Power, it may be used as either an R- or a P-Power.

If it is used as an R-Power, the maximum range for communication is the Psi score in kilometers.

If both succeed in using it as a P-Power, the maximum range is 100 times that. This is the maximum distance which can separate any two members of the link-up, so that relay chains can be forged across great distance by concerted telepathic action. The maximum duration of a P-Power link-up is equal to the Effect Die roll in minutes.

Use the individual telepath's Effect Die roll to see how long he can stay in the link before trying to Project the Power again.

To A Non-Telepath

The sending range to a non-telepath is more limited. To a willing mind *known* to the telepath (some character in his group of friends, close associates, etc.), the maximum range is the telepath's Psi x 100 meters. He must make a Psi AST to initiate contact, but this *does not* count as using Mental Telepathy as a P-Power. It merely indicates that his signal has become readable to his contact.

To send to a closed, hostile, or unknown mind requires a P-Power use of Mental Telepathy. Some idea of the mind's physical location is needed, and if the direction roll succeeds, it is merely a request to allow communications as described above between willing minds. Range maximum is Psi x 10 meters.

To "read" a closed, hostile, or unknown mind without its knowledge is another matter. While it also has a maximum range of Psi x 10 meters, and requires some idea of where the mind's owner is in relation to the telepath, it permits no sending by the Changed. A Psi CST is needed to make contact, and the telepath simply experiences the flow of surface thoughts in his target's mind. He can maintain the link-up for a maximum period equal to the Effect Die roll in Combat Turns, or until the target is knocked out or killed. If the target dies while the telepath is linked up, the Changed is exposed to System Shock but must save with Will, not Health.

GENERAL NOTES ON TELEPATHY

In all cases of communication among open minds, whether telepathic or not, the rate of information transfer is greater than in speech. Assume a ratio of 10:1. Thus, if Detailed Action Time is involved, the participants may "speak" 10 words per Phase. Those participating in any involved Mental Telepathy are assumed to be in "Observe and Command" Action. The Gamesmaster should allow fairly involved consultation among such characters without advancing the Game Time very much.

Telepathy transcends language barriers among sentient minds. It *cannot* operate with non-sentient minds (animals, plants, etc.).

The rate of thought reading from a hostile mind is at "real time" values. The telepath gets the thoughts as they arise in the surface (sub-verbal) consciousness of the target.

Esthetic

Empathy (P or R). Using it an an R-Power, the Empath is sensitive to emotional states of creatures (sentient or non-sentient) in his field of vision, to a range equal to his Psi in meters. He receives such data only as a one-word statement from the Gamesmaster summarizing the dominant emotion in the observed character's mind: Fear, Anger, Love, Trust, Hostility, Hatred, Hunger, etc. He may use this R-Power on one character at a time, and a reading requires an Action to become clear.

As a P-Power, the Empathy facility allows modification of a target's basic emotional state.

The target must be in range as defined for the R-Power Empathy. The Effect Die roll must exceed his Will score to take full effect, which is an overmastering emotional state, flooded with a single-minded fixation on the emotion named by the empathic character. In applying this full-fledged force, the Gamesmaster should allow some measure of control to the Empath. He may specify that the emotion is directed at some particular individual or group, or tailor the condition so that he can manipulate the victim further by playing on his mental state. If the Effect Die roll exceeds the victim's AST, he will indeed be inclined along the lines of the stated emotion, but remains in some measure of control. He will be in a "mood." Player Characters should be enjoined to portray their mood honestly for the effect's duration. The Gamesmaster will manipulate the responses of non-player characters the same way.

One-Eyed Harry has Telepathic Function and high Esthetic Talent, so he can function as an Empath. Confronted by two rough muggers in the ruined streets, he tries to drive them off by empathic attack. He hurls a sensation of intense fear at one of the pair, rolling out a high Effect and far exceeding the victim's Will. The stricken robber flees, screaming. Trying the same tactic on the other goon, he only manages to beat his foe's Will AST. Shaking but determined, the man slips out a knife and closes on Harry, mouthing fearful obscenities. Weakened by his efforts (Harry did badly on his Saving Throws against strain), the mutant moves to meet him.

In the above case, as the thief may be fairly assumed

to be affected by his fear, the Gamesmaster should put a few Distractions on him in the ensuing fight.

It is difficult to quantify the full workings of empathic manipulation. The results of putting a *particular* emotion into a given target under one set of circumstances are just too unpredictable for such precision. In terms of duration, assume the full effects of empathic attack to last for a number of minutes derived by a separate Psi Group Effect Die roll. Remember to use the lower Group if the Changed has not used his full Psi. The lesser form of empathic control lasts only for a number of Combat Turns equal to the Psi Group used for the Power.

Mechanical

Synaptics (P). The Synaptic Power allows manipulation of the neural flows in the target's brain. It functions on any organic brain, human, animal, or other, on any level of conscious life possessed of a complex central nervous system. Let us assume invertebrates are not in this class. It has two applications: one harmful to the target, and one benign.

As an attack, the Synaptic Power allows a momentary interruption of the energy flows in the victim's nervous system. Basically, a successful use of the Power will do the Effect Die roll as Subdual Damage to the victim. Victims are allowed *both* Will and Health ST against the attack. Any AST result will reduce the effective Psi Group of the attack by 1. Any CST result reduces it by two. Thus, a Psi Group 4 Changed hits a target with Synaptic attack. The victim rolls twice, once for each permitted Attribute. He scores a Will CST and a Health AST. He will reduce the Psi Group of the attack to 1. His only damage will be 1 point (the Effect score for Group 1) times whatever multiplier the Changed has.

The other, benign form of Synaptic Power will repair damage to neural nexi in the target's system. This effect will reduce the advance of Drugs or Diseases which operate against the nervous system. The latter classification comprises any Disease which has Will, Wit, Deftness, or Speed as its target. The Power will *not* cure the sufferer, merely hold off the spread of the illness through his system.

Natural

Animal Telepathy (P or R). As the name implies, the Animal Telepath can use the Telepathy Power with any animal. Let us assume that this is limited to the vertebrates again. In addition, the projection of concepts beyond an animal's level of conceptualization is not possible. One cannot "mind tell" a dog to fire a machine gun. The animal will respond with a confused interrogative. The Animal Telepath's specific Powers are as follows.

He can communicate with any suitable animal within a range as for sending to non-telepaths, subject to the same requirements. Using this as a P-Power, the Animal Telepath can order the animal to do something if it is not agreeable to the request. This might include telling a guard dog not to react to intruders, making hungry predators ignore the succulent characters, making a riding horse refuse its rider's orders, etc. The Gamesmaster and player must work out the acceptable limits of such communication. Too many slips by the Changed in talking over the animal's head will automatically make it a "hostile mind" and break off communications. Thereafter, it is possible only to read the creature's thoughts, which is probably not worth the effort.

Scientific

Brain Tap (P). The Brain Tap allows the telepath to "borrow" Skill points from willing donors. He must direct the Power properly to such a character within a range of his Psi in meters. He will have the use of the donor's BCS in some agreed-upon Skill. The arrangements are made either verbally or via a limited form of Telepathy in which the Changed may only ask "May I Borrow your Skill in —?" The prospective donor may only answer "yes" or "no." A "no" breaks contact. The Tap remains operative for a maximum number of Combat Turns equal to the Effect Die roll. The donor has no constraints upon his activities for this period except the obvious one: *he* cannot use the loaned Skill. All Attribute/Ability-based values for using the Skill are generated by the Changed's scores, not the donor's.

ESP POWERS

These Powers are available to Changed with ESP Function and a score over 10 in the stipulated Talents.

Charismatic

Group Sense (R). The Esper can sense the social bonds of any group of people as if they were a tangible, but Hidden, thing. That is, with a Wit CST, subject to a bonus equal to his Psi Group, he can determine the following:

- The leaders of any group confronting him.
- The absence of members and their general locale (near, far, in ambush, etc.).
- Whether the group he sees has any direct ties to another group, if it is part of a larger community or whatnot, with general indications of the location and size of the other group.
- The general intentions of the observed group toward himself and his associates (hostile, friendly, neutral, etc.).

He will perceive this visually as lines of force connecting the various individuals of the group. "Loners" will have only tenuous force lines in this "aura." Solo explorers from a large community would exhibit lines indicative of strong connections but lacking any immediate compatriots.

The Esper will sense the relative nearness of associates even if the subject(s) is (are) unaware that his (their) compatriots are in the area.

The Gamesmaster should give relative indications of immediately applicable data about observed groups first. The Esper may then ask any other questions he may feel are relevant. The Gamesmaster will answer those coming under the scope of the Power, to wit: number of other associations in general terms (none, a few individuals, large community); central location of main community (distant, close, in the area, and a compass bearing); and so on. Specifically *not* visible to the Power are such data as general level of technical expertise, presence of high-level mutations, possession of artillery, or other technological information.

Possible answers might concern political or social structure, overall state of group morale, and other sociological data.

The Gamesmaster is the final arbiter of this Power's scope. If some guide is desired, these notes might help:

One scan attempt permitted per group in an encounter.

The number of extra questions allowed after the Gamesmaster gives base data has a limit equal to the Changed's Psi Group. Questioning rules outside the scope of Power count toward this maximum.

Combative

Combat Sense (R). The user of this Power has several capabilities. He can defend against any attack from any angle *if he knows it is coming*. That is, he can do so when he is not surprised and is prepared for combat. He will therefore increase his WDA against hand-to-hand combat by his Psi Group, and his CDA against missile attacks by half that figure. This latter bonus is added to whatever effective CDA he enjoys, and is *not* increased by movement! Thus, with a base CDA of 2, at a run he gets the normal increase (2 x 3, for an effective CDA of 6) and adds half his Psi Group to that, round up.

He will also know automatically what weapon form an opponent is using, if it is not self-evident, and may ask at any

time what *option* his opponent is using: Attack, Defend, Aim Missile Weapon, etc. The Gamesmaster's answer should be based on what the opponent is doing in the Action Phase in which the question is asked. Only one such question may be asked in a Combat Turn by the Changed.

Communicative

Clairsentience (P). This is one of the classic forms of ESP. The user can experience sensory data without being physically in the area he is observing. The projection of the Power puts the clairvoyant's body into a trance, and his "point of view" may move freely in any direction and through any barriers. He will witness the surroundings as if he were physically traversing the space, with the following proviso; he may "plug in" only 1 sense per Psi Group when he sends his "point of view" traveling. A Changed with a Psi Group of 3 could use Clairsentience to explore via Sight, Sound, and Touch. Once the Character has begun to project, he may not alter his choices.

The maximum range from the body to which the "point of view" may be sent is 10 meters x Psi. The maximum duration of the projection is the Effect Die Roll in Combat Turns. The "point of view" has a "BMA" of 4 in detailed movement situations, and in larger scales it has an effective "Speed" of 20 x Psi Group. When investigating some area without overmuch movement, allow about 1 Combat Turn to get a cursory look, and 1D3 Combat Turns for closer inspection.

To avoid overstrain, the Clairvoyant must return his "point of view" to his physical body before the duration of the Power runs out. In this case, he will regain consciousness in one Action. Otherwise, he is in danger of System Shock, against which he will save with Will, not Health.

Esthetic

Risk Sense (R). The Esper has an innate sense of wrongness when confronting things which present a personal danger, or when he is entering some dangerous situation or is about to be attacked. He will experience this when about to trigger a trap, step onto a dangerous structure, be ambushed, swallow a "Mickey Finn," etc. A Will CST, to which he adds his Psi Group, will give some indication of the nature of the danger.

Mechanical

Mechsense (P). The Esper will be able to reduce the labor involved in various jobs by directing his Mechsense onto the problem. The Task Points needed to perform some repair or research job are reduced by his Effect Die roll. The effective Barrier value of barriers against which he directs operations is reduced, since he senses the most productive way to attack the problem.

The Power may be applied only once to a given task. If it is a small job and the Esper generates a higher score than the one needed to complete it, say rolling an Effect roll of 20 against a 15-point Barrier, one BCS or ST of the appropriate type must still be made, consuming the necessary time, to apply his information and complete the task.

Natural

Phenomanalysis (R). The Phenomanalyst applies his mutant senses to all natural phenomena and to determining the nature of plant and animal products. He can determine the following data as if they were Hidden Things, adding his Psi Group to the Wit CST he needs:

- Whether some climatic condition is completely natural or has some other facet to it, such as bacterial pollution, chemical contamination, etc. He will add his Psi Group to all Saving Throws required to escape the dangerous effects of hostile phenomena. He can tell by this means if a phenomenon is artificial in origin or not.
- If plant or animal foods are nourishing or not, and if they are partially contaminated he knows which portions are tainted and which are safe.
- The general nature of mutated plants or animals he encounters.
- Lastly, he can diagnose diseases, determining 1 element of their coding (as described in Book 1, p. 38) per Psi Group.

The Phenomanalyst may apply this Power only once to a given phenomenon or encounter.

Scientific

ESP Scan (R or P). Using ESP Scan as an R-Power the Changed can add his Psi Group to any Wit ST needed to analyze the nature of a clue, the solution to a problem, or the location of a Hidden Thing. He may also add this to his BCS in Skills using research or knowledge, or the ability to gather data. Examples include: High Tech Research, Search, all Skills for designing systems, and most Repair Skills.

PSYCHOKINETIC POWERS

These Powers are available to Changed with the Psychokinesis Function and Talent Scores above 10 in the designated Talents.

Charismatic

Muscle Control (P). The Psychokinetic may apply his Power to overcome the control of a target's muscles. Partial success will reduce the muscles' effectiveness but leave the victim in control. Full control allows the Changed to force the victim to move as the Changed directs.

If the Effect Die roll overcomes the Strength AST of the victim, he is affected but not taken over. While under the influence of the attack, he will move as if Fully Encumbered.

If the Effect Die roll is greater than the Strength score, the mutant is in full control, although the body still suffers the pseudo-Encumbrance due to the frantic struggles of the owner. The Changed may direct the body as he wishes.

Effects last for a number of Combat Turns equal to the Psi Group. The maximum range for attempting control or maintaining it is the Changed's Psi in meters. While maintaining control, the Changed is limited to a walk and may engage in no other Actions. If he violates these limits, control is assumed to be dropped at that point. The controlled character may react on the next Action Phase.

