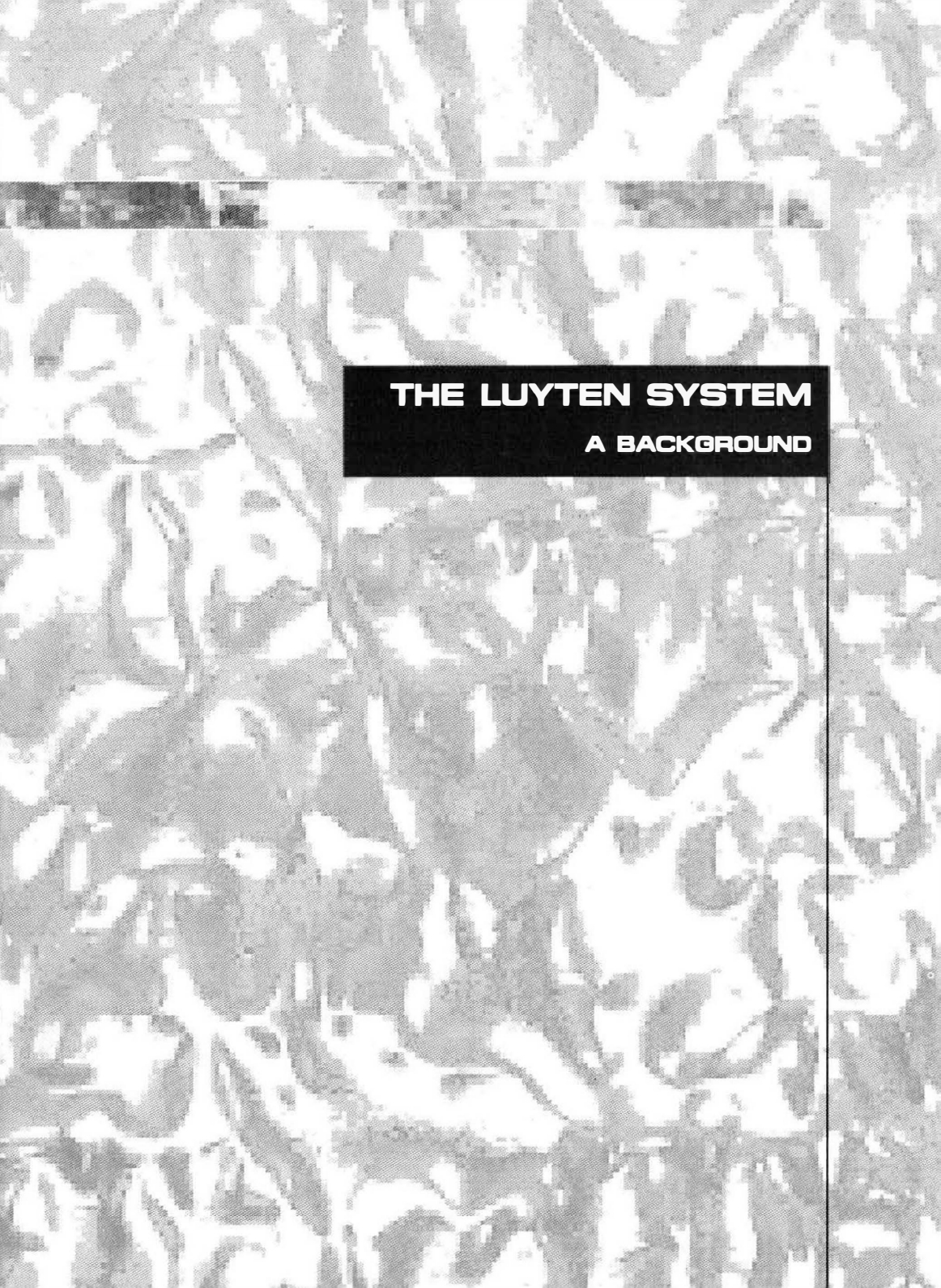




THE LUYTEN SYSTEM

A BACKGROUND

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THE LUYTEN SYSTEM

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THE LUYTEN SYSTEM - A BACKGROUND

Luyten is an M7 class star unlike the Sun. It is 10.8 light years distant and only in the last few centuries did it become known that Luyten possessed a system of planets. Stars that are not in binary pairs are comparatively rare. Ones that possess planetary systems are rarer still. It was therefore inevitable that mankind spread out to encompass Luyten. Despite this achievement, only a very few star systems have been colonised and all of them attempted (and succeeded) in becoming independent from Earth. This makes further colonisation efforts from Earth very unlikely.

The Luyten System is divided roughly into two sections; the inner planets and the outer planets, the boundary of which is between the orbit of New Europe and that of Yalhoth. These are known as the Maxellamar Ring of Luyten for the inner section, and the Minellamar Ring of Luyten for all the rest. It is possible that there are small undiscovered planets in far orbits. The problem of what to name these, should they exist, has not

been addressed. The entire system was named largely on the whim of the various captains whose exploration craft discovered these worlds in the first place. Rumour has it that 'Yalhoth' was a transmission error for 'all hot here'! For comparison, the planetary system of the star Lacaille is known as the United System of Lacaille. The Sun doesn't get a mention. It is simply called the Earth System or more frequently, the Home System.

The Luyten System was colonised during a revolution in Mankind's thinking. There are only a dozen extra-solar colonies in existence. After centuries of effort, Earth could not see any benefit to itself and ceased its expansionist policies.

Trade between systems was prohibitively expensive for raw materials that could be found elsewhere. The only profitable trade concerned goods such as food and wine that couldn't possibly be manufactured locally. Even this was limited to specialities or delicacies that the rich were prepared to pay for



and marketing disasters were frequent. Interplanetary trade is feasible only in special cases.

Recently knowledge became an export by broadcasting encrypted and protected information across interstellar distances in return for other knowledge. So far, the scheme seems to be working. Other than this, Star Systems have become very isolated.

GRAVEYARD

Because of the highly inclined orbit and great distance from the sun, Graveyard has exceptionally complex weather systems. Initially it was just a moon of Yalhoth, but surface conditions were deemed right to begin a limited terraforming programme which went according to plan until the money ran out. This unfinished state contributes to the unstable atmosphere. The plan lasted long enough for the already largely oxygenated atmosphere to be boosted with the introduction of liquid water. This was done by slamming asteroids into the surface which provided enough heat to melt the ice that was already present and it was kept up long enough to get the atmosphere to trap enough heat to keep things stable. Animal and plant life was introduced prematurely and plans were aired to turn the planet into an agricultural world. These plans failed through lack of funding.

Despite being so far from the sun, a reasonable range of temperatures exist. These are extremely varied over the entire planet and are rarely constant. However they do fall within a relatively small band of



temperatures and allow the planet to be officially classified as temperate. This is due in part to the exceptional heat radiated by Yalhoth, a process which occurs because of a gradual shrinkage in diameter amounting to less than 5m a year. Because of it's great mass, this alone provides the heat energy. The reason for the shrinkage has not been determined.

While Yalhoth forms a beautiful and impressive sight in visible light, it is a brilliant object when seen in infra-red. It occupies most of the observable sky when favourably positioned. This alone would make it a wonderful tourist trap except for the grim fact that since the terraforming was never completed, there is limited radiation protection. The sun at that distance is no problem, but Graveyard orbits directly in the centre of Yalhoth's most powerful Van Allen radiation belt.

The major export, in terms of size, is terraforming equipment in which Graveyard is something of an expert. Unfortunately the market is almost nil, it being cheaper to manufacture equipment on the planets of a target star rather than face the enormous cost of transporting it. These days it is more common to rely on the selling

of expertise. Graveyard maintains a small establishment for research into improving the terraforming technique which is ideal since Graveyard is essentially half complete and any way of completing the task at minimal cost would be greatly desired.

The economy is bolstered by the selling of water. At first a strange notion, water in its pure form (hydrogen and oxygen) has an unpleasant taste. Water as we are used to from Earth and New Europe is 'contaminated' with a great deal of minerals which gives water a taste - although we are so used to it that we call it tasteless. Water on Graveyard is 'contaminated' with a very different set of minerals. Water from here actually has a very pleasant taste and people from all over the system are willing to buy it. Hence it forms the main export in terms of quantity.



TESSERACT

Physically, Tesseract is the same size as Mercury in the home system. It is a rocky planet with a ring system that is only visible from Tesseract itself but is nevertheless a spectacular sight in the night sky. Tesseract is essentially Luyten's centre of industry and, by extension, the basis of Luyten's previous war effort. Since the economy would collapse if military construction was ceased, Tesseract still produces nearly 100% of the military space vessels in the system as well as transport vehicles. It is the most heavily defended place known to humanity. Raw material is close by, as planetary distances go, in the form of the Inner Asteroid Belt. For this it has an extensive network of mass drivers and mining installations. It is probably fair to say that the Luyten System could not have been viably colonised without Tesseract and the Inner Belt. This fact is less impressive though after a thorough geological survey was carried out and Tesseract found to have extensive deposits of Rare Earth Elements. The colonisation would have been far quicker had this been known originally. It is a sobering thought to realise that Tesseract contains less

than a half of one percent of the mass of the system, but almost 80% of the wealth.



INNER ASTEROID BELT

The Inner Asteroid Belt was not formed in the same way as 'normal' asteroid belts which are generally the remnants of an accretion disk that formed the entire system in the first place. The Inner Belt is in fact the remains of a planet which exploded in that orbit some millions of years ago, possibly from a comet collision. The result is that rare elements which tend to be in the cores of planets are spread about the belt and are easily accessed. Hence it is a very rich source of mining.

from a hollowed-out asteroid some centuries ago.

Because an entire planet went to make up the belt, and the fact that it has a small orbit, it is comparatively densely packed with asteroids. Indeed much of these asteroidal fragments are large enough to house colonies which tend to be mining support and mining colonies themselves. One or two independent states exist, bringing the total colonies in the Inner Belt to the region of 34. The most notable of these are Little Earth, Starscape, Starmind and Progenitor. The last is of especial interest as it is from Earth and is the original colony craft built



NEW EUROPE

New Europe was the only planet in orbit around Luyten that had a breathable oxygen/nitrogen atmosphere and a liquid water ocean. It was slightly larger than Earth and in a closer orbit. When discovered, it did indeed have carbon-based life on it. Unfortunately it was in the form of single celled creatures which were the largest living things in the system. A few voices were raised about the rights of this indigenous life but the need for real estate overrode any other considerations. New Europe, originally catalogue number La64-2404 before the reformation, was ruthlessly sterilised before the introduction of Earth species. In effect the arrival of humans meant genocide.

New Europe has been called a water world. Oceans cover 90% of the surface. Remarkably the other water worlds known, Bessel, Tharagrene and Earth point out the fact that for a water world, Earth is unusually dry. New Europe has two major landmasses, one in the Southern hemisphere and one in the North. It is the closest planet to ideal conditions

and thus supports the largest population, even though this is increasing every year and fears of an Earth-style overcrowding are being voiced, this is unlikely to become a problem for another fifty years. A secret plan was put forward to eliminate overcrowding by creating a nuclear 'accident' when necessary, but fortunately this doesn't appear to be in favour at the current time.

The capital city of New Europe is Cordiandis and is essentially the seat of Government for the whole star system. Tesseract is making noises about independence which is causing some tension. It is expected that Tesseract will declare itself the new capital planet. While an interstellar war such as the previous one is difficult but not impossible to wage, an interplanetary one is all too easy.



ORBITALS

New Europe is famous for its Orbitals - gigantic space station type structures whose purpose is simply for public residence - a comparative rarity. New Europe has little land area and being so overcrowded, the Orbitals were thought a good idea. Strict population controls made the concept workable. Of the three largest, only Fysije exists in a state close to the ideal. Anysije has deteriorated to the status of a slum and Freewill - in an effort to avoid the same fate by reverting to a space station role servicing spacecraft - has turned into a hotbed of organised crime. It is interesting to contrast the fates of the three Orbitals. All other orbiting habitats are mere space stations by comparison.