Combative

Kinetic Bolt (P). A blast of pure energy, passing through all armor, to deliver a concussion blow to the victim. It does the Effect Die roll as Subdual Damage.

Communicative

Distant Voice (P). The Changed may cause vibrations in the air to transmit his voice to any point in sight, with a maximum range of 100 meters x Psi. He may communicate at normal speeds for speech for a number of Combat Turns equal to his Effect Die roll.

Esthetic

Camouflage (P). The Psychokinetic alters the alignment of the surface molecules of an inorganic object so that it assumes a color and texture consonant with its surroundings. This also diffuses basic Infrared signature. Thus, a truck motor could not be masked as a heat source, but its location could not be pinpointed by a character or device capable of perceiving Infrared signatures.

The effect will vary. Camouflaging a door or small item will make it a Hidden Thing, but camouflaging a tank will not. The Gamesmaster has the final say in such matters. The effect endures for a number of hours equal to the Effect Die roll.

The maximum area the Changed may so alter is equal to 3 square meters times his Psi Group.

Mechanical

Telekinesis (R or P). The power to move objects by force of mind. The R-Power allows the exertion of a Strength Saving Throw to do something at a range of the Psi Group in meters.

As this is under mental control, the Changed could, for example, apply it to the lock on a door without needing any special action to focus all his energy on the lock alone.

The Power also allows the Changed to lift and move up to half his ENC Cap and move it at a walking pace for a maximum number of Combat Turns equal to his Psi Group. This is allowed on any unattached/unheld item in line of sight out to a range of 10 meters x Psi. Objects within the range for the Saving Throw use of the Power may be thrown instead, with a Strength Group based on Psi Group (at -1 as with all thrown missiles) and a BCS equal to the Psychokinetic's Will AST.

As a P-Power, it enables the Psychokinetic to Brawl at a range of up to 10 meters x Psi, using Psi in place of any Attributes used in the Brawling process, including the BCS, for which the direction roll serves instead. The Power may be used to press an attack, once properly directed, for a number of Actions equal to the user's Psi Group.

Natural

Cellular Psychokinesis (P). The Changed can heal wounds, restoring the Effect Die roll in Lethal or Subdual Damage, or the Psi Group in Critical Damage, by successful use of the Power. Such an act reduces the natural Healing Rate of the recipient by 1 point per use, as it draws upon this energy to accelerate the regeneration process. Unlike most drugs with this effect, however, the psionic form may be applied after the Healing Rate reaches 0. It will continue to reduce the Shock Factor of the recipient, and must cease when this is at 0. Such lost points are recovered only by the passage of time, at 1 per day. Until the 10-point basic Shock Factor is recovered, no restoration of the Healing Rate occurs.

The Changed must be within 1 meter of the target and both must be concentrating on the psychic link to accomplish this activity. It requires 10 minutes per use to complete. If interrupted, pro-rate the healing done at 10% of rolled value per minute spent. Fractions are lost. The check for stress on the mutant is not made until the use of the Power ends, naturally or by interruption.

Scientific

Electrokinesis (P). The psychokinetic can influence the flows of electrical current in circuits, or generate a bolt of power for combat.

In controlling circuitry, the Gamesmaster must exercise his judgment. Basically, the Power can interrupt a circuit for a maximum number of Combat Turns per use equal to the user's Psi Group. It can reduce the flow of heavy voltage in electrical defenses of similar circuits by the Psi Group. Thus, the Electrokinetic mutant could reduce the charge in an electrified fence by his Group for an equal number of Combat Turns. He could do the same to a power supply. When dealing with more delicate flows, as in electronic devices, the Changed can switch them off for a period equal to the Effect Die roll. Lasers, radios, ignition systems, alarms, sensors, or cameras are some of the possible targets. Contrariwise, the Changed may generate power into a suitable storage battery (i.e., an Eterna type) at .1 charge per Effect point rolled.

In its more dramatic manifestation, the Electrokinetic may alter the target's charge with respect to the earth, essentially hitting it with a small lightning bolt. This will act as an electrical attack with a Charge equal to the user's Psi Group. Insulation will defend as normal. This may be directed against ungrounded objects as well, doing considerable damage to metal and light plastics, very little to wood. Adjust the effect on Barrier values according to the Gamesmaster's decision.

The maximum range for Electrokinetic phenomena is 10 meters x Psi.

PRECOGNITIVE POWERS

These powers are available to the Changed having the Precognition Function and a score above 10 in the designated Talents.

Charismatic

Reaction Reading (R). The Precognitive Changed may foresee the effects of his words or actions upon another Character's attitude. He can, in effect, alter the results of an Attitude Die roll by his actions. The Gamesmaster may limit the scope of the power to one use per situation. The Changed player must announce that he is using Reaction Reading, and rolls his Effect Die for his current Psi Grouop. The result may be applied in full or in part to raise or lower the Attitude roll in question. Non-Player Characters using the power on Player-Characters will be able to convince the Players of whatever attitude they desire, within limits determined by the Gamesmaster on how unlikely this may seem. A sallow-faced rogue, just swallowing a mouthful of man-flesh, will not foresee the right words to use to convince Players that he is not a cannibal since NO foreseeable words to that effect exist.

Combative

Combat Precog (R). The Combat Precog power is similar to the Combat Sense Power enjoyed by Changed with ESP. It adds the current Psi Group to the character's effective CDA, AFTER all modifiers for movement have been calculated. Unlike Combat Sense, it operates at full value vs. any form of attack or danger which is relevant to CDA. The user does NOT have to know that the attack is coming.

The Combat Precog cannot apply his analytical consciousness to the data he receives from his Psi. The information obtainable by Combat Sense users is not available to him.

Communicative

Presience (P). The power to foresee the future is gained. At any point where the Precognitive and those with him are confronted by a choice of actions (e.g. to enter a building, to follow a given strategy, etc.), the Changed may go into a prophetic trance, requiring one minute on the average. Successful use of the power is checked secretly by the Gamesmaster, and a secret roll of the appropriate Effect Die is also made. This gives the number of minutes into the future which the psychic has seen.

Play then proceeds normally, with the following exception: until the end of the time rolled by the Gamesmaster, the Players may decide that they did not perform the action at the Decision Point where the Precog used Prescience. In other words, having foreseen the events the (presumably) wish to avoid, they simply did not put themselves in a situation where they would encounter them. Play is rolled back to the point where Prescience was used (the end of that one minute Trance) and the Players may undertake any actions they wish except the one that they chose in the vision. The operation of the power may be summed up as a second chance to rectify a bad decision.

The Players lose this option if, during the time covered by the vision, one of the following things occurs:

- The precog who foresaw the events is killed or knocked out. This reflects the traditional theory that prophets cannot foresee personal danger or death in their visions.
- Another precog is present in the group (if any) which poses a danger to them. The two mutants will cancel each others' powers out.
- If the party cannot agree on how or when to alter their course of action, i.e. to exercise the option to cancel the recent events or not. The Gamesmaster may impose a limit in real time on such disputations.

Esthetic

Alarm (R). The power much resembles Risk Sense, the power derived from Esthetic Talent by those with ESP. Unlike using the Risk Sense, the Precog will not be able to use his Will to determine the nature of the danger. He will, however, receive a similar bonus to his Saving Throws, BCS rolls, or other defenses (including CDA if germane) against the results of the danger. Again, Precognition is handled here as something operating below the threshold of conscious thought.

Mechanical

Techanalysis (P). The precog can determine what a given device does with a single successful use of this power. He can work out how to make it work (in the sense of turning it on) by performing a Task to that end under terms set by the Gamesmaster, using the power for a BCS and his Psi Effect Die roll to generate the base Task Points achieved. When the Task is completed, he knows how to handle the device. This does not confer skill in its use, if such is needed, as in the case of a weapon or vehicle. Assume a BCS in using that particular device is gained. This would be equal to the Changed's Psi Group. This is not generalized to other similar devices. Thus, a Precog who has a Psi Group of 4 and who uses Techanalysis to deduce the operation of a Jet Plane, has a BCS of 4 in flying the plane, ONLY while using that particular jet. He does NOT gain a BCS of 4 in the Skill "Fixed Wing Jet Aircraft Pilot."

Natural

This is identical with the ESP power of Phenomanalysis.

Scientific

Process Precognition (R). The Precog can subject any given process (Lab Practice, Technological Task, etc.) to an analysis which will reveal any potential dangers or critical failures in his handling of it. This must be applied to Tasks which the Precog is conducting personally. He cannot interpret the data relating to fields in which he has no knowledge. Basically, the Precog may roll a Psi AST to negate any failure he may encounter while performing some Task of a scientific or technological nature. He may attempt to do so once per failure. If the AST is made, it will turn a simple failure into a success, allowing the Precog to accumulate Task Points, and turns a Critical Failure into a simple miss.

DETERMINING MUTATIONS

Consider the purely random alterations in mind and body that could result from the game of mutagenic Russian Roulette that will be played with man in a Post-Holocaust environment; as radiation, drugs, viral elements or what-have-you act upon the deepest recesses of his cell structure. Some of these changes will be beneficial, others will be deleterious. Still others will have no direct impact on his survival capacity. In game terms this may mean the character has one of the types of mutations described later in this section, a simple change from the human norm, or no visible sign or manifestation of a change in his genetic material. We make the assumption that a serious mutation that was deleterious to the organism would have killed it before the beginning of play.

For the Gamesmaster's convenience, we provide a table for selection of mutations. If he decides to alter the types of mutations present in his campaign, he should draw up a suitable table. For a campaign using these mutations where the setting is shortly after the Ruin or the mutagenic agents are not very active, a negative modifier (say 5 or 10) might be used on the die roll. If the mutagenic are extremely active (perhaps due to a deliberately designed mutation causing virus) or the campaign is set several generations after the Ruin, a positive modifier could be used. For the "200 Years After" campaign, 5 could be added to the die roll for each generation since the Ruin. The Gamesmaster should feel free to adjust the modifiers to suit the rationale for his own campaign.

MUTATION GENERATION TABLE (1D100)

Die Roll	Mutation
01-05	Actual mutation is minor. No visible signs.
06-15	Skin coloration affected. This may take the form of albinism, melanism, uneven distribution of pigment (melanin) causing a piebald appearance, or even the creation of a color not previously found in human skin tones such as green or scarlet.
16-30	Skeletal modification. The mutant's skeletal structure might be altered causing a humpbacked condition, increased or decreased fragility, or increased or decreased flexibility. The first might have no effect on play, the second might alter the percentage chance for a bone breaking, while the third could help or hinder a character who finds himself in tight surroundings.
31-40	Alteration of hair fibers. The mutant might find himself devoid of body hair or completely hirsuite. A more extreme form might have the hair structure altered to a feathery or tendrilous nature.
41-45	Alteration of features. Disfigurement lowering the character's personal appearance would be the most common. Extreme cases might include the loss or modification of one of the senses located in the head.
46-60	Limb Modification. This could be minor such as the loss or addition of a toe or finger. It could be more extreme with the actual or functional loss of a whole limb. This would cause varying penalties due to circumstances. Optionally the modification could be the addition of another limb or pair of limbs. Whether such limbs were functional and to what degree is left to the descretion of the Gamesmaster.
61-75	Tailed. The mutant has a tail which could be only a stump or a fully developed organ.
76-90	Psionic mutation. The mutant has a psionic mutation with a Function as determined from the Psionic Function Table and the specific power(s) as determined by his Talent Scores.
91-99	Physical Mutation. The character has a mutation as determined on the Physical Mutation Table. The exact strength and nature is left to the Gamesmaster.
00	Wild Card mutation. The mutant has a unique power. The player and the Gamesmaster should get together to design the specific power and its limitations. If such creativity is not desired or is precluded by lack of time, allow the player to choose his mutation from those normally listed.

Any mutant with a Psionic, Physical, or Wild Card mutation may also have a simpler mutation as well. There is a 40% chance of this. If it is the case reroll on the Mutation Selection Table ignoring rolls higher than 75.

All mutations have a 50% chance of being sterile. This need not be checked unless and until the Changed One is attempting to have offspring.

PSIONIC FUNCTION TABLE

Die Roll	Function
01-20	Telepathy
21-40	ESP
41-60	Pychokinesis
61-80	Precognition
81-90	Choice of Function
91-00	Two Functions. Reroll ignoring results over 90.

PHYSICAL MUTATION TABLE

Die Roll	Mutation
01-25	Weak mutation. Reroll ignoring results less than 25. The character has a weakened or lesser version of the rolled power(s).
26-35	STRONG
36-40	QUICK
41-50	TOUGH
51-60	IMMUNE
61-75	SMART
76-80	EAR
81-85	EYE
86-90	BALANCER
91-95	BLEND
96-99	OPTIONS: A. Player picks 1 mutation without penalties applied to his power. B. Roll for 2 physical mutations (ignore rolls over 95). C. Player picks 1 mutation and alters its abilities to suit himself then the *Gamesmaster* alters its weaknesses to suit *himself!*.
00	Player designs his own mutation with Gamesmaster's aid; treat as 96-99.

THE CHANGED IN THE FUTURE

It is difficult to posit the directions evolution may take the successful mutations in the Aftermath. The random genetic shuffle that hit the human race when the Ruin dumped such an enormous load of mutagens into the environment could lead to any result one can imagine (and quite a few one cannot). Let's assume that the tendency will be for the mutations to become reinforced.

Combinations: Characters may be born with more than one dominant Change. A Balancer who is also a Blend. A Strong-Tough (do not get that one unhappy with you). A physically Changed Psionic. Psionics with more than one Psi Function.

Intensified Mutations: Strongs with +20 in their Strength Attribute. Psionics who get a D6, or 2D3, of Psi every year. The basic patterns given here are made stronger and more potent in later generations.

New Mutations: The introduction of a new form of Change is always available to the Gamesmaster. Several later-generation powers we have experimented with include Teleports and Pyrokinetics.

Teleports: A Power derived from the interaction of Psychokinesis and the averaged Scores of the Scientific and Natural Talents. The user may teleport to any place he can see clearly (or sense with ESP) within a range of 5 meters x Psi. It requires 1 Action to focus in for the jump.

Pyrokinesis: Make a fire attack on a target with Strength Group equal to the Psi Group. Range is 10 meters x Psi. If within a range equal to Psi score, double the intensity of the flame attack.