ANYSIJE

The fate of Anysije was effectively sealed when large numbers of 'undesirables' were transferred from New Europe. This was an attempt to relocate bad tenants to a place where they could be more effectively controlled. At first it seemed like a good idea and the concept was extended to include potential subversives, then petty criminals. UPBI agents frequently use Anysije as a real-life training ground where the potential consequences of mistakes are not as important as elsewhere.



FUYSIJE

This was the last Orbital to be started. It was scaled down by around 50% to conserve raw materials which were beginning to rise in price rather severely due to the war effort in progress at the time. Because of the delay, Fuysije was able to incorporate newer technologies made possible by the accelerated research that a war always provokes. A late development was the use of designer styling in the interior and on some of the external features. As a result, the rich have taken over Fuysije.

FREEWILL

The model Orbital that all others were to be based on was Freewill as it was the first to be constructed. The others were started when Freewill was only half way through the construction phase. This proved to be the first of many mistakes as the lessons learnt from Freewill during this time were not applied to the others. All were placed in a synchronous orbit which proved to be too far for an effective shuttle service. When Freewill became effectively self governing, plans were made to equip it with Fusion Drives to move it into a new orbit around Luyten itself.

All planets up to this point form the Maxellamar Ring of Luyten, equivalent to the Inner Solar System or to a hemisphere on a planet. The rest of the planets outward of this point form the Minellamar Ring of Luyten.



YALHOTH

Yalhoth is the major jovian type planet in the system. It has an abundance of moons and moonlets, one of which is large enough to sustain an atmosphere. Yalhoth is unremarkable in most respects except to note that its Van Allen radiation belts are some of the most intense known. Graveyard orbits inside one of these belts. The temperature, despite being so far from the sun, is enough to sustain life, primarily from the heat radiated from Yalhoth itself in conjunction with the belts. Graveyard is classed as a moon along with another half dozen or so which have robotic probes continually buzzing around since the early days of the system colonisation.

OUTER ASTEROID BELT

The Outer Belt of asteroids was formed in what is believed to be a 'normal' manner. It is an extensive but thinly spread system of asteroids in a more highly inclined orbit than the rest of the system. Being further from the sun, solar energy is more of a problem and the asteroids are not as rich in elements as the Inner Belt. There are therefore considerably less colonies and outposts stationed in the belt - 5 at last count - and most of the human population of the Outer Belt are to be found in System Ships stationed there. One interesting note is the spectacular conjunction of Yalhoth's moons which occurs every few years and brings man fee paying visitors to the belt. The best vantage point is in the Outer Belt. Burnham's World (pictured), which forms part of the Outer Belt, has made a complete tourist industry from this simple astronomical fact.

ZEUS

Zeus is a very large gas giant planet indeed. It is a brilliant green colour that is visible across most of the system and is often seen as New Europe's equivalent of the 'Evening Star'. It is so bright in the sky because it is highly reflective and because of its considerable size - which is greater even than Jupiter! From Graveyard, when in the right position, Zeus looks like a second sun, although greener. Zeus' atmosphere is rich in Tritium, compared with the only other gas giant in the system, Yalhoth. Tritium is the basic ingredient for Fusion Drives and this makes the most worthwhile extraction site. The place is essentially public property but at least one company has tried to enforce mining rights. Few people would pay for something that can be had for nothing, but processed fuel is of higher quality. Those who insist on this higher quality keep the processing companies in operation.

Zeus marks the limits of the Luyten system as far as politics are concerned. Further out yet is the Oort cloud of comets but they are at such range that they are effectively unexplored and largely ignored. One further planet is known to exist, although it is difficult to find even in the extensive New Europe databanks. It is called Taranus.



TARANUS

Very few references exist. Why this should be so, is not known. There are no chartered ships making regular voyages there. It is ignored by the military and almost no member of the public will list it along with the other planets of the system. What information can be gleaned from carefully scrutiny of data reveals that Taranus is in a highly inclined orbit around Luyten, orbiting nearly over the poles of the star. This suggests that it is not native to the system but was captured by the star a long time in the past. Its orbit is not stable, although it wont decay for several million years. Taranus is Earth-sized but no surface or atmospheric characteristics are known. Amatuer astronomers are unlikely to detect it, since they would naturally expect a new planet to lie on the same plane as the others. Of those who do know of Taranus, even less ascribe any significance to it.

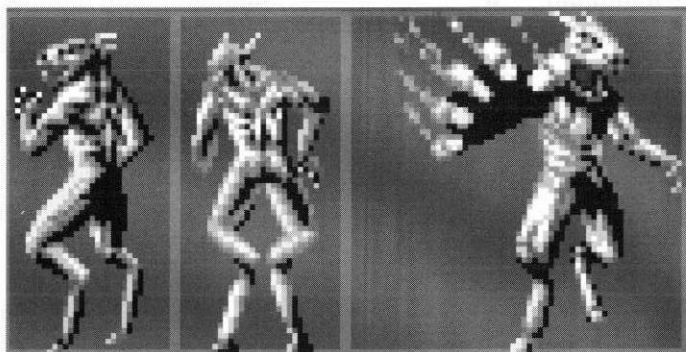
ENEMY FORCES

The Following Information relates to the TIGERLIGHT RESEARCH FACILITY and is Highly Classified. Only personnel who possess Alpha Level clearance may study the contents of this document. Should you see this unattended, notify a superior officer IMMEDIATELY. Data has been abstracted to a degree to minimise potential security breaches.

LEAHDILE

The Leahdile is one of the later generations of genetically engineered creatures. It directly benefited from the experience gained on the earlier works. Initial work was performed on the Tigerlight IV orbiting facility. After a successful first prototype was demonstrated, the research was transferred to [Location Classified] for field testing.

Base source for the genetic material is from a DNA structure constructed directly from supercomputer simulations as opposed to the modification of existing material. While the capabilities of the Leahdile are far in advance of the others in its class, the development cost is an order of magnitude greater. Duplication however is of normal cost. Current recommendations are to use the Leahdile where quality and effectiveness are of the utmost importance. The computer software for simulation is still in the early stages.