You see the possibilities. Do not let the restraints of biology bind your imagination too closely. What you want to see in the campaign should be in the campaign.

REPUTATION

During the course of his adventuring career, a character will acquire a reputation. In many campaigns, a Gamesmaster will treat this in a very nebulous fashion. In some, it will not be a factor at all. This is certainly allowable and, in some campaigns, the play group might even find it preferable. For the Gamesmaster who wishes to have a more concrete handle on the concept of reputation, or "Rep," we provide these guidelines.

Reputation is gained by singular execution of a deed or by continued performance in an area of expertise. The performance may be successful or not. In some cases, reputation is inherent in holding a given position.

The components of a character's reputation will affect the way in which non-player characters will react to him and with him. A character with a reputation as a tough fighter will find that pacifistic characters fear and/or respect him while belligerent young punks occasionally challenge him to prove that they are better than he is.

A character's reputation will add to his Recognition Factor. This represents, in some cases, the circulation of his description along with the tales that form the basis of his reputation. Thus, when a character is recognized, those recognizing him will be aware of his reputation. At the least, they will know of the general areas in which the character has gained his reputation.

EARNED REPUTATION

The Gamesmaster will adjudicate when an action on the part of a character is of a level sufficient to affect his reputation. The action will be assigned a figure of merit. If the character performs the action successfully, the value will be entered in the Positive Merit column of the Rep Area to which the action belongs. If the character fails to perform the action, it will be entered in the Negative Merit column.

In some cases, inaction on the part of a character will result in merit gains or losses. This is particularly the case with regard to the Survival Area of Rep.

For the most part, the Gamesmaster will not wish to rate every little thing done by a character. He may wish to rate a given scenario as a whole, or break it down into segments corresponding to particular areas in which reputation can be gained. Some suggestions with regard to areas to rate are:

Combat: The Gamesmaster can rate an individual combat where the character fights one-on-one with another character. He may, however, wish to deal with a firefight as a whole and apportion the results of success among the participating characters.

A man might be rated as having a figure of merit equal to his DRT/20 rounded to the nearest but with a minimum of 1. If a character engages in a specific duel with another specially-designed character, the base figure of merit might have a value added to it equal to the defeated character's Rep/10, nearest.

Dangers: A danger such as a contaminated environment might have a value equal to the virulence or strength of the danger. This would be applied to a character's reputation for survival.

Other dangers such as the attack of wild animals could affect the character's reputation as a Survivor or as a Hunter at the discretion of the Gamesmaster. Animals might be rated for merit by their size and nature. A

herbivore would have a value equal to its Mass/30, down, while a carnivore would be equal to its Mass/15, down. Particular things that increase the danger of the encounter with the beast, such as its being able to use poison, its being rabid, intelligent or semi-intelligent direction of the attack, etc., would multiply the base value by 1.5. A combination of factors would add .3 to the multiplier per factor beyond the first.

Sheer Courage: Braving a known danger or surviving any great danger by dint of valor, wits, and/or plain good luck will tend to make people consider the character(s) some kind(s) of hero(es). Thus, their Rep for Bravery will be increased, or, if they run (or appear to run) from such an encounter, decreased. A base value for such an encounter, if with men, could be rated as if a Custom Army were being created. The average of the calculated Offense and Defense values divided by 100 and rounded to the nearest whole number would give a good base. Such a value should be divided by the value for the characters involved in defeating or facing the danger (even those that were killed).

Puzzles and Problems: Characters solving such things will almost certainly demonstrate Competence in some form. Such a thing should be treated as a Danger and given a rating of merit which is divided up among the characters involved in the solution.

Other Sources: Other sources of gains in reputation are as varied as the Gamesmaster wishes. Values are assigned and success rewarded and failure chastised by the award of positive or negative merit respectively.

The accomplishment of a deed is only of value to a character's reputation if it is witnessed, or if the story is believed when the tale is told. Even if believed or witnessed, it may not have any significant effect on a character's reputation. To represent this variability, the Gamesmaster will roll on the Reaction table. One-half the Value Number obtained will be used as a multiplier to the merit figure. This may change a positive value to a negative, or vice versa, but that is the nature of a reputation—it is not always based on truth. The Gamesmaster may wish to modify the Reaction Roll if there are no witnesses other than the Player Characters in the party. Such a modification may be a -5 if the Player Characters have evidence to support their claims and twice that if there is no evidence.

When a character has accumulated 10 merit points in an area, he will have acquired 1 point of Rep. These merit points may be positive or negative. Thus, a character with 5 positive and 5 negative points of merit as a fighter with guns will have done enough that people have heard of him, but his reputation will be as an indifferent shot with a gun.

POSITIONAL REPUTATION

Sometimes reputation will be attached to a position. Much as the marshal of Tombstone was expected to be a good shot with a six-shooter, a position may indicate that a character is successful in an Area for which reputation can be gained. Such reputation only belongs to the character as long as he is in that position. Optionally, the Gamesmaster may allow some of the glitter of a position to remain with a character after he has left the position. This may "decay" over time, or simply be a constant value that is a fraction of the value of the position.

The value of Rep points gained by a position may vary. The marshal of Tombstone gains Rep due to the fact that he is a marshal and that the town is which he is marshal is a "tough" town. If someone is unaware that the man at the bar is the marshal (his badge being hidden), he will not be influenced by the Rep of the position of marshal.

RECOGNITION AND REPUTATION

An increased reputation will increase the chance that a character will be recognized. When recognized, the Gamesmaster may assume that the character's reputation is also known. This will be the reputation as expressed on the Character Record Sheet in the Rep section. As the Gamesmaster knows, this may not be the true evaluation of the character's accomplishments and failures, but the non-player characters will only know what is expressed on the sheet. When this happens, the Gamesmaster should refresh his memory of the reputation by asking the player to show him the Rep section of the Character Record Sheet of the character who has been recognized.

When dealing with a group of Player Characters, the Gamesmaster may wish to save himself time and effort by only checking to see if the leader or the character with the highest Recognition Factor is recognized. It may be assumed that if the one is recognized, any characters who are usually found in association with him are recognized for themselves also. New members of the group might have to be recognized separately.

A character's Recognition Factor will be increased by 1 for every 10 full points of Reputation that he has acquired.

VARIATIONS ON REPUTATION DUE TO LOCATION

Needless to say, the strongest effect achieved by a reputation will be in the locality where the reputation was gained. The sphere of influence of a reputation will depend on the foms of communication in use. Mass media, if operating, will enhance the effects of reputation.

The Gamesmaster should designate on his map, spheres of influence which are representative of communities in communication to such a degree that a character's reputation will be spread within one. These can be referred to as Reputation Zones. A Reputation Zone may be as small as a building or as large as a country, with steps in between at neighborhood, town/village, city, state, and regional networks of interacting communications.

When a character crosses into a new Zone of Reputation, the Gamesmaster should make a Reaction Roll to see if his reputation has preceded him. The chart below shows what roll is needed for the Rep to remain intact. If that level of reaction is not achieved, the character has no reputation in that Reputation Zone. His effective Rep for Recognition Factor enhancement is his normal Total Rep divided by 1 plus the number of Recognition Zones between the Zone he is currently in and the Zone in which the reputation was made.

Characters who move around a lot will require players to maintain several different reputations for them. This is not necessarily a bad thing. It can be downright advantageous for undercover work. This can lead to interesting consequences if a character is recognized by a non-player character who knows him by sight and reputation from one Zone and only by reputation or positional reputation from another Zone. When the non-player character puts the two together, the fireworks may start.

REPUTATION CARRYOVER CHART

Zone	Minimum Reaction necessary to retain Reputation
Reputation built in	automatic
Contiguous Zone	Mediocre
One Zone between	Good
Two Zones between	Excellent
Three Zones between	automatic loss

APPENDIX I
THE GUN LIST

This contains almost two hundred weapons: sporting and service firearms available in the US to civilians and military. All the statistics needed to use the gun in ***Aftermath!*** are included, in a format called the Spec Sheet. This includes the following:

CODE: A letter and number identification code for the weapon, for convenience in record keeping and random gun generation. All the Codes fall into easily generated die roll ranges.

BBL: The barrel length. In some cases, as in the listings for Rifles, this is not given for every entry, since a Rifle must have a BBL of over 20" to be in that classification.

ACTION: AL, SA, DA etc. Again, in some cases this is specified for a whole series of entries. Note that some single shot entries are listed as SS/BA, indicating that a Bolt is the means of loading and cocking the gun.

MAG: For Magazine. Gives the type of Magazine and its Capacity.

CALIBER: The loads the gun will take. For shotguns, this is given as GAUGE. If the gun is manufactured in different Calibers, a "Frequency" number is assigned to each specific Caliber listed. This is usually a D10 roll, although for some weapons a D100 was necessary, so diverse were the possibities. When a weapon with this type of Caliber entry is generated, roll the appropriate die to see what model you have as regards to Caliber.

Shotgun GAUGE entries note whether the gun is designed for standard; Magnum, or Slug loads.

DUR: Gives the base Durability score of the weapon. The circumstances in which it is found may alter this. The Foraging Table may indicate that a temporarily reduced DUR is in effect, until the gun is serviced. Or it may even have a DUR equal to 1, due to poor care, or because it is a cheap imitation of the real model, a "Saturday Night Special."

ENC: Gives the Encumbrance of the weapon.

FEATURES: Lists any Features the weapon has or may have. This entry also includes any background information on the gun, special characteristics, and so on.

More on this feature in a Book 2 Appendix: About Features.

All you need to arm your Characters to the teeth is in this List, or the attached section on Military Issue Firearms, which provides the same statistics for famous weapons used from WWII to the present (and even the Future). But for all its handiness, we do recommend procuring your own copy of some of the source books in the bibliography, and working out your own gun tables from those. Among other things, they almost always have *Pictures* of the weapons, which will add immensely to your Players and your own ability to visualize the Campaign more vividly. For another, you may find that you have different feelings about how a given weapon works. Lastly, it gives a more satisfying feel to play to be able to say, "I pull my Colt Python 357 Magnum," rather than "I am using my P51."

PISTOLS
REVOLVERS:

CODE: P1 BBL: SHT ACTION: DA
MAG: Snap-Cyl 5 ENC: .25 DUR: 3
CALIBER: 44 Special (1-3)
38 Special (3-5)
357 Magnum (6-8)
22 Long Rifle (9)
32 Long (0)
FEATURES: None.

CODE: P2 BBL: SNUB ACTION: DA
MAG: Snap-Cyl 5 DUR: 3 ENC: .2
CALIBER: 38 Special (1-6)
22 Long Rifle (7-8)
32 Long (9-0)
FEATURES: None.

CODE: P3 BBL: SNUB ACTION: DA
MAG: Swing-Cyl 6 DUR: 4 ENC: .25
CALIBER: 38 Special (1-6)
357 Magnum (7-0)
FEATURES: 357 Magnum model can also be use 38 Special.

CODE: P3 BBL: STD ACTION: DA
MAG: Swing-Cyl 6 DUR: 4 ENC: .4
CALIBER: 38 Special (1-6)
357 Magnum (7-0)
FEATURES: 357 Magnum model can also use 38 Special.

CODE: P5 BBL: LNG ACTION: DA
MAG: Swing-Cyl 6 DUR: 4 ENC: .45
CALIBER: 38 Special (1-6)
357 Magnum (7-0)
FEATURES: 357 Magnum model can also use 38 Special.

CODE: P6 BBL: STD ACTION: DA
MAG: Break 9 DUR: 3 ENC: .4
CALIBER: 22 Short (1-2)
22 Long (3-5)
22 Long Rifle (6-0)
FEATURES: High quality Sights give a +1 to Sighted Fire.

CODE: P7 BBL: SHT ACTION: SA
MAG: Snap-Cyl 6 DUR: 3 ENC: .3
CALIBER: 22 Long Rifle
FEATURES: Also fires 22 Rimfire Magnum.

CODE: P8 BBL: STD ACTION: SA
MAG: Snap-Cyl 6 DUR: 3 ENC: .4
CALIBER: 22 Long Rifle
FEATURES: Also fires 22 Rimfire Magnum.

CODE: P9 BBL: LNG ACTION: SA
MAG: Snap-Cyl 6 DUR: 3 ENC: .45
CALIBER: 22 Long Rifle
FEATURES: Also fires 22 Rimfire Magnum.

CODE: P9 BBL: XLNG ACTION: SA
MAG: Snap-Cyl 6 DUR: 3 ENC: .6
CALIBER: 22 Long Rifle
FEATURES: Also fires 22 Rimfire Magnum.

CODE: P10 BBL: Pistol Carbine ACTION: SA
MAG: Snap-Cyl 6 DUR: 3 ENC: .85
CALIBER: 22 Long Rifle
FEATURES: Also fires 22 Rimfire Magnum.

CODE: P11 BBL: SNUB ACTION: DA
MAG: Swing-Cyl 6 DUR: 2 ENC: .25
CALIBER: 32 Short (1-4)
32 Long (6-0)
FEATURES: None.

CODE: P12 BBL: SHT ACTION: DA
MAG: Swing-Cyl 6 DUR: 2 ENC: .25
CALIBER: 32 Short (1-4)
32 Long (6-0)
FEATURES: None.

CODE: P13 BBL: SNUB ACTION: DA
MAG: Break 5 DUR: 2 ENC: .27
CALIBER: 38 Short
FEATURES: None.

CODE: P14 BBL: SNUB ACTION: DA
MAG: Snap-Cyl 6 DUR: 5 ENC: .3
CALIBER: 357 Magnum
FEATURES: Also fires 38 Special. High quality Sights give +1 to Sighted Fire.

CODE: P15 BBL: SHT ACTION: DA
MAG: Snap-Cyl 6 DUR: 5 ENC: .35
CALIBER: 357 Magnum
FEATURES: Also fires 38 Special. High quality Sights give +1 to Sighted Fire.

CODE: P16 BBL: STD ACTION: DA
MAG: Snap-Cyl 6 DUR: 5 ENC: .45
CALIBER: 357 Magnum
FEATURES: Also fires 38 Special. High quality Sights give +1 to Sighted Fire.

CODE: P17 BBL: SNUB ACTION: DA
MAG: Snap-Cyl 6 DUR: 5 ENC: .3
CALIBER: 357 Magnum (1-3)
38 Special (4-8)
9mm Parabellum (9-0)
FEATURES: None.

CODE: P18 BBL: SHT ACTION: DA
MAG: Snap-Cyl 6 DUR: 5 ENC: .4
CALIBER: 357 Magnum (1-3)
38 Special (4-8)
9mm Parabellum (9-0)
FEATURES: None.

CODE: P19 BBL: STD ACTION: DA
MAG: Swing-Cyl 6 DUR: 4 ENC: .45
CALIBER: 41 Magnum
FEATURES: None.

CODE: P20 BBL: LNG ACTION: DA
MAG: Swing-Cyl 6 DUR: 4 ENC: .5
CALIBER: 41 Magnum
FEATURES: None.

CODE: P21 BBL: XLNG ACTION: DA
MAG: Swing Cyl 6 6DUR: 4 ENC: .65
CALIBER: 41 Magnum
FEATURES: None.

CODE: P22 BBL: SHT ACTION: DA
MAG: Swing-Cyl 6 DUR: 4 ENC: .37
CALIBER: 44 Magnum (1-6)
44 Special (7-0)
FEATURES: 44 Magnum also fires 44 Special.

CODE: P23 BBL: STD ACTION: DA
MAG: Swing-Cyl 6 DUR: 4 ENC: .47
CALIBER: 44 Magnum (1-7)
44 Special (8-0)
FEATURES: 44 Magnum model also fires 44 Special.

CODE: P24 BBL: LNG ACTION: DA
MAG: Swing-Cyl 6 DUR: 4 ENC: .5
CALIBER: 44 Magnum (1-7)
FEATURES: 44 Magnum model also fires 44 Special.

CODE: P25 BBL: STD ACTION: SA
MAG: Port-Cyl 6 DUR: 3 ENC: .45
CALIBER: 357 Magnum (1-3)
44 Special (4)
45 Long Colt (5-8)
44 Magnum (9-0)
FEATURES: Replica of Colt 45, the "Peacemaker."

CODE: P26 BBL: LNG ACTION: SA
MAG: Port-Cyl 6 DUR: 3 ENC: .45
CALIBER: 357 Magnum (1-3)
44 Special (4)
45 Long Colt (5-8)
44 Magnum (9-0)
FEATURES: Match weapon. Superior Sights give +1 to Sighted Fire.

CODE: P27 BBL: STD ACTION: SA
MAG: Port-Cyl 6 DUR: 2 ENC: .36
CALIBER: 32-20 (1)
38 Long (2-3)
38 Short (4)
38-40 (5-6)
44-40 (7-8)
45 Long Colt (9-0)
FEATURES: Again, a replica of the frontier Colt 45. The Calibers shown are historically correct.

C[illegible] 28 BBL: Pistol Carbine ACTION: SA
MAG: Port-Cyl 6 DUR: 3 ENC: 1.3
CALIBER: 45 Long Colt
FEATURES: Removable shoulder stock. A replica of the famous "Buntline Special," used by Wyatt Earp.

CODE: P29 BBL: STD ACTION: SA
MAG: Port-Cyl 6 DUR: 2 ENC: .45
CALIBER: 22 Short (1)
22 Long (2-3)
22 Long Rifle (4-7)
22 RF Magnum (8-0)
FEATURES: None.

CODE: P30 BBL: LNG ACTION: SA
MAG: Port-CYl 6 DUR: 5 ENC: .47
CALIBER: 357 Magnum (1-3)
357/9mm Parabellum Convertible (4)
45 Long Colt (5-6)
45 Long Colt/45 ACP Convertible (7)
44 Magnum (8-0)
FEATURES: This is a Match Weapon. It is equipped with Peep Sights giving +1 to BCS and +1 to Aim when using the Sights.

Also, the "Convertible" models listed permit firing either of the specified rounds if the appropriate cylinder is being used. Each convertible weapon will accept a cylinder in either of the Calibers listed. Finally, all 357 models can also use 38 Special and 44 Magnum models can use 44 Special, with no special actions required for the switch.

AUTOLOADERS

CODE: P31 BBL: SHT ACTION: AL
MAG: Box Variable DUR: 2 ENC: .35
CALIBER: 32 ACP 8 Rounds (1-3)
380 ACP 7 Rounds (4-7)
22 Long Rifle (8-0)
FEATURES: None.

CODE: P32 BBL: SNUB ACTION: AL
MAG: Box 6 DUR: 2 ENC: .2
CALIBER: 25 ACP
FEATURES: None.

CODE: P33 BBL: SHT ACTION: AL
MAG: Box Variable DUR: 3 ENC: .37
CALIBER: 32 ACP 12 Rounds (1-3)
380 ACP 13 Rounds (4-6)
9mm Parabellum 15 Rounds (7-0)
FEATURES: None.

CODE: P34 BBL: STD ACTION: AL
MAG: Box Variable DUR: 3 ENC: .37
CALIBER: 32 ACP 12 Rounds (1-3)
380 ACP 13 Rounds (4-6)
9mm Parabellum 15 Rounds (7-0)
FEATURES: None.

CODE: P35 BBL: STD ACTION: AL
MAG: Box Variable DUR: 4 ENC: .38
CALIBER: 45 ACP 7 Rounds (1-6)
9mm Parabellum 9 Rounds (7-0)
FEATURES: None.

CODE: P36 BBL: STD ACTION: AL
MAG: Box 13 DUR: 5 ENC: .35
CALIBER: 9mm Parabellum
FEATURES: Hi-Power weapon — uses High Power ammo at no risk. Safety catch is High Security. Gun cannot discharge when "safe" even if dropped or struck.

CODE: P37 BBL: SNUB ACTION: AL
MAG: Box 6, 7, or 9 DUR: 4 ENC: .3
CALIBER: 45 ACP
FEATURES: Can use the 7 or 9 round Magazines from ANY other 45 ACP Autoloading Pistol.

CODE: P38 BBL: STD ACTION: AL
MAG: Box 18 DUR: 3 ENC: .4
CALIBER: 9mm Parabellum
FEATURES: Military issue of this model has capability for AB Gun Action. Civilian model given here can be adapted for this use by a Gunsmith.

CODE: P39 BBL: STD ACTION: AL
MAG: Box 9 DUR: 3 ENC: .42
CALIBER: 22 Long Rifle
FEATURES: Match Weapon. -1 when using Sights.

CODE: P40 BBL: SHT ACTION: AL
MAG: Box Variable DUR: 2 ENC: .27
CALIBER: 22 Long Rifle 9 Rounds (1-2)
32 ACP 8 Rounds (3-6)
380 ACP 7 Rounds (7-0)
FEATURES: None.

CODE: P41 BBL: STD ACTION: AL
MAG: Box Variable DUR: 2 ENC: .3
CALIBER: 38 Super Auto 8 Rounds (1-6)
45 ACP 7 Rounds (7-0)
FEATURES: None.

CODE: P42 BBL: STD ACTION: AL
MAG: Box 8 DUR: 4 ENC: .4
CALIBER: 30 (1-4)
9mm Parabellum (5-0)
FEATURES: Replica of the Luger.

CODE: P43 BBL: SNUB ACTION: AL
MAG: Box Variable DUR: 2 ENC: .2
CALIBER: 22 Long Rifle 10 Rounds (1-4)
25 ACP 8 Rounds (5-0)
FEATURES: May be equipped with conversion kit consisting of the Barrel, Clip, and Bolt of the specified Calibers. This allows the gun to be altered from one to the other.

CODE: P44 BBL: STD ACTION: AL
MAG: Box 11 DUR: 3 ENC: .4
CALIBER: 22 Long Rifle
FEATURES: Luger replica.

CODE: P45 BBL: STD ACTION: AL
MAG: Box 7 DUR: 5 ENC: .5
CALIBER: 44 Magnum (AMP)
FEATURES: The ammo fired by this gun acts as 44 Magnum in all respects BUT a special AMP case is needed. Standard 44 Magnum ammo will always Jam the gun. The weapon is made of stainless steel and is known as an "Auto-Mag."

TARGET WEAPONS

All the Pistols listed here are Match Weapons!

CODE: P46 BBL: STD ACTION: AL
MAG: Box 10 DUR: 4 ENC: .45
CALIBER: 22 Long Rifle
FEATURES: Left or Right Handed Grips. Can be set for Hair Trigger or normal pull. Tunable Gun if used by a Character with the same "handedness" as grips.

CODE: P47 BBL: STD ACTION: AL
MAG: Box 7 DUR: 5 ENC: .45
CALIBER: 45 ACP
FEATURES: Target model of famous Colt 45 Autoloader. +1 to BCS when using Sights. Trigger adjustable to Hair Trigger or normal pull.

CODE: P48 BBL: STD ACTION: AL
MAG: Box 5 DUR: 5 ENC: .55
CALIBER: 32 Long
FEATURES: Tunable gun. +1 to AIM when firing with Sight. Conversion Kit available to switch to 22 Long Rifle.

TARGET REVOLVERS

CODE: P49 BBL: SNUB ACTION: DA
MAG: Swing-Cyl 6 DUR: 5 ENC: .32
CALIBER: 22 Short (1)
22 Long (2-3)
22 Long Rifle (4-5)
38 Special (6-7)
357 Magnum (8-0)
FEATURES: All models have +1 to AIM using Sighted Fire. 357 Magnum model can also fire 38 Special.

CODE: P50 BBL: STD ACTION: DA
MAG: Swing-Cyl 6 DUR: 5 ENC: .42
CALIBER: 22 Short (1)
22 Long (2-3)
22 Long Rifle (4-5)
38 Special (6-7)
357 Magnum (8-0)
FEATURES: All models have +1 to AIM using Sighted Fire. 357 Magnum model can also fire 38 Special.

CODE: P51 BBL: XLNG ACTION: DA
MAG: Swing-Cyl 6 DUR: 5 ENC: .62
CALIBER: 22 Short (1)
22 Long (2-3)
22 Long Rifle (4-5)
38 Special (6-7)
357 Magnum (8-0)
FEATURES: All models have +1 to AIM using Sighted Fire. 357 Magnum model can also fire 38 Special.

CODE: P51 BBL: Pistol Carbine ACTION: DA
MAG: Swing-Cyl 6 DUR: 5 ENC: .82
CALIBER: 22 Short (1)
22 Long (2-3)
22 Long Rifle (4-5)
38 Special (6-7)
357 Magnum (8-0)
FEATURES: All models have +1 to AIM using Sighted Fire. 357 Magnum model can also fire 38 Special.

CODE: P53 BBL: LNG ACTION: DA
MAG: Swing-Cyl 6 DUR: 5 ENC: .65
CALIBER: 45 ACP
FEATURES: High quality Iron Sights give +1 to Sighted Fire BCS. Tapped for Telescopic Sight.

CODE: P54 BBL: STD ACTION: DA
MAG: Swing-Cyl 6 DUR: 5 ENC: .5
CALIBER: 44 Magnum
FEATURES: Tapped for Telescopic Sights.

CODE: P55 BBL: LNG ACTION: DA
MAG: Swing-Cyl 6 DUR: 5 ENC: .43
CALIBER: 22 Long Rifle (1-2)
22 RF Magnum o(3-5)
32 Long (6-7)
38 Special (8-0)
FEATURES: Tunable gun. If Tuned, and fired as a SA gun, the Character receives a bonus as if using Squeeze-Off Option: adds his DFT to his Pistol Skill score.

MISCELLANEOUS PISTOLS

CODE: P56 BBL: Varies ACTION: SA
MAG: Swing-Cyl 6 DUR: 4 ENC: Varies
CALIBER: 38 Special (1-4)
357 Magnum (5-0)
FEATURES: Equipped with a special "Quick Change" Barrel system, the gun may be given a Barrel of ANY size: SNUB up to Pistol Carbine. Barrels must be of P56 type and it takes 10 Actions to accomplish change.
The ENC of the gun is .15 + the Base ENC for the BBL size.

CODE: P57 BBL: SNUB ACTION: SA
MAG: Break 2 DUR: 1 ENC: .2
CALIBER: 22 Short (1-3)
38 Special (4-5)
38 Short (6-9)
38 Long (0)
FEATURES: This is a Derringer, the hideaway gun of the frontier gambler. It uses "Over-Under" Barrels which must be turned manually to bring the next round under the hammer. This requires an extra Action.

CODE: P58 BBL: XLNG ACTION: SS
MAG: Break 1 DUR: 5 ENC: .75
CALIBER: 22 Short (01-03)
22 Long (04-05)
22 Long Rifle (06-15)
22 RF Magnum (16-25)
22 Jet (26-35)
357 Magnum (36-50)
38 Special (51-60)
256 Magnum (61-65) see Long Gun Ammo Table
45 Long Colt (66-75)
30-30 (76-85) See Long Gun Ammo Table
44 Magnum (86-00)
FEATURES: The gun may be adapted to take ANY of the specified rounds. Interchangeable barrels are

needed. Gun is grooved to take a Telescopic Sight (Clamp Mounted) and may be provided with a special forearm brace. If equipped with this brace and Tuned, as with Tunable Guns then it will allow the firer to add his DFT to his Pistol Skill as if firing with Squeeze-Off Option.

CODE: P59 BBL: XLNG ACTION: BA
MAG: Falling Block 1 DUR: 5 ENC: .8
CALIBER: 221 Fireball
FEATURES: Recoil Reduction. Right or Left-Handed Grips. If used by Character with correct "Handedness" it is a Tunable gun. Tapped for Telescopic Sights.

CODE: P60 BBL: LNG/XLNG ACTION: SS
MAG: Break 1 DUR: 4 ENC: .55 with LNG BBL
ENC: .7 with XLNG BBL
CALIBER: 22 Jet (01-05)
221 Fireball (06-15)
25-35 (16-20) See Long Gun Ammo Table
30-30 (21-30) See Long Gun Ammo Table
22 S, L, LR (31-45)
22 RF Magnum (46-55)
222 (56-58) See Long Gun Ammo Table
256 Magnum (59-60) See Long Gun Ammo
9mm Parabellum (61-65)
38 Super Auto (66-67)
357 Magnum (68-75)
38 Special (76-80)
30 Carbine (76-85) See Long Gun Ammo Table
45 ACP (86-90)
44 Magnum (91-96)
45 Long Colt (97-00)
FEATURES: Another weapon with interchangeable barrels, both as regards length and caliber. If the appropriate barrel is available, ANY of the above calibers may be fired. Changing barrels requires 10 Actions and changing from CF to RF ammo requires another 10.
Apart from this, the gun is tapped for Telescopic Sight mounts.