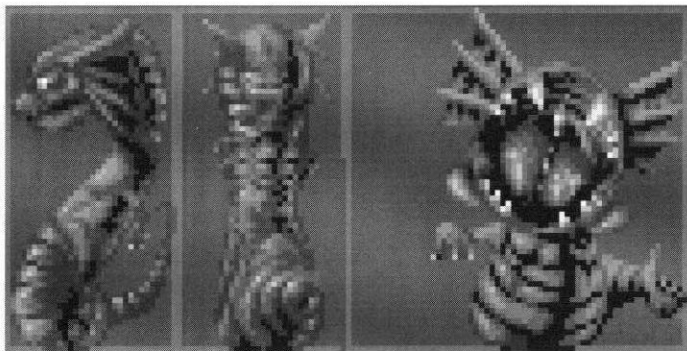
RAHL

The Rahl was a departure from normal development goals. All creatures up to this point were sterile and each individual had to be grown separately. The cost problems are obvious. Allowing a creature to reproduce at will was deemed to be unacceptably risky, considering their purpose.

A solution was found that allowed reproduction for 4 generations before sterile offspring were produced. In this way, deployment of a pair of creatures would enable the growth of a population of approximately eleven hundred before extinction occurred. This provides sufficient time for them

to eliminate hostile forces.

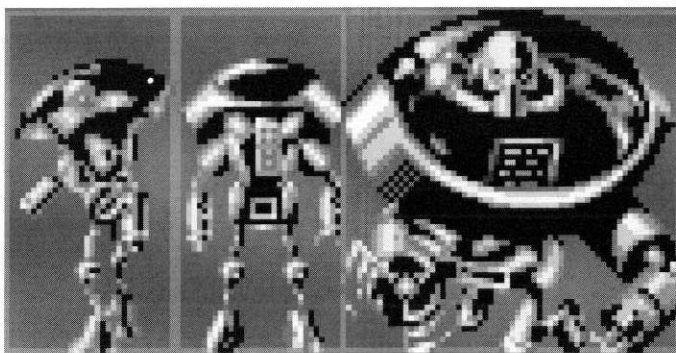
No rigid skeletal structure was employed in order to leave no trace after the creatures' death where it decays quickly into its unremarkable organic components.



AHL-CIM

The Ahl-Cim is a hybrid of some of the DNA researches, combined with a robotic frame to facilitate deployment in diverse environments. These include ocean to a depth of 3Km and Low orbit. Whilst it is understood that specific designs for each of these environments would be more efficient, projected reports suggested that it would not be cost effective. The Ahl-Cim was an attempt to address this issue by providing a multipurpose creature with more flexibility than a robot. Typical applications envisaged are security patrols of sensitive sites and light escort duties.

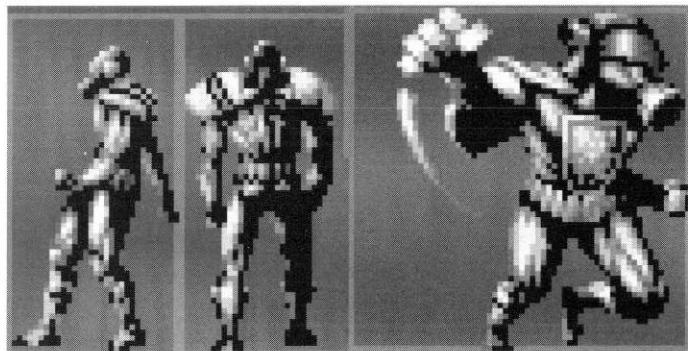
The Ahl-Cim can fold up into a compact shape and can be equipped with [Item Classified] or equivalent for missions. A major advantage that an Ahl-Cim has over a completely organic creature is its ability to be stored until needed. Others must be grown when the need arises and this can slow response time for deployment.



HADRAL)

The basis for the Hadrals is human sourced genetic material that is modified, but not grown. Tailor made adaptable genetic material is introduced into a human subject who then mutates according to the design parameters of the material. When the change is complete, the subject may be introduced into a hostile environment.

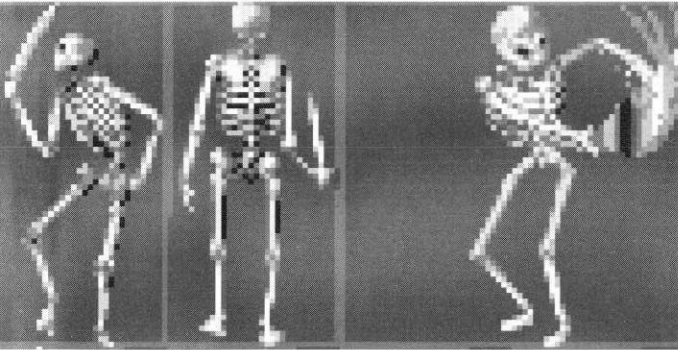
The advantage of creatures generated in this way is that they are untraceable. That is to say that in isolation such a case may simply look like a normal mutation. No suspicion will then follow. Initial genetic sources have been taken from [Location Classified] which is sufficiently isolated for the purposes of Project Tigerlight. The above sources are diverse enough to allow for previously unsuspected discoveries. Progress has increased markedly since this policy was adopted.



TYPE 3 - SKELETON

The Type 3 is not intended for mass production. Psychological studies have indicated the effectiveness of weapons of terror when used on the battlefield. Robots have already been designed to exploit this fact but nothing has so far been attempted which has terror-inducement as its primary goal. The Type 3 is not as highly classified as other projects and similar work is known to be in progress on Tesseract.

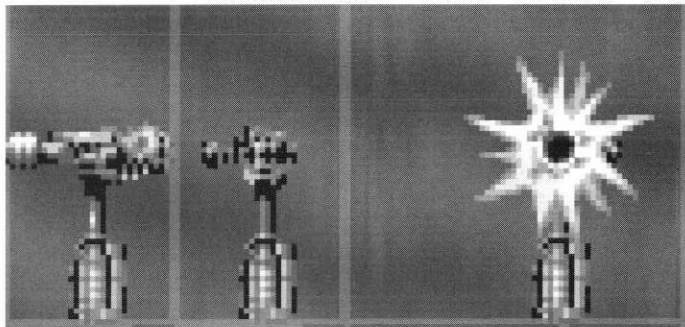
The current version is essentially a technology demonstrator (Type 3-100) but if funding is approved and the additional improvements anticipated from mainstream robotics development become available, then the Type 3-200 will be ordered for entry into service early in 2717. Field trials of the Type 3-100 and the resulting Type 3-101 began in 2709 and have continued to the present date.