LONG GUNS

Rifles (BBL longer than 20")

CODE: R1 ACTION: AL
MAG: Box Variable DUR: 4 ENC: 1.4
CALIBER: 243 4 Rounds (1)
270 4 Rounds (2)
30-06 4 Rounds (3-5)
308 4 Rounds (6-7)
7mm Magnum 3 Rounds (8)
300 Magnum 3 Rounds (9-0)
FEATURES: Tapped for Telescopic Sight mounts. +1 to Aim using gun's own Sights to fire.

CODE: R2 ACTION: AL
MAG: Box 5 DUR: 4 ENC: 1.25
CALIBER: 223
FEATURES: Civilian model of the M-16. Can be converted to permit FA fire by a Gunsmith. Uses government magazines, so that M-16 Box 30 clips can be used by this model as well.

CODE: R3 ACTION: AL
MAG: Port-Mag 3 DUR: 3 ENC: 1.25
CALIBER: 308
FEATURES: Tapped for Telescopic Sight mount.

CODE: R4 ACTION: AL
MAG: Box 4 DUR: 4 ENC: 1.3
CALIBER: 243 (1-2)
6mm (3-4)
280 (5)
308 (6-7)
30-06 (8-0)
FEATURES: Tapped for Telescopic Sight mounts. Swivel Sling feature.

CODE: R5 ACTION: PA
MAG: Box 4 DUR: 4 ENC: 1.3
CALIBERS: 243 (1-2)
6mm (3-4)
280 (5)
308 (6-7)
30-06 (8-0)
FEATURES: Tapped for Telescopic Sight mounts. Swivel Sling feature.

CODE: R6 ACTION: PA
MAG: Port-Mag 3 DUR: 4 ENC: 1.2
CALIBER: 30-30 (1-6)
35mm (7-0)
FEATURES: Tapped for Telescopic Sight mounts.

CODE: R7 ACTION: AL
MAG: Box 10 or 20 DUR: 4 ENC: 1.5
CALIBER: 7.62mm NATO
FEATURES: Commercial replica of M-14. Gunsmith can convert to allow FA fire. Has no provision for bayonet. There is a 20% chance that a specimen of this gun will be a Match Weapon. Takes government issue 4X or 6X Telescopic Sight.

CODE: R8 ACTION: LA
MAG: Tub-Mag 6 DUR: 3 ENC: 1.45
CALIBER: 44-40 (1-6)
357 Magnum (7-0) See Pistol Ammo Table
FEATURES: Replica of 1873 Winchester.

CODE: R9 ACTION: LA
MAG: Tub-Mag 4 DUR: 5 ENC: 1.25
CALIBER: 444 Marlin
FEATURES: Swivel Sling. Tapped for Telescopic Sights.

CODE: R10 ACTION: LA
MAG: Port-Mag Var. DUR: 4 ENC: 1.3
CALIBER: 300 Magnum 5 Shot (1-3)
243 5 Shot (4-5)
308 5 Shot (6-8)
250 5 Shot (9)
358 6 Shot (0)
FEATURES: Tapped for Telescopic Sights. Swivel Sling. Recoil Pad. Magazine is actually a "Rotary Magazine," extremely efficient and resistant to jams. Adds +3 to Control BCS even if user has no Control of his own.

CODE: R11 ACTION: BA
MAG: Box Variable DUR: 4 ENC: 1.5
CALIBER: 25-06 4 Round (1-2)
270 4 Round (3)
30-06 4 Round (4-5)
300 Magnum 3 Round (6-7)
7mm Magnum 3 Round (8-9)
458 Magnum 3 Round (0)
FEATURES: Recoil Pad. NO SIGHTS ON GUN! Iron or Telescopic Sights must be mounted by a Gunsmith.

CODE: R12 ACTION: BA
MAG: Port-Mag 5 DUR: 3 ENC: 1.25
CALIBER: 30-06
FEATURES: Recoil Pad. Tapped for Telescopic Sight. Swivel Sling.

CODE: R13 ACTION: BA
MAG: Box 3 DUR: 3 ENC: 1.2
CALIBER: 222 (1-2)
243 (3-4)
308 (5-7)
22-250 (8)
6mm (9-0)
FEATURES: Adjustable trigger can be set for Hair Trigger or normal pull. Tapped for Telescopic Sights. Sling Swivels.

CODE: R14 ACTION: BA
MAG: Box 3 DUR: 3 ENC: 1.25
CALIBER: 7mm Magnum (1-6)
300 Magnum (7-0)

FEATURES: Tapped for Telescopic Sight. Swivel Sling. Trigger is adjustable for Hair Trigger or normal pull.

CODE: R15 ACTION: BA
MAG: Port-Mag 3 DUR: 4 ENC: 1.4
CALIBER: 375 Magnum (1-6)
458 Magnum (7-0)
FEATURES: Swivel Sling.

CODE: R16 ACTION: BA
MAG: Port-Mag Var. DUR: 5 ENC: 1.2
CALIBER: 222 5 Round (1)
22-250 5 Round (2)
6mm 5 Round (3)
243 5 Round (4)
25-06 5 Round (5)
270 5 Round (6)
308 5 Round (7)
30-06 5 Round (8)
375 Magnum 3 Round (9)
458 Magnum 3 Round (0)
FEATURES: Recoil Pad. Swivel Sling. Tapped for Telescopic Sight. There is a 20% chance that this gun will be a Match Weapon.

CODE: R17 ACTION: SS
MAG: Fall-Block 1 DUR: 3 ENC: 1.35
CALIBER: 45-70
FEATURES: Tapped for Telescopic Sight. Swivel Sling.

CODE: R18 ACTION: SS
MAG: Fall-Block 1 DUR: 5 ENC: 1.3
CALIBER: 30-06 (1-3)
25-06 (4-5)
6mm (6)
243 (7)
22-250 (8)
7mm Magnum (9-0)
FEATURES: Tapped for Telescopic Sight. Recoil Pad. GUN HAS NO IRON SIGHTS!

CODE: R19 ACTION: SS
MAG: Port-Mag 1 DUR: 3 ENC: 1.3
CALIBER: 44 Magnum (1-7)
45-70 (8-0)
FEATURES: None.

CODE: R20 ACTION: SS
MAG: Fall-Block 1 DUR: 5 ENC: 1.4
CALIBER: 22-250 (01-10)
243 (11-15)
6mm (16-25)
25-06 (26-30)
270 (31-40)
30-06 (41-55)
7mm Magnum (56-60)
300 Magnum (61-70)
45-70 (71-75)
30-40 Krag (76-80)
458 Magnum (81-85)
375 Magnum (86-00)
FEATURES: Swivel Sling. NO IRON SIGHTS ON GUN! Equipped with mounts for Iron or Telescopic Sights.

CODE: R21 ACTION: AL
MAG: Tub-Mag 20 DUR: 4 ENC: 1.2
CALIBER: 22 Long Rifle
FEATURES: Grooved for Telescopic Sight.

CODE: R22 ACTION: PA
MAG: Tub-Mag Var. DUR: 4 ENC: 1.3
CALIBER: 22 Long Rifle (1-5)
22 RF Magnum (6-0)
FEATURES: Grooved for Telescopic Sights.

CODE: R23 ACTION: AL
MAG: Box 5 DUR: 3 ENC: 1.3
CALIBER: 22 RF Magnum
FEATURES: Tapped for Telescopic Sight.

CODE: R24 ACTION: AL
MAG: Tub-Mag Var. DUR: 4 ENC: 1.25
CALIBER: 22 Short 20 Rounds
22 Long 17 Rounds
22 Long Rifle 15 Rounds
FEATURES: Grooved for Telescopic Sight. The gun can fire any of the specified Calibers. The only difference is how many rounds of a given size can fit into the Tubular Magazine.

CODE: R25 ACTION: AL
MAG: Box 5, 10 or 15 DUR: 4 ENC: 1.3
CALIBER: 22 Long Rifle
FEATURES: Grooved for Telescopic Sight. The odds of a gun having any particular size of magazine are even. It can use any of them.

CODE: R26 ACTION: LA
MAG: Tub-Mag Var. DUR: 4 ENC: 1.25
CALIBER: 22 Short 22 Round (1-2)
22 Long 17 Round (3-4)
22 Long Rifle 15 Round (5-9)
22 RF Magnum (0)
FEATURES: Hi-Power weapon, using High Power rounds at no extra risk. As with R24, the gun can fire any of the non-Magnum 22 Rimfire cartridges. It simply holds different quantities of them. The frequency numbers given are soley to distinquish between the Magnum and non-Magnum models. Also has Hair Trigger and is tapped for Telescopic Sight. Swivel Sling.

CODE: R27 ACTION: LA
MAG: Tub-Mag Var. DUR: 3 ENC: 1.35
CALIBER: 22 Short 26 Round
22 Long 21 Round
22 Long Rifle 15 Round
FEATURES: Tapped for Telescopic Sight. Swivel Sling. As with other Tub-Mag Variable Capacity magazines the gun can handle any 22 Rimfire round listed, but holds different quantities of them.

CODE: R28 ACTION: LA
MAG: Tub-Mag 11 DUR: 4 ENC: 1.3
CALIBER: 22 RF Magnum
FEATURES: Grooved for Telescopic Sight.

CODE: R29 ACTION: BA
MAG: Box 7 DUR: 3 ENC: 1.2
CALIBER: 22 Short (1-2)
22 Long (3-5)
22 Long Rifle (6-0)
FEATURES: Grooved for Telescopic Sight.

CODE: R30 ACTION: BA
MAG: Box 7 DUR: 4 ENC: 1.4
CALIBER: Any 22 RF non-Magnum
FEATURES: Clip can be altered to accomodate 22 Short. Long or Long Rifle. Grooved for Telescopic Sight.

CODE: R31 ACTION: BA
MAG: Box 5 DUR: 3 ENC: 1.35
CALIBER: 22 RF Magnum
FEATURES: None.

CODE: R32 ACTION: BA
MAG: Box 5 or 10 DUR: 4 ENC: 1.25
CALIBER: 22 Short (1-2)
22 Long (3-5)
22 Long Rifle (6-0)
FEATURES: Even chance of gun being found with either clip. It can use both sizes. Also Tapped for Telescopic Sight. GUN HAS NO IRON SIGHTS ON IT! Sighted fire possible only when Sights installed by a Gunsmith.

CODE: R33 ACTION: BA
MAG: Tub-Mag Var. DUR: 4 ENC: 1.2
CALIBER: 22 Short
22 Long
22 Long Rifle
FEATURES: Grooved for Telescopic Sight. As with other Tub-Mag rifles it can use any 22 Rimfire but holds varying amounts of them.

CODE: R34 ACTION: BA
MAG: Port-Mag 5 DUR: 4 ENC: 1.25
CALIBER: 22 RF Magnum
FEATURES: Grooved for Telescopic Sight.

CODE: R35 ACTION: BA
MAG: Box 5 DUR: 5 ENC: 1.3
CALIBER: 22 Long Rifle (1-4)
22 RF Magnum (5-0)
FEATURES: Fully adjustable trigger, settable for Hair Trigger or normal pull. Grooved for Telescopic Sight.

CODE: R36 ACTION: SS/BA
MAG: Fall-Block 1 DUR: 3 ENC: 1.2
CALIBER: Any 22 Rimfire non-Magnum
FEATURES: Equipped with Sights giving +1 to Aim when using Sighted Fire. Grooved for Telescopic Sight (if so equipped, the Peep Sight cannot be used).

CODE: R37 ACTION: SS/BA
MAG: Fall-Block 1 DUR: 5 ENC: 1.2
CALIBER: Any 22 Rimfire non-Magnum
FEATURES: Equipped with Iron Sights giving +1 to BCS and Aim when using Sighted Fire. Swivel Sling.

CODE: R38 ACTION: SS
MAG: Fall-Block 1 DUR: 4 ENC: 1.3
CALIBER: Any 22 Rimfire non—Magnum (1-6)
22 RF Magnum (7-0)
FEATURES: Grooved for Telescopic Sight.

CODE: R39 ACTION: SS
MAG: Break 1 DUR: 4 ENC: 1.25
CALIBER: Any 22 Rimfire non—Magnum
FEATURES: Grooved for Telescopic Sight.

CODE: R40 ACTION: SS
MAG: Fall-Block 1 DUR: 4 ENC: 1.3
CALIBER: 22 RF Magnum
FEATURES: Grooved for Telescopic Sight. Sling Swivel.

TARGET RIFLES

All of the following Rifles have the Match Weapon Feature.

CODE: R41 ACTION: SS/BA
MAG: Fall—Block 1 DUR: 5 ENC: 1.7
CALIBER: 22 Long Rifle
FEATURES: No sling provided for. Has no Iron Sights but can be fitted with Match Sights giving +1 to BCS and Aim when using Sighted Fire. Also is a Handed Gun (Right or Left). Can be used as a Tunable Gun by Character with corresponding handedness.

CODE: R42 ACTION: BA
MAG: Strip 5 DUR: 5 ENC: 1.5
CALIBER: 7.62mm NATO
FEATURES: Match version of M-1 but firing 7.62mm instead of 30-06. No Iron Sights but can have these or Match Sights mounted by a Gunsmith. Swivel Sling.

CODE: R43 ACTION: BA
MAG: Box 7 DUR: 5 ENC: 1.4
CALIBER: 22 Long Rifle
FEATURES: Iron Sights give +1 to Aim. Grooved for Telescopic Sight but this precludes using Iron Sights. Also has adjustable trigger (Hair Trigger or normal pull).

CODE: R44 ACTION: BA
MAG: Port-Mag 5 DUR: 5 ENC: 1.6
CALIBER: 222 (1-2)
222 Magnum (3-5)
223 (6-8)
7.62mm NATO (9-0)
FEATURES: Tapped for Telescopic Sight. No Iron Sights. No provision for Sling. Some models (30%) have Hair Trigger.

CODE: R45 ACTION: SS/BA
MAG: Fall-Block 1 DUR: 5 ENC: 2
CALIBER: 22 Long Rifle
FEATURES: Sights give +1 to Aim when using Sighted Fire. No provision for Sling. Tunable Gun. There is a fully adjustable trigger (Hair Trigger or normal pull).

DOUBLE RIFLES

All of the following Guns are Double-Barreled, Single Shot weapons. A Rifle Barrel is mounted on top of a Shotgun Barrel, or vice-versa. Caliber is recorded as (Top Barrel / Bottom Barrel). A "12 Ga/30-06" has a 12 Gauge Shotgun Barrel on top and a Single-Shot 30-06 Barrel on the bottom.

CODE: R46 ACTION: SA
MAG: Break 1/1 DUR: 4 ENC: 1.4
CALIBER: 12 Ga/30-06 (1-6)
12 Ga/243 (7-0)
FEATURES: Recoil Pad.

CODE: R47 ACTION: SA
MAG: Break 1/1 DUR: 4 ENC: 1.35
CALIBER: 12 Ga/222
FEATURES: Equipped with changeable Choke Tubes, allowing the Choke on the shotgun barrel to be changed in 10 Actions. Swivel Sling. Grooved for Telescopic Sight.

CODE: R48 ACTION: SA
MAG: Break 1/1 DUR: 4 ENC: 1.4
CALIBER: 12 Ga/308
FEATURES: Modified Choke only. Tapped for Telescopic Sight. Recoil Pad. Swivel Sling.

CODE: R49 ACTION: SA
MAG: Break 1/1 DUR: 5 ENC: 1.5
CALIBER: 12 Ga/375 Magnum (1-3)
12 Ga Magnum/375 Magnum (4-6)
12 Ga/458 Magnum (7-8)
12 Ga Magnum/458 Magnum (9-0)
FEATURES: Interchaneable barrels are available, although it requires a Gunsmith to change them (per barrel: Task Points = 10, Task Period = 2 hours). Tapped for Telescopic Sight. Swivel Sling. Recoil Pad.

CODE: R50 ACTION: SA
MAG: Break 1/1 DUR: 3 ENC: 1.3
CALIBER: 22 RF Magnum/20 Ga (1-2)
222/20 Ga (3)
30-30/20 Ga (4-5)
Any 22 Rimfire non—Magnum/410 (6-7)
22 RF Magnum/410 (8-0)
FEATURES: Grooved for Telescopic Sight.

CARBINES

All of the following guns have BBL less than or equal to 20".

CODE: C1 ACTION: AL
MAG: Box 5 DUR: 3 ENC: 1
CALIBER: 223
FEATURES: Civilian model of M-18 Assault Rifle. 3X Military issue Telescopic Sight. Folding stock. Can be given FA capacity by Gunsmith. Also uses military issue Box 30 magazine.

CODE: C2 ACTION: AL
MAG: Box 5, 10, 20, 30 DUR: 5 ENC: 9
CALIBER: 223
FEATURES: Can be converted to FA Action by Gunsmith. Swivel Sling.

CODE: C3 ACTION: AL
MAG: Tub-Mag 4 DUR: 5 ENC: .9
CALIBER: 44 Magnum
FEATURES: Swivel Sling. Peep Sight gives +1 to Aim for Sighted Fire. Tapped for Telescopic Sight.

CODE: C4 ACTION: LA
MAG: Box 4 DUR: 4 ENC: 1
CALIBER: 243 (1-2)
308 (3-6)
358 Magnum (7-0)
FEATURES: Recoil Pad. Tapped for Telescopic Sight.

CODE: C5 ACTION: LA
MAG: Tub-Mag 6 DUR: 3 ENC: 1.2
CALIBER: 30-30 (1-7)
35 (8-0)
FEATURES: None.

CODE: C6 ACTION: LA
MAG: Tub-Mag 4 DUR: 3 ENC: .8
CALIBER: 44-40 (1-4)
357 Magnum (5-0)
FEATURES: None.

CODE: C7 ACTION: BA
MAG: Port-Mag 5 DUR: 5 ENC: 1.2
CALIBER: 22-250 (1-2)
6mm (3)
243 (4)
270 (5-6)
30-06 (7-9)
308 (0)
FEATURES: Tapped for Telescopic Sight.

CODE: C8 ACTION: AL
MAG: Box 8 DUR: 3 ENC: .75
CALIBER: 22 Long Rifle
FEATURES: A specially designed survival and packer's weapon. The barrel, main body, and buttstock of the weapon can be broken down into separate pieces. The first two pieces fit into a carrying compartment in the stock.

CODE: C9 ACTION: AL
MAG: Tub-Mag 9 DUR: 4 ENC: .9
CALIBER: 22 Long Rifle
FEATURES: Grooved for Telescopic Sight.

CODE: C10 ACTION: AL
MAG: Port-Mag 10 DUR: 5 ENC: .9
CALIBER: 22 Long Rifle
FEATURES: Tapped and Grooved for Telescopic Sight. Swivel Sling.

CODE: C11 ACTION: LA
MAG: Tub-Mag 15 DUR: 3 ENC: .85
CALIBER: 22 Long Rifle
FEATURES: Grooved for Telescopic Sight.

CODE: C12 ACTION: LA
MAG: Tub-Mag Var. DUR: 3 ENC: 1
CALIBER: 22 Short 21 Rounds
22 Long 16 Rounds
22 Long Rifle 15 Rounds
FEATURES: Swivel Sling. Tapped for Telescopic Sight.

CODE: C13 ACTION: BA
MAG: Box 5 DUR: 4 ENC: .85
CALIBER: 22 RF Magnum
FEATURES: Grooved for Telescopic Sight.

CODE: C14 ACTION: PA
MAG: Box 5 DUR: 4 ENC: .8
CALIBER: 22 Long Rifle (1-6)
22 RF Magnum (7-0)
FEATURES: Grooved for Telescopic Sight. Swivel Sling.

CODE: C15 ACTION: SS
MAG: Port-Mag 1 DUR: 2 ENC: .75
CALIBER: Any 22 Rimfire non-Magnum
FEATURES: A skeleton stock weapon. Made of light alloys, the gun resembles a tube with the outline of a stock at one end.

CODE: C16 ACTION: SS
MAG: Fall-Block 1 DUR: 4 ENC: .95
CALIBER: Any 22 Rimfire non-Magnum
FEATURES: None.

CODE: C17 ACTION: SS
MAG: Fall-Block 1 DUR: 3 ENC: 1
CALIBER: 22 RF Magnum
FEATURES: None.

CODE: C18 ACTION: SA
MAG: Break 1/1 DUR: 2 ENC: .8
CALIBER: 22 Long Rifle/410 Magnum
FEATURES: This is a Double Carbine, having a 410 Caliber shotgun barrel mounted under a 22 Carbine barrel. It is also a skeleton gun like C15.

SHOTGUNS

CODE: SG1 ACTION: SA
MAG: Break 2 DUR: 3 ENC: 1.6
GAUGE: 12 Ga (1-6)
20 Ga Magnum (7-0)
FEATURES: None.

CODE: SG2 ACTION: SA
MAG: Break 2 DUR: 5 ENC: 1.8
GAUGE: 10 Ga Magnum
FEATURES: Recoil Pad.

CODE: SG3 ACTION: SA
MAG: Break 2 DUR: 5 ENC: 1.6
GAUGE: 10 Ga Magnum (1)
12 Ga Magnum (2-3)
20 Ga Magnum (4)
410 Magnum (5)
12 Ga (6-0)
FEATURES: Recoil Pad.

CODE: SG4 ACTION: SA
MAG: Break 2 DUR: 4 ENC: 1.5
GAUGE: 12 Ga (1-4)
16 Ga (5-6)
20 Ga (7)
12 Ga Magnum (8)
16 Ga Magnum (9)
20 Ga Magnum (0)
FEATURES: None.

AUTOLOADING SHOTGUNS

CODE: SG5 ACTION: AL
MAG: Tub-Mag 5 DUR: 4 ENC: 1.5
GAUGE: 12 Ga (1-4)
20 Ga (5-6)
12 Ga Magnum (7)
20 Ga Magnum (8)
12 Ga Slug (9)
20 Ga Slug (0)
FEATURES: Interchangeable barrels available, permitting alteration of Choke. Must be SG5 barrel.

CODE: SG6 ACTION: AL
MAG: Tub-Mag 5 DUR: 4 ENC: 1.3
GAUGE: 12 Ga (1-3)
20 Ga (4-5)
12 Ga Magnum (6)
20 Ga Magnum (7)
12 Ga Slug (8-9)
20 Ga Slug (0)
FEATURES: Recoil Pad. Swivel sling.

CODE: SG7 ACTION: AL
MAG: Tub-Mag 4 DUR: 5 ENC: 1.6
GAUGE: 12 Ga (1-4)
20 Ga (5-6)
12 Ga Magnum (7-8)
20 Ga Magnum (9-0)
FEATURES: Quick-change Choke tubes inserted in barrel an alter Choke setting in 10 Actions (5 to remove Choke, 5 to insert new one). Recoil Pad.

CODE: SG8 ACTION: AL
MAG: Tub-Mag 5 DUR: 4 ENC: 1.5
GAUGE: 12 Ga (1-2)
20 Ga (3-5)
20 Ga Magnum (6-7)
Slug (8-0)
FEATURES: All barrels interchangeable to alter Choke. Has built in Recoil Reduction of 1.

CODE: SG9 ACTION: AL
MAG: Tub-Mag 5 DUR: 5 ENC: 1
GAUGE: 12 Ga Magnum (1-5)
12 Ga Slug (6-0)

FEATURES: This is a short-barrled Riot Gun, acting like a Carbine as regards BDG. Such weapons are legally restricted to Police in our own culture.

CODE: SG10 ACTION: AL
MAG: Tub-Mag 3 DUR: 4 ENC: .8
GAUGE: 12 Ga Magnum (1-4)
12 Ga Slug (5)
10 Ga (6-8)
10 Ga Slug (9-0)
FEATURES: Another Riot Gun, fitted with a Folding Stock, allowing it to be fired with Pistol Skill. A very mean looking gun, it is colloquially known as a "Room Broom."

PUMP ACTION SHOTGUNS

CODE: SG11 ACTION: PA
MAG: Tub-Mag 5 DUR: 4 ENC: 1.5
GAUGE: 12 Ga (1-6)
20 Ga Magnum (7-0)
12 Ga Slug (3-6)
16 Ga Slug (7-8)
20 Ga Slug (9)
410 Slug (0)
FEATURES: None.

DOUBLE BARREL SHOTGUNS

Gun has Two Barrels mounted one on top of another

CODE: SG21 ACTION: SA
MAG: Break 2 DUR: 3 ENC: 1.6
GAUGE: 12 Ga (1-6)
20 Ga Magnum (7-0)
FEATURES: None.

CODE: 22 ACTION: SA
MAG: Break 2 DUR: 5 ENC: 1.8
GAUGE: 10 Ga Magnum
FEATURES: Recoil Pad.

CODE: SG23 ACTION: SA
MAG: Break 2 DUR: 5 ENC: 1.6
GAUGE: 10 Ga Magnum (1)
12 Ga Magnum (2-3)
20 Ga Magnum (4)
410 Magnum (5)
12 Ga (6-0)
FEATURES: Recoil pad.

CODE: SG24 ACTION: SA
MAG: Break 2 DUR: 4 ENC: 1.5
GAUGE: 12 Ga (1-4)
16 Ga (5-6)
20 Ga (7)
12 Ga Magnum (8)
16 Ga Magnum (9)
20 Ga Magnum (0)
FEATURES: None.

AFTERMATH! MILITARY ISSUE FIREARMS

The following specifications quantize certain military and police weapons in general use in the U.S. (or available from its allies) between WWII and the Ruin.

RIFLE, ASSAULT RIFLES, AND CARBINES:

M-1 Garand Rifle ACTION: AL MAG: Strip 8
CALIBER: 30-06 DUR: 4 ENC: 1.5
FEATURES: Auto-extractor. Bayonet lug. Takes adapter to fire M-1 Rifle Grenade.

M-1 Carbine ACTION: AL MAG: Box 15 or 30
CALIBER: 30 Carbine DUR: 4 ENC: .9
FEATURES: Auto extractor.

M1A1 Carbine ACTION: AL MAG: Box 15 or 30
CALIBER: 30 Carbine DUR: 4 ENC: .9
FEATURES: Auto-extractor. May be equipped with Folding Stock.

M-14 Rifle ACTION: AL-FA MAG: Box 20
CAL: 7.62 NATO (308) DUR: 5 ENC: 1.4
FEATURES: Auto-extractor. Bayonet lug. Can be fitted with bipod for Rest Weapon Modifier. Takes Adapter device to fire M-14 Rifle Grenade.

SINGLE SHOT SHOTGUNS

CODE: SG19 ACTION: SS
MAG: Break 1 DUR: 4 ENC: 1.5
GAUGE: 10 Ga (01-10)
10 Ga Magnum (11-15)
12 Ga (16-45)
12 Ga Magnum (61-70)
16 Ga (61-70)
16 Ga Magnum (71-80)
20 Ga (81-85)
20 Ga Magnum (86-90)
410 (91-95)
410 Magnum (96-00)
FEATURES: Recoil pad. Changeable barrels to alter Choke.

CODE: SG20 ACTION: SS
MAG: Break 1 DUR: 4 ENC: 1.6
GAUGE: 10 Ga Slug (1-2)

M-16 Rifle ACTION: AL-FA MAG: Box 20 or 30
CAL: 5.56 (223) DUR: 4 ENC: 1.3
FEATURES: Auto-extractor. Bayonet lug. Can be fitted with Bipod for Rest Weapon Modifier. 22mm Grenade Launcher built into Flash Hider. Takes military issue Telescopic Sight, Star-Light Scope, or I-R Scope. Can be fitted with under-slung 40mm Grenade Launcher.

Colt Cammando Carbine ACTION: AL-FA MAG: Box 20 or 30
CAL: 5.56mm DUR: 4 ENC:1
FEATURES: Folding Stock. Auto-extractor. Flash Hider.