AMREK 5

One of the support items in securing a hostile area or defending an already secure area is the Amrek 5 Gunpost. Essentially this is a proven gun platform married to a specially developed sensor and hardwired artificial intelligence system. (For low cost.) Some models can discriminate between hostile and friendly forces.

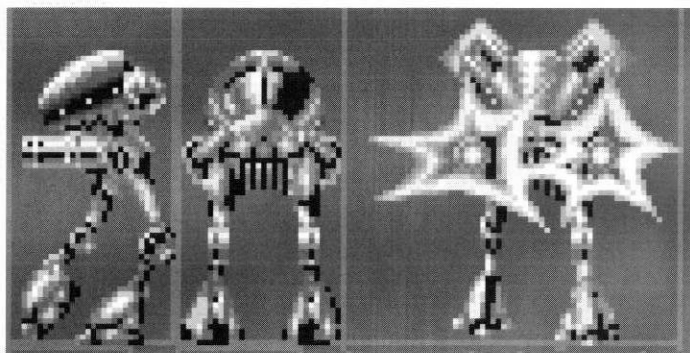
Installation has been made as simple as possible. From taking the Amrek out of the case to initial firing tests is 42 seconds in typical cases. No external connections are required excepting a possible belt ammo feed. Digital radio links are available to interface with CR404 equipped controlling robots or command teams. The classified part of the Amrek 5 is the sensor system which detects and reacts to pheromone and gas traces. In effect it has a sense of smell on the order of two thousand times better than human.



ROBODYNE 7000

The Robodyne 7000 is an effective guard system for use in dangerous environments where more intelligent robots are too valuable to risk. The brain is simplified to a great extent but no compromise has been made on the weapons systems.

The design of the 7000 series has deliberately been moved away from a humanoid shape. This is a consequence of the larger size and thus more efficient use of materials, where superfluous components such as arms are not required. Particularly valuable capabilities include the fastest land speed over rough terrain of any non-wheeled robot in the past fifty years. Fatigue life of the robotic chassis is excellent, adding to the anticipated long service of the 7000 series. A commercial variant is to be made available shortly as the Robodyne 6800.



WEAPONS' GLOSSARY

A short briefing on some weapons known to be in use on Graveyard.

ROCKET LAUNCHER

AMMUNITION : Rocket

North-European Inc. have a vast range of rocket launchers based around the proven Litefire system. With the end of the War, most systems have become available on the black market. Litefire systems have become the default standard chiefly because of the wide range of compatible rounds available. In a famous incident of the War, a Litefire 2300 actually brought down a Medium Troopship on its final approach to a battleground. The launcher itself is re-useable and is shoulder mounted. Badly made rounds, however, can damage the launcher beyond repair and sometimes the user as well.



MOUNTED MACHINE GUN

AMMUNITION : .44 Calibre

This was favoured weapon of the so called Last Liners , referring to a riot squad who were the Last Line of defence. Their appearance in a trouble spot meant things were very bad indeed. These guns are durable, all-weather, and can be mounted on any of the major 70mm hardpoint standards found on a range of vehicles. The design is licensed to a number of manufacturers and can therefore be found in almost any civilised location. Increasingly these days, they are appearing as a man-portable weapon.



NEUTRON FLUX CANNON

AMMUNITION : 1Kjoule charge or more

The Neutron Flux Cannon, to give it its full title, has no model number. It is the only type commercially available and only to organisations who can prove a real need for one. It is therefore only known as The Neutron Cannon which is a misnomer. Other Neutron Flux weapons exist, but only on large vehicles where the greater size enables a correspondingly greater efficiency. Radiation protection should be worn by the user, especially when heavy combat is anticipated. The built in shielding becomes radiation-saturated after a while and should be replaced at two yearly intervals. The advantage of accelerating neutral particles to high velocity means that magnetic shielding is ineffective against it.



HYDROGEN FLUORINE HAND LASER

AMMUNITION : 1Kjoule charge or more

Hand Lasers do not get the respect they sometimes deserve. They are usually underpowered and their capabilities misunderstood. There are a substantial number of substances that a laser is not effective against. This has often led to death of a combatant who thought he was in control of a situation. Used properly, however, such a weapon can be very effective, for example against soft targets such as unprotected people. Such cases are always fatal. Lasers are always the favourite weapon of assassins since there is no equivalent of a ballistic matching of bullet to weapon and no chemical residue that can give them away afterward. Balancing the advantages, of course, is the extremely high price tag.



PARTICLE BEAM RIFLE

AMMUNITION : 1Kjoule charge or more Whilst a charged stream of particles can be effective in killing people, they cause comparatively little damage to surrounding material. Their main effect is to disrupt the electrical functioning of the body. Only at power levels found in spacecraft will a particle beam cause physical damage. Because of the nature of the beam - electrons - it is particularly effective against robots, computers and certain types of machinery. The downside is that a magnetic field will distort the beam drastically and a shaped magnetic field will shield the target completely. The effective range is comparatively short compared with hand guns of similar mass.



OXY6 FLAMER

AMMUNITION : 100cc or more of
Oxy6 refill

For massive ground clearances, there is nothing quite like a flamethrower, more commonly known as a flamer. Oxy6 is a registered trademark and refers to the fuel that the flamer is designed to use. The fuel is more advanced than the gun that uses it and is under constant enhancement. A refill, thrown into a fire makes a good explosive. Flamers are, however, risky in their use. An incorrectly adjusted nozzle could lead the flame back into the chamber, causing the weapon itself to explode. Range is very limited. Some models have a destruct timer that ignites the fuel after a delay. Others can make use of almost any liquid fuel. The Flamer is also available in a smaller Junior version, favoured by street gangs.



IMPERIAL AUTO

AMMUNITION : 9mm Calibre

The word Imperial refers to the manufacturer based on New Europe and not to the so called Imperial Army who were created as a public relations exercise and since disbanded. Imperial Arms Ltd. were created simply to design a gun and this was their sole result. No expense was spared in the design phase and this has resulted in reputedly the best sidearm ever conceived. They are available so cheaply from licensed manufacturers as well as Imperial Arms Ltd. that it's never been copied or improved. Production is so vast that the expense of re-tooling the entire production line for another weapon effectively precludes the appearance of any other model.



SUPER COVERT

AMMUNITION : 9mm Calibre

Chiefly used in covert operations, hence the name, the Model 4 has a silencer built in as standard with reduced muzzle flash, digital targeting system and laser target-designator. Other standard features include exceptional durability and reliability. A low muzzle velocity reduces the potential damage but keeps sound and light emissions down. The designator can be keyed in to external equipment via its control data bus. This means that it can be fired from a command from another piece of equipment. Anti-terrorist operations can use numerous guns, up to a maximum of 16. The controlling equipment waits for each of them to signal that a target has been acquired. When all of them have target acquisition simultaneously the controller fires them, resulting in up to 16 terrorists being hit within a 15 millisecond period, giving them no chance to react.



SILENT AUTO

AMMUNITION : 9mm Calibre

The Small Arms 6 Silent Auto has an unenviable reputation of being a disposable gun. This myth arose when the initial batch proved so unreliable that they were useless after a single magazine had been fired. The fault was corrected in quick measure but the myth persisted. An insult gained popularity at the time where someone who was useless at a task was called Small Armed. The gun itself is mass produced and is a solid and genuinely reliable product if not a very exciting one. It is available in a variety of designer colours as part of a promotion.



M73 AUTO GUN

AMMUNITION : .44 Calibre

The M73 is widely known for its man-portable firepower. With a single pull of the trigger, an entire 10 rounds leave the barrel (under some settings) before the recoil of the first has been felt. Even this is gyroscopically damped down. This makes it very accurate with an exceptionally high hit probability. The downside is that it is all too easy to waste ammo if the aim is less than perfect. A typical setting is therefore the three round burst and of course as large a clip as possible.



MOUNTED MINI GUN

AMMUNITION : .44 Calibre

Mini-Guns are almost never found outside of vehicle manufacturing planets except in the field. The general exception to this rule is when Mini-Guns have been mounted on a combat robot. This practice has been frowned upon since a wargame exercise went wrong after the central controlling computer was struck by lightning and the robot squad wiped out an entire city before they were stopped. Mini-Guns are almost never used against soft targets, being most useful against light-armoured vehicles.



SNIPER RIFLE

AMMUNITION : 9mm Calibre This is more a class of weapon than a single model. Sniper Rifles tend to be custom made to individual specifications and very few are mass produced. Why this is so, no-one can say, but the result is that there are almost as many designs of rifle as the rifles themselves. The only common element is that of the ammunition type used, although variations are even found with this. A typical custom job will take three weeks from ordering to delivery. The rifles are exceptionally long ranged and have found favour with sportsmen.



TUNGSTEN BORE RIFLE

AMMUNITION : 18 bore cartridge

This was the original product that established The Tungsten Bore Company as a major player in the arms supply business. It seemed that the company was more famous for illegally supplying arms to rebels - in order to gain money to establish itself more properly - than for the products themselves. That is why anyone carrying a rifle such as the above will be met with sideways glances and strange stares. The gun itself is above average, but their PR was always awful.



SHOTGUN

AMMUNITION : 18 bore cartridge

Also known as the Scattergun, the Shotgun is a weapon used for a variety of blood sports as well as riot control. It is short ranged, though very effective. An increasing number of shotguns are available in modular form; the prospective customer simply decides what barrel (and how many) to attach to the other components. In this way a sort of custom weapon can be had for less money than a fully customised one.



SMITH & WESSON 29

AMMUNITION : 9mm Calibre

Smith & Wesson replicas are very common. A genuine Smith & Wesson imported from Earth is very expensive and is used mainly as a status symbol. The 29, however is certainly a weapon to be proud of. Its performance is flawless and it is this that distinguishes it from lacklustre copies. To say that it is hand crafted would not be entirely correct, but a greater care goes into individual guns than is possible with automated milling processes. Since the loss of contact with Earth, trade has also ceased, making the 29 even rarer still.



UPBI ISSUE 38

AMMUNITION : .38 Calibre

The 38 is standard issue for UPBI agents, sourced from an unnamed manufacturer that is rumoured to be based on Tesseract. Many a high powered criminal has found his or her career ended staring down the barrel of a 38 . Covert operations reputedly have a memory-effect polymer version of the 38 which enables it to change to another shape when immersed in boiling water. These are immune from standard Spaceport detectors. Detectors that operate on density rather than metal content will register the presence of the 38 . As yet they are still rare.



BLASTER 52-C

AMMUNITION : 1Kjoule charge or more

The Model Number refers to the wavelength of light that the human body most readily absorbs. Delivered in extremely short bursts, the effect is to explode organic tissue, making the Blaster an effective, although disgusting weapon. Ironically most people claim this is an uncivilised and barbaric weapon, yet the reputation it has gained serves almost as a deterrent. It is the preferred weapon on spacecraft because the beam wont puncture hulls or damage important machinery. It has featured in contemporary pulp fiction to the point of being a cliché, especially the scenes where the antagonist fires into a glass of water that the hero is holding, causing it to vaporise and explode, thus making a point.



SONIC STUNNER

AMMUNITION : 1Kjoule charge or more The Stunner range of handheld weapons are the ultimate peaceful sidearms. The simpler models disrupt neurological functioning to render a target unconscious, whilst more advanced models have variable settings. Some are pocket sized, others are shoulder mounted. The greatest of these can pacify an entire crowd. Stunners are available freely and without license, contributing to their enormous presence in some cities.



TUNGSTEN BORE HANDGUN

AMMUNITION : 18 bore cartridge Compact, Stylish - and Deadly is how the promotional literature describes the Tungsten Bore series. Compact, certainly. Deadly is never in doubt. Stylish brought a lawsuit for false advertising which was subsequently rejected. The Tungsten Bore Company is less famous than its advertisers. The gun itself is unremarkable but a solid product nevertheless, whose potential market has been missed through aiming at the wrong people.