M-18 Rifle ACTION: AL-FA-AB MAG: Box 30
CAL: 5.56mm DUR: 5 ENC: 1.2
FEATURES: Auto-extractor. Bayonet lug. Can be fitted with Bipod. 22mm Grenade Launcher built into Flash Hider. Can take military issue Telescopic Sight, Star-Light Scope, or I-R Scope. Can be fitted with underslung 40mm Grenade Launcher. Date of issue - 1985.

M-22 Rifle ACTION: AL-FA-AB MAG: Box 30
CAL: 5.56mm DUR: 5 ENC: 1.3
FEATURES: Auto-extractor. Bayonet lug. Can be fitted with Bipod. 22mm Grenade Launcher. Flash Hider. Takes military issue Telescopic, Star-Light, or I-R Sights. Has Built-in LED Peep Sight. Supermachine Gun rate of autofire: D6 per Burst. Can be equipped with Laser Sight or 40mm Grenade Launcher in underslung position. Folding Stock, allows fire with Pistol Skill, but Rifle characteristics (two hands required for proper use). High Power Feature. Date of issue - 1995.

(The following 2 weapons are made by FN in Belguim, and are widely used by NATO forces)

FAL Assault Rifle ACTION: AL-FA MAG: Box 20
CAL: 7.62mm NATO DUR: 4 ENC: 1.45
FEATURES: Auto-extractor. Bayonet lug.

FAR Assault Carbine ACTION: AL-FA-AB MAG: Box 20 or 30
CAL: 7.62mm NATO DUR: 5 ENC: .9
FEATURES: Auto-extractor. Folding Stock. 22mm Grenade Launcher in Flash Hider. Can take Bipod for Rest Weapon Modifier.

(The next 2 are of British manufacture, being their standard WWII and modern infantry weapons.)

Mk.4 Rifle ACTION: AL MAG: Box 10
CAL: 7.62mm NATO DUR: 5 ENC: 1.4
FEATURES: Bayonet lug. Auto-extractor. This is the "final generation" of the old Lee-Enfield.

EM-2 Carbine ACTION: AL-FA MAG: Box 20
CAL: 5.56mm DUR: 4 ENC: 1.1
FEATURES: Auto-extractor. Folding stock. 22mm Grenade Launcher in Flash Hider. Can take military issue Telescopic, Star-Light, or I-R Scopes. This is a bit of speculative writing, as the weapon is currently still in trials. Date of issue: 1983.

PISTOLS

There are only two that really need to be discussed: the Colt .45 M1911 A1 and its 9mm counterpart, the Browning High Power.

M1911A1 BBL: STD ACTION: AL
MAG: Box 7 CAL: .45 ACP DUR: 5
ENC: .4
FEATURES: None.

Browing High Power BBL: STD ACTION: AL
MAG: Box 13 CAL: 9mm Parabellum DUR: 4
ENC: .4
FEATURES: High Power weapon. Some models have a Detachable Stock, allowing Rifle Skill to be used to fire the gun.

SUB-MACHINE GUNS

Thompson M1928A1 BBL: XLNG ACTION: AL-FA
MAG: Drum 50 CAL: 45 ACP DUR: 3
ENC: 1.2
FEATURES: The famous "Tommy Gun," introduced late in WWI and beloved of both the cobs and robbers of the "Roaring 20's." Although it has a Pistol size barrel, it is fired using Rifle Skill (averaged with Autoweapon when firing automatic). A number of models (40%) are equipped with the Cutts Compensator, an anti-recoil device mounted at the mouth of the barrel giving a Recoil Reduction of 2.

Thompson M1A1 Automatic Carbine ACTION: AL-FA
MAG: Box 20 or 30 CAL: 45 ACP DUR: 4
ENC: 1.2
FEATURES: This is the later, massproduced version of the Thompson which saw extensive service in WWII. It has no special Features.

M3A1 Sub-Machine Gun BBL: XLNG ACTION: FA
MAG: Box 30 CAL: 45 ACP DUR: 4
ENC: 1
FEATURES: Folding Stock. The "Grease Gun" developed during WWII.

Other contemporary SMGs of note are to be found in the US, although often illegally.

Uzi SMG BBL: XLNG ACTION: AL-FA
MAG: Box 25, 32 or 40 CAL: 9mm Parabellum DUR: 3
ENC: .8
FEATURES: Removable wooden stock or Folding Wire stocks, depending on the model. When in Pistol configuration, the balance of the Uzi permits normal, one-handed use, with no penalties normally accruing to firing Rifle class weapons in that manner. It is probably the commonest modern SMG in the world, manufactured under license in a number of countries.

MP-40 BBL: XLNG ACTION: AL-FA
MAG: Box 32 CAL: 9mm Parabellum DUR: 3
ENC: .9
FEATURES: Folding stock. This is the standard German SMG of WWII. Well constructed, at least in the early years of the war, a number of them have found their way into this country as souvenirs and collector's pieces, where loving care keeps them at their deadly best.

Mk.2 Sten BBL: XLNG ACTION: FA
MAG: Box 32 CAL: 9mm Parabellum DUR: 2
ENC: .8
FEATURES: Folding stock. Specially made socket bayonet made for the Sten. Silencers for some models are available. The Sten was the "tin tommy gun" of the British infantry in WWII. Almost 250,000 were produced during the war and in the decade following.

MAC-10 BBL: STD ACTION: AL-FA
MAG: Box 30 CAL: 45 ACP DUR: 3
ENC: .6

MAC-11
Same specifications as MAC-10 but fires 9mm Parabellum
FEATURES: The MAC-10 and 11 represent a new, non-military application of the SMG idea. The size of an ordinary pistol, the MAC series are not suitable for battlefield use, but are ideal for police, security, and espionage activities. Both the MAC-10 and MAC-11 are equipped with Folding Stocks, and may be fitted with an extremely efficient silencer, although autofire through the silencer is not recommended.

American 180 BBL: Carbine ACTION: AL-FA
MAG: Drum 177 CAL: 22 Stinger DUR: 4
ENC: 1.2

American 180 Machine Pistol BBL: XLNG
ENC: .9 Other specs as above

Introduced for police work in 1974, the American 180 Carbine, or its pistol-size cousin, the 180 Machine Pistol, both fall into the "Supermachine Gun" class, firing a Burst of 6 rounds instead of the normal 3 rounds. If hit by the weapon, a D6 is rolled to see how many slugs actually got in.

As 22 Stinger is simply a super-high velocity 22 Long Rifle round, the weapon can also fire that ammo, but does so as a normal SMG. (3 Rounds/Burst)

Other Features include a Recoil Reduction of 1. Ammo is fed from a flat Drum magazine attached to the top of the receiver. The gun is specifically designed to accept a Laser Sight, but is equipped with normal Iron Sights as well. The authors have seen film clips of this little buzz saw in action. It was used to cut a Volkswagen in two, and after that, the demonstrator wrote his initials on a brick wall. Longhand.

It is really a remarkable weapon.

MACHINE GUNS

These are 7 of the best known machine guns in use since WWII. They range from the standard US weapons of that period to the Heckler and Koch guns used by NATO forces. All may be vehicle mounted.

30 Caliber Browning Med. MG
MAG: Disintegrating Link or Fabric Belt 250
CAL: 30 Browning DUR: 4 ENC: 7
RATE: 450 RpM RATE FACTOR: D6x.5
FEATURES: Tripod mounted in most (80%) cases. Others use a beefed up Bipod.

M60 GPMG
MAG: Disintegrating Link Belt 250
CAL: 7.62mm NATO DUR: 5 ENC: 5.2
RATE: 600 RpM RATE FACTOR: 2D3 x .5
FEATURES: The current standard MG used by the US Armed Forces. Can be Bipod or Tripod mounted.

Browing M2 HMG
MAG: Metal Link Belt 100
CAL: 50 DUR: 4 ENC: 14.1
RATE: 450 RpM RATE FACTOR: D6 x .5
FEATURES: Mounted on tripod.

Bren LMG
MAG: Box 30 or Drum 50 or 100
CAL: 7.62 NATO DUR: 4 ENC: 4.35
RATE: 480 RpM RATE FACTOR: D6 x .5
FEATURES: Bipod fitted. Easily man portable (subject to Encumbrance rules). A Section Support weapon designed for mobility.

SIG 710-3 GPMG
MAG: Disintegrating or Metal Link Belt 250
CAL: 7.62 NATO DUR: 5 ENC: 4.82
RATE: 800 RpM RATE FACTOR: D10 x .5
SUSTAINED: 1400 RpM 2D5 x .5
FEATURES: One of the current NATO machine gun systems. It can be Bipod mounted in its lower Rate role, but the Sustained Fire requires Tripod mounting to hold the gun sufficiently steady.

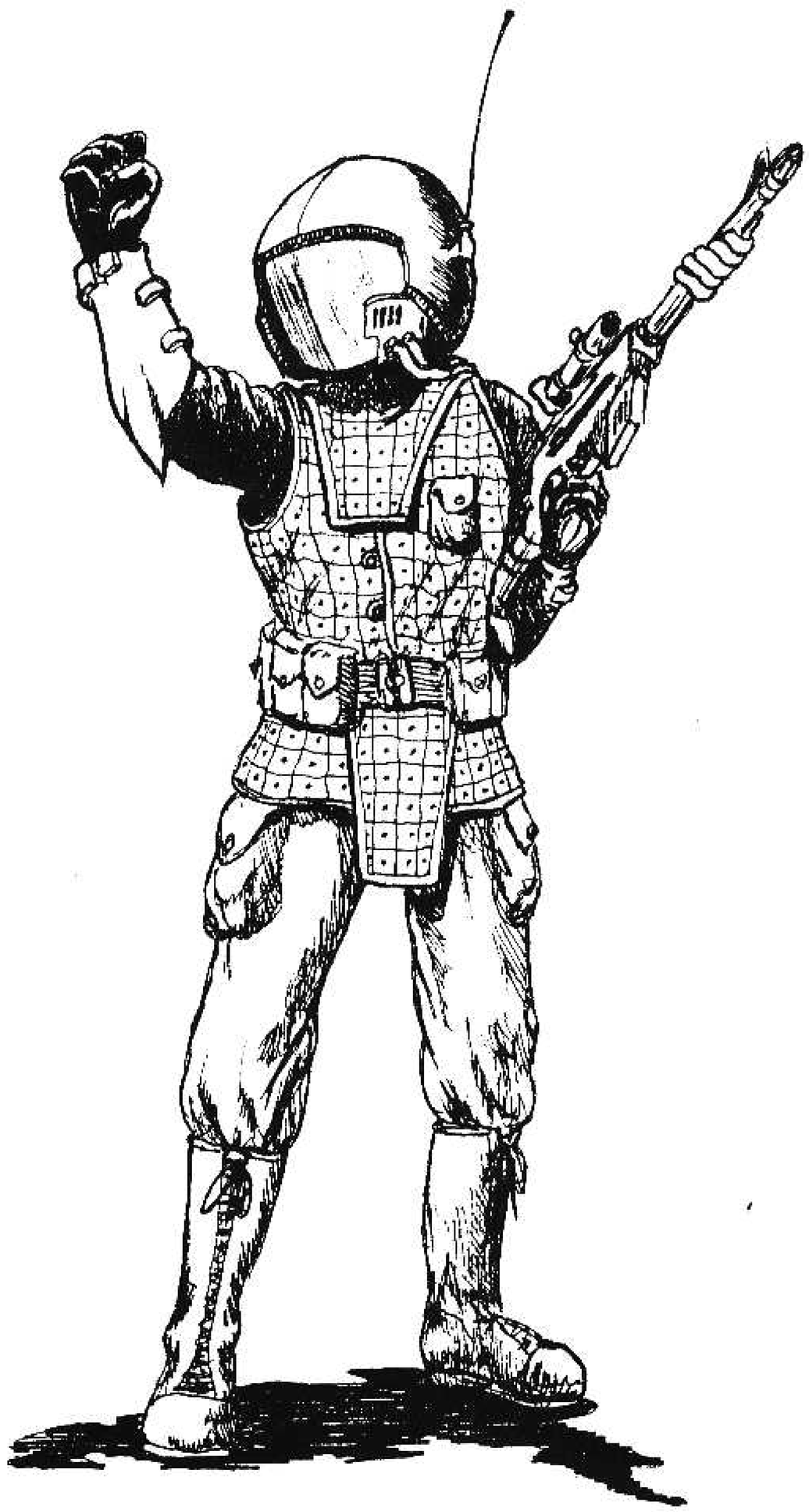
HK 21 LMG
MAG: Box 20 or Drum 80 or Disintegrating Link Belt 250
CAL: 5.56mm

HK 21 GPMG
CAL: 7.62 NATO

HK 21 HMG
CAL: 7.62 x 39mm DUR: 5 ENC: 3.65
RATE: 850 RpM RATE FACTOR: D10 x .5
FEATURES: The newest thing in MG systems. Usually Bipod mounted, almost ALL the parts of the weapon in either mode are interchangeable. Those not oriented to a Caliber may be used to repair other models. If necessary, one form of gun can be altered into another, given time (a Task for a Gunsmith).

Mauser MG1
MAG: Disintegrating Link Belt 50 or Box/Belt 100 (A prepared ammo box holding a Link Belt)
CAL: 7.62 NATO DUR: 3 ENC: 5.8
RATE: 1200 RpM RATE FACTOR: 2D5 x .5
FEATURES: Tripod mount only, in order to support that appalling rate of fire. This was the standard MG of the Third Reich, and remains in service in Third World and Insurgent forces today. It is a lethal engine and far from outdated.

These provide a sampling of the many types of Machine Guns now known. The Gamesmaster should not cast these lightly into his Campaign, for their tremendous lethality can unbalance his scenarios beyond even his wildest fears. But they should not be ignored. Even in a "scarce ammo economy," the Machine Gun will have its users.



APPENDIX 2
RANDOM FIREARMS DETERMINATION

HOW TO USE THE GUN LIST

The most direct use of the Gun List is quite simple: there are 60 Pistols, 50 Rifles, 18 Carbines, and 24 Shotguns on the tables. Determine the kind of gun required on the index given below, and then roll a die of the appropriate type for the number of possible choices (i.e. roll a D60 if you need a Pistol, a D50 for a Rifle, and so on). The die roll is the Code number from the Gun List. If other rolls need to be made, such as the Frequency roll for Caliber if the gun is made in more than one size, then roll that die. When all the extra determinants, the break down on the Gun List are as follows:

Pistols—Contains 30 Revolvers. 15 Autoloaders. 10 Target weapons. 5 Miscellaneous.

Rifles—Contains 40 regular weapons. 5 Target weapons. 5 "Double" Rifles.

Carbines—Contains no differentiated types.

Shotguns—Contains 4 Double Barreled. 6 Autoloading. 5 Pump Action. 2 Bolt Action. 4 Over-Under.

So if you really want a Revolver, specifically, then roll a D30 for the Code number. A D15 plus 30 gives you the Code for an Autoloader, a D10 plus 45 for a Target Pistol, and so on.

SUBSIDIARY DIE ROLLS

When you just want a random determination on a gun, roll D100 and consult this table.

Roll Die For Gun List Code

Die Roll	
01-30	Pistol
31-50	Rifle
51-70	Carbine
71-90	Shotgun
90-00	Military Issue Weapon

The Gun List can also be used to determine ammunition found scavenging, or available for barter. Roll on the above table for the type of ammo, then roll normally for as many kinds of ammo as you need. The Caliber or Gauge of the weapon is the ammo present. It then remains to find out how much has been found and what, if any, special qualities it may have.

Ammo Quantities

Die Roll	Quantity
01-05	1 Round.
06-10	D6 Rounds.
11-30	3D6 Rounds.
31-60	D20 plus 20 Rounds.
61-80	1 Box of 25 Rounds.
81-90	1 Box plus D100 Rounds.
91-00	D6 Boxes of Rounds.

Ammo Qualities

Die Roll	Ball Ammo
01-60	Standard
61-75	Hollow Point
76-85	Jacketed
86-95	High Power
96-00	Fragmenting

If Clips are sought. either when a clip or clips is found. or when they are being bartered for, roll on the Autoloading weapons Gun List of the appropriate type. If clips are found, there is a flat 30% chance of finding Military Issue magazines. Then roll to see the model on that List.

Shotgun Choke Determination

Whenever a Shotgun is found, bartered, or otherwise appears on the scene, the Gamesmaster may use the following system to determine the Choke on it, unless it is a Riot Gun (always Open Choke) or a Slug Gun (always Slug Choke). Roll a D6 as shown below. If the weapon is a Double-Barreled or Over-Under model, roll again for the second barrel, adding the indicated modifier. The usual pattern in shotgun manufacture is to have one barrel with a fairly loose Choke (Open or Modified) for the first, closer shot, and a tighter Choke on the second, if a longer range shot at fleeing game is required.

Die Roll	Choke	2nd Die Roll Modifier
1-2	Full	+1
3-4	Modified	+0
5-6	Open	-1

This may also be applied to such as spare barrels for a shotgun, or insertable Choke Tubes, or Choke devices.

Sight Quality and Other Characteristics

When a Telescopic sight is found installed on a gun or separately, a roll is needed to determine its construction and qualities.

Magnification—The scope has a magnifying power of 2D3x. I.e., roll 2, you have a 2x scope, reducing the effective range to the target by a factor of 2.

Light Efficiency—Roll a D3. This establishes a Light Efficiency Level.

Level 1—May be used in any Light better than darkness.
Level 2—May only be used in Light Level of Dim or better.
Level 3—May only be used in Full Light.

Mounting—This need not be rolled for if scope is found mounted, since it will have the correct type mount for the gun it is on. For scopes found separately, roll on the following table.

Die Roll	Mounting
1-4	Tap Mounts. Goes on any gun Tapped for Telescopic Sights.
5-7	Groove Mounts. There is a 60% Chance such a scope is a "Tip-off" model. That is, it can be tipped to the side allowing the shooter to use his Iron Sights should he prefer to, without removing the Telescopic Sight.
8-9	Military Mounts. Fits any Military Issue Rifle or Carbine designated as taking Telescopic Sights.
0	Clamp Mounts. Can be fitted to any firearm of the correct size (Pistol or Long Gun).

Reticule—There is a flat 40% chance that Telescopic Sights will have a Reticule (or Cross Hairs). This allows plus one to Aim (ie. Hit Location movement) when using sighted fire.

Pistol Sights—There are Telescopic Sights made for Pistols as well as Long Guns. If random determination is desired, assume a 20% chance of finding them on a gun, or that sights found separately are Pistol rather than Long Gun sights.

Military Weapons Determination Table

When random determination for Military Issue weapons is necessary, first roll for the overall class of the gun, and then for the specific model.

Weapon Type Table: Roll 1D10

Die Roll	Result
1-6	Rifle, Assault Rifle, or Carbine
7-8	Sub-Machine Gun
9-0	Pistol

Rifle Table: Roll 1D30

Die Roll	Result
1-5	M-1 Garand Rifle
6-8	M-1 Carbine
9-10	M1A2 Carbine
11-14	M-14 Rifle
15-17	M-16 Rifle
18-19	Colt Commando Carbine
20-21	M-18 Rifle
22	M-22 Rifle
23-25	FAL Assault Rifle
26-27	FAR Assault Carbine
28-29	Mk.4 Rifle
30	EM-2 Carbine

Sub-Machine Gun Table: Roll 1D30

Die Roll	Result
1-2	Thompson M1928A1
3-7	Thompson M1A1
8-12	M3A1 SMG
13-16	UZI SMG
17-19	MP-40
20-24	Mk.2 Sten
25-26	MAC-10
27-28	MAC-11
29	American 180 Carbine
30	American 180 Machine Pistol

Pistol Table: Roll 1D10

Die Roll	Result
1-6	M1911A1
7-0	Browning High Power

No tables are given for other, heavier weapons, as we do not feel random assignment is valid in their case. If firepower like that is going to appear in the Campaign, it should be as a result of careful planning.

APPENDIX 3

"DESIGNING" FIREARMS

This appendix gives an overview of how values were arrived at, and how weapons not given here may be inserted in the Campaign.

Finding The Model

It is really necessary to locate a moderately detailed description of the gun. In the Bibliography, we list several highly useful source-books of weapon statistics which will provide the information necessary to work out the game-version of the gun.

The model should provide the weapon's Weight, Barrel Length, Caliber, Rates of Fire, indications of the type of Magazine used, and notes regarding any gamable Features.

One fact that is NOT going to be found in any reference book is the DURABILITY of a given weapon. This is entirely in the hands of the Gamesmaster. It is difficult to prescribe a method for determining the Durability. Any manufacturer worth his salt is going to claim his product has a score of 5. Gun-fanciers will differ widely on the subject, each favoring his ideal weapon or most admired gunmaker. For commercial guns, one possible guideline is the price. We have tended to assign higher Durability to the more expensive weapons. But this can result in giving too low a value to a well-made but inexpensive gun. For convenience, the DUR=1 is only encountered in weapons found as U-1 loot (ie. low-value treasure). The DUR=5 score is restricted to late-model military weapons and ultra-high quality commercial ones. If you need a figure in between, roll a D3 and add 1. If dealing with one of the giants in the gunmaker's field, Smith and Wesson, or Colt, add 2 instead. Treat rolls of over 4 as 4.

Designing The Spec Sheet

With a Durability score selected, all the rest falls neatly into place. All the main items of information required in the model translate directly into ***Aftermath!*** conventions. This can best be illustrated by taking a well-known gun and designing the Specs for it.

The best known autoloading pistol in modern use is undoubtedly the Colt .45 Mk. IV, or M1911A1. It is a standard sidearm of the United States Armed Forces.

Opening "Modern Small Arms," by Major Frederick Myatt, Crescent Books, 1978, we find the following information:

Length: 8.5" Weight: 30 oz. (1.1 kg) Barrel: 5" Caliber: 45 ACP Magazine Capacity: 7.

There is more, but these are all we need for the moment. Looking at the specifications for Pistols, we find that the BBL for a 5" weapon is STD. While the source book does not actually specify that the Colt is autoloading, we know that it is. So the Action is coded AL. The picture of the weapon shows us its clip, so we can indicate the Magazine as a Box 7, the capacity being given in the book. Caliber in ***Aftermath!*** is the same as the real Caliber. The Base ENC for STD Pistols is .3. The real weight of the gun divided by 10 is (1.1kg/10), or .11. This can be rounded to .1 for convenience. So the ENC of the weapon is .3+.1, or .4.

The Spec Sheet for the ***Aftermath!*** model of this weapon is now:

NAME: M1911A1 BBL: STD ACTION: AL MAG: Box 7
CALIBER: 45 ACP DUR: 5 ENC: .4

How did we arrive at the maximum Durability? Well, the M1911A1 is one of the toughest firearms in the world. It has been used under the worst conditions in the field, and performed reliably. Its rugged frame is highly resistant to damage. With this knowledge, it seemed fitting to make it DUR=5. As a principal military arm, it would at least have been given a 4, were the authors not familiar with its history.

It only remains to check for any special Features possessed by the Pistol. As it happens, the gun is as utilitarian as it is tough. There are none, and so we leave the stats as they are.

Let's take a more diverse weapon for an example. Opening the 1978 Gun Digest at random, we find listed the statistics on a medium-priced hunting rifle made by a well-known firm of gunsmiths. The information tells us it is 5.5 lbs in weight, has a 22" barrel, is a Bolt action rifle, with a 5 round trap loading integral magazine, and is made in calibers 222, 30-30, and 30-06. The brief blurb under the hard-data listing indicates that the barrel is drilled and tapped for a scope mount, has a recoil pad, and swivel sling mounts. The write up of the Spec Sheet goes as follows:

NAME: Remchester BAR (for Bolt Action Rifle)

BBL: Rifle (At 22" the weapon falls into this category. At 20" or less, the usual standards would call for a Carbine classification, although the Gamesmaster can alter this. The M-16, for example, has a Barrel Length of just under 20", but we feel it operates in the Rifle class.)

ACTION: BA

MAG: Port-Mag 5 (This is the correct classification for any integral, top- or bottom-loading magazine.)

CALIBER: 222 (1-3), 30-30 (4-6), 30-06 (7-0) (The frequency numbers for the caliber are again a judgement call for the Gamesmaster. In this case, the idea is an even split between the two smaller cartridges, but giving the lion's share to the 30-06, the most popular rifle load in the US.)

DUR: 3 (The weapon is made by a top-rated firm, but is not near the top of their line. It will not be junk, but it is not going to be better than average either. So, a 3 seems called for.)

ENC: 1.25 (Base ENC for Rifles is 1. The rifle weights 5.5 lb. The weight in kg is 5.5/2.2, which is exactly 2.5. 2.5/10=.25, therefore the ENC of this gun is 1+.25=1.25.)

FEATURES: The relevant ones are the Tapped for Telescopic Sights, Recoil Pad, and Swivel sling elements in the gun's design. Any other unique characteristics about the weapon would be noted here as well.

Special Weapons

There are numerous guns that, for one reason or another, do not fit exactly into the ***Aftermath!*** simulation. usually, there is an equivalent mechanic in the game to allow for them. For example, Double-Barreled Shotguns are not exactly Single-Action weapons, but as far as ***Aftermath!*** is concerned, they handle as if they were, and they are so classified on the Gun Table.

When a unique weapon is encountered, such as the American 180 described on page 81, it is best to do as we have done and write rules dealing specifically with that weapon. They usually justify the trouble, in that they are special cases, giving the user some advantage which should be carefully quantified for the most faithful simulation.

There are also cases where the thing just does not look right! The ENC is not high enough, or the weapon should act differently than its mere physical specs indicate, if it is to perform in the way it should. The answer here is simple: the Gamesmaster alters the Spec Sheet to suit the image he has of the weapon, rather than its (usually brief) outline in the source book used.

How We Figured Things Out

This is in the nature of Designer Notes on the Firearms Simulation, inserted here to make expansions or changes by our readers easier.

The Firearms rules are far and away one of the most detailed elements of the ***Aftermath!*** system. They represent hundreds of hours of research, design, and testing. There are no reliable figures on how many foot-pounds of bullet energy will make a hole so many inches deep in a human being, or what the chances of stopping effects are on any non-arbitrary scale, though combat ballistics has addressed the problem o some degree. As to asking firearms buffs about handling characteristics of their guns, hoo boy! Our first consultant would give his stamp of approval to a rule (a former cop who still fires on a range for fun) and then our playtester who went to West Point allows as how that rule is wrong. We though we had troubles with the hand-to-hand rules!

In the end, it evolved as you have read it. Here we show you the clanking machinery by which the game figures are derived from the dry numbers of ballistics tables and gun catalogues. Do with them as you will.

BDG—The formula for calculating the BDG is easy. Obtain a Ballistics Table for standard ammunition (they are usually free at your local sporting goods store or gun shop. Many of the source books in the Bibliography include a full set). One of the figures given is the "Muzzle Energy" of the round, in "foot/pounds" of kinetic energy. Divide that figure by 100, and voila! You have the BDG. You will note that we have altered some of the figures directly obtained by this method. 44 Magnum, fired from a 6" barrel on a handgun, has a Muzzle Energy of 1150 ft/lb. This would give a BDG of 12 (1150/100=11.5, nearest, for 12). This is just not high enough to fill the niche in the game filled by 44 Magnum: the big manstopper slug. So we have arbitrarily juiced it up to its current value of 21, to get it that extra D10 of damage.

If it is necessary to figure the Muzzle Energy for some round for which you lack the figure, since we did not include every cartridge known to man in the standard table, the formula for the figure is: ME in ft./lb.= Mass of Bullet in Grains x (Muzzle Velocity in feet per second)^2 x (2.22×10^{-6}). Remember that there are 480 grains to the ounce. If you need to roughly figure the mass of a slug out, this

formula may help. It is accurate only for the Mass of a Lead musket ball. It will be off the mark for modern bullets which are neither spherical nor necessarily made of lead.

Mass in Grains = 1500 x (Caliber in inches)^3.

As with the BDG formula for Muzzle Loaders in the Firearms rules, remember to use the fractional values of the Caliber inches, or you will get the mass of a cannon ball, not a bullet!

The application of these formulae will allow fine-tuned results, for the detail fiends among you. Likewise, if you decide to include such off-the-wall guns as the British EM-2 experimental Infantry Rifle, with its 28 Caliber load, at a muzzle velocity of 2530 ft/sec, then you can work out the BDG for the gun. (It is roughly 5, or 10 to 12 from a Rifle.)

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XX2
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