DATABANK

Data Banks are fully self-contained information stores, cross referenced with hypermedia links. The data is updated by subscription wideband radio broadcasts where available. Total storage is around 1024 GBytes of holographic non-volatile memory containing text, pictures, audio and other data. Pirate versions are available. These bypass the encryption necessary to receive free updates. The subscription update is charged yearly to specified accounts.

DTS - DIGITAL TERRAIN SCAN

The Guild VII is the latest in the line of Navigation Aids for travellers. Several methods of locating position are available. Stored map, satellite positioning and - on the Guild VII Plus inertial location. Because of the complexity of some of the more advanced systems, each model is tailored for a specific planet and is useless anywhere else in the system. The proposed Guild Ultra will be able to locate positions anywhere within 100 light years by recording Star s spectral data and comparing with known stars! Of course since the volume of explored space is nowhere near this amount, the feature is merely an expensive gimmick.



MEDISTAT

Medical Status is a very important factor when adventuring. MediStats are full health indicators - heart/lung - with a limited diagnosis capability depending on model. They are deliberately made as simple to operate as possible, considering that untrained personnel may have to use them at a moment's notice. It's worth remembering that while they can tell you what's wrong, they can't do anything about it. Attachments can be purchased to filter air samples for pollutants and contaminants to avoid medical problems in the first place.

PSI-AMP

Unknown Item ID



VEHICLES' GLOSSARY

CORPORATE III CLASS SYSTEM SHIP (HEAVY CRUISER)

The System Ship Platinum Heart is an ex-military vessel of the Corporate III Class as used in the War, when most vessels of that type were constructed. It is essentially a military upgrade of a civilian vessel, the dies and presses being shifted over to from commercial production in 2664, the early days of the War. The large canopy was intended to make the ship to appear visually to be a single or two seater and thus less deadly than it really was. Modern sensors of course, have made this notion less than ideal, although the strategy paid off on at least two occasions. In both cases the enemy craft had sensors jammed and had to rely on visual information. The exposed fuel tanks on the dorsal and ventral fins were originally intended to facilitate fast turnaround at cargo centres but proved to be especially vulnerable in the military version. Too few funds were available to rectify the problem. The type was withdrawn from active service in 2672 and replaced by the Corporate IV Class, a completely new design rather than an upgrade. Remaining vessels

were either decommissioned for commercial use or picked up cheaply by other organisations.

The Platinum Heart is not one of the original conversions, but a full specified military vessel. When it was withdrawn, it disappeared from official records and reappeared two years later in the hands of a commercial organisation, presumably with the weapons layout still intact.

Performance is marginally better than most vessels of this size. It has two docking bays, extensive cargo decks and the potential to connect to a Stellar Booster. These devices are essentially Bussard Ramjets and the System Ship acts as a command module, although it is dwarfed by the size of the Booster itself. When connected, it can make interstellar journeys at great expense.



DAL-ROGRA 323-400 DROPSHIP

The vessel category of Dropship is a very loose one in that there is nothing in particular that makes a vessel a Dropship. Cruisers and Heavy Cruisers, for example, are defined by tonnage but the various type of vessel that have been called Dropship is truly astounding. Almost anything that can make a hot re-entry can lay claim to the title and few, if any, are designed specially for the role. There are subtle differences between this category and OSVs (Orbit to Surface Vehicles) that even experts disagree on. There is a growing tide of opinion that a Dropship is anything that can be used in a covert operation.

The Dal-Rogra 323-400 would seem to support the above assertion. In the military category - if the manufacturer's specs are to be taken literally - it would seem that the overriding criteria is to have an extensive avionic suite and the latest in sensors. This is to provide deep, undetected penetration into hostile airspace, making it a Dropship. However, the tonnage and engine rating would suggest that the 323-400 be called an OSV, intended for

limited heavy cargo transport to and from close orbit. Without the added burden of a large cargo, performance increases dramatically. To further illustrate the confusion surrounding the categories, other high volume, low mass cargos such as tritium fuel are typically transported to and from orbit by OSVs. Dal-Rogra themselves are reticent about the matter, preferring to state that their products are better specified than those of their rivals. Certainly the 323-300 saw extensive use over the closing years of the War and the 323-400 is a logical next step. Improvements include the incorporation of passive stealth ERADAS (Emitted Radiation Absorption, Deflection and Scattering), Jamming Pods and active stealth EREP (Expected Return Elimination Processor). This relies on a secondary effect of some radar installations that allows the Dropship to substitute its own radar return echoes for the original ones, editing out the Dropship in the process. The technology is still experimental and this is the first use on a production vessel.



PSIONIC AMPLIFIERS

My name is Jared Rhine. I have been attempting to examine the devices known as Psi-Amps , one of which I have in my possession. The term Psionic Amplifier is not strictly correct. They may operate on such a principle as described by the term but this is by no means proven and there are numerous compelling theories.

Psi-Amps, or my preferred term, Invokers , require information to tell the device how to produce the desired effect. This leads to a third term for them, Effectors. The information is stored on what seems to be a type of Datacard, although the exact method of storage remains unknown.

The origin of the devices is shrouded in mystery and all attempts to examine the workings of an actual device have only succeeded in making the Psi-Amp self destruct - even, remarkably, by using passive scanners. The rarity of the devices has ensured that examination attempts have simply stopped.

One Psi- Amp was reportedly found buried in a hillside on Graveyard. The implications are disturbing. If true, this means that the devices pre-date

humanity in this Star System.

I have not attempted to use any form of scanning device whatsoever, except my own natural senses and recording techniques using visible light, which the device seems not to object to. That in itself was a calculated risk. Other scanning methods such as NMR (Nuclear Magnetic Resonance) and PET (Positron Emission Tomography) are too dangerous to be used.

The Datacard is actually a construction that consists of an information base to instruct the device how to produce an effect, along with a power source to maintain the information. The energy store is usually enough for several uses of the unit. No detectable heat is generated in producing the effects.

It is extremely fortunate that the datacards themselves are amenable to scanning and although this provides no real insights, it does mean that it is possible to produce more of them. Occasionally, however, the Psi-Amp is a complete unit with built in cards.

The information is contained in a recognisable binary array but the



actual contents of the memory, though known, are beyond analysis. It would seem that this is deliberately encrypted. I am certain that I have only begun to scratch the surface of the potential uses.

FLOAT

The Caster will float slowly downwards. This seems to work by increasing the Caster's drag coefficient to a high degree and not by the anti-gravity method that I expected. Air resistance, then, becomes so great that it acts in the same way as a parachute, although vastly more advanced.

This method allows it to operate in the artificial gravity generated by the rotation of a Space Station. (A genuine method of reacting against a gravity field would have nothing to react against in a Space Station, whose gravity is nothing more than centrifugal force.) Although I have not tested this in depth, the implication is that this would not work in a vacuum.

STRENGTH

This has the incredible property of doubling or even tripling the Caster's physique. How this is accomplished I have no idea. When I first researched this I felt no effect until I tried to open the door and ripped it off of its support. The effect lasted a full 4 minutes.

At the time, the Invoked Natural Power theory was uppermost in my mind. Heedful of this, I surmised that my adrenaline flow had been greatly increased along with metabolic functions, reinforced in some way by the device. Panic set in when I realised that permanent genetic damage may have resulted. Subsequent medical diagnosis revealed nothing out of the ordinary. It is as if the device is built to resist attempts to discern the methods of its working. (Does it somehow select a minute as being a convenient human time interval?) It is most perplexing.

FARSIGHT

The device creates a hologram when used by itself. Interpreting this is slightly tricky at first. When invoked in close proximity to a DTS system, a remarkable thing happens. The device seems to interface with the DTS and supplies it with data beyond the DTS normal range. My guess is that it does this because a user will be more familiar with a DTS display than an alien format.

The practical upshot of this is that the DTS will show features in the landscape that are not visible from the user's location. It seems to work despite prevailing atmospheric conditions such as fog or rain. This rules out some infra-red methods. Again I find out how something is achieved but not why it is possible.



FIREBALL

I quickly learnt to test this Invoker outdoors after discovering the Datacard. A fireball was created and thrown forward, doing incredible damage to my workshop. Apparently this is just one of a number of variations of fireball effect. The fireball itself was a sphere of ionised gas. In essence it was a ball of fire as opposed to an actual plasma such as a more conventional weapon might fire. The temperature fell within normal ranges for a fire but there were no indications as to how the fireball was generated. Again I can only speculate.

GILLS

Sometimes the Datacards contain mathematical symbols. At first I had hoped they contained some hint as to the functioning of the device. Alas it was merely a language form - deliberately easy to translate - that told what the card made the device do. Perhaps these types of cards have a different origin from others found? This one, if it was to be believed, allowed one to breathe underwater for a time span equalling four minutes. It does this by surrounding the Caster's head with a forcefield that keeps water out and air inside - but only enough, as I said, for around four minutes.

It would seem reasonable to assume that a larger force field would hold more air but there is no means I have been able to find to accomplish this. Any larger of course and movement becomes unwieldy. It is truly a strange sensation.



TELEPORT

I have not been able to discover a way to control the destination location. The device manipulates matter in such a way as to swap two volumes of space. The space originally occupied by my body was replaced by the volume of matter from my destination. This avoids the potential problem of materialising inside a solid object. The destination is random but always within a certain radius. In a way this shows that the power of the device is not unlimited. A truly unlimited device would place a person exactly where they wished.

MIRACLE

After much deliberation, I have decided to name this effect

Miracle. There is no objective basis for this but one thing is for certain - a random casting is made, completely without control of the user. It does not seem to be a flaw in the design but an intentional function. In this way I have discovered many previously unknown psi-effects. The end result often does seem truly miraculous.



SHIFT

The Shift effect had me fooled as to its function initially. When activated, nothing seemed to happen aside from a brief burst of light. In fact the unit was attempting to move me forward. The path in front of me was blocked so the attempt failed. When I used the device with a clear space I was shifted forward until my path eventually became blocked. During this time I even negotiated gaps. It works on line of sight and does not follow the contours of the land.

The effect is similar to the teleport. The difference is that it is a number of discrete ports which require less energy. I assume with a completely clear path it would go on indefinitely. Does it take into account the curve of the horizon, I wonder? On open sea, for example, would I find myself heading out of the atmosphere? Someone else can try that in a spacesuit. An experiment for the future perhaps.

PART WAVES

The symbol for the water molecule is unmistakable, so it was obvious that this effect had something to do with water. This assumption was borne out by testing it on a low scale in my back yard. It had an immediate effect on my pond. A straight-edged section had been bodily removed from the water, allowing safe passage through the gap. This seems to have been achieved by a wedge-shaped force field being lowered over the body of water, parting it. It only however, works to a limited depth.



TRANSMUTE

This is without doubt the most impressive of the functions I have discovered so far. When activated, any object immediately to the left of it is transmuted into something at random. Most often the result will be foodstuff of some description. I have performed extensive tests on the created items and they seem to be normal in every respect. The effort needed to create this effect, or to duplicate it by conventional means, defies belief. All factors, the energy, the molecular description of the object, the tailoring of the resultant object to something suited for human use all point to the fact that humans did in fact create Psi-Amps originally. But no-one human could possibly have access to this level of technology.

REPAIR

Useful. Very useful. This function alone would be worth billions in the commercial sectors. Although many of the functions of a Psi-Amp are esoteric and applicable only in a few specialised cases, a generic repair facility has implications for almost every aspect of life. Every piece of equipment I owned was in perfect operating condition after I used the repair function. In order to do this, it would have to have detailed knowledge of the equipment under repair. How it manages the effect the repair, I do not know. Neither have I determined the radius beyond which it is no longer effective.



CREATE WALL & BANISH WALL

These are two complementary functions. The first, as may be expected from the name I have given it, creates a wall directly in front of the Caster. The creative possibilities would be endless if this could be more finely controlled. It would seem, however, that the only walls that can be removed are the same walls that were created in the first place. I have not been able to get it to remove (and thus demolish) anything else. I suppose a fireball would be more effective for that sort of behaviour.

There are numerous effects that I have not yet got around to investigating. It may take me the rest of my life and I am unlikely to find the answers I am seeking. In the meantime, however, the Psi-Amp is a practical fact. It would be foolish to have such abilities and not make use of them. Perhaps there are more such effects waiting to be found. I can only hope.

