

OUTPOST MARS



A Roleplaying Game of Exploration, Discovery and Personal Conflict on Mars

Paul Elliott

ZOZER

TRAVELLER

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INTRODUCTION

"Mars is a geologically complex and diverse world with a plethora of geological mysteries and questions. However, we will [only] be able to address these questions with further detailed exploration of this world,"

James Rice, planetary geologist at Arizona State University

Outpost Mars is a roleplaying game set on the newly-settled planet of the same name. Players take the roles of scientists, engineers and explorers going about their business of investigating Martian phenomenon and avoiding death or serious injury while doing so. If this does not seem particularly challenging, then in one sense you are right. Of course there are challenges, but the missions in this game will only form the backdrop for each game. The real story focus will be on the player characters and their motivations. Trapped on Mars, working in isolation with the other player characters in the team, stories will pick up on and revolve around a character's personal interactions with his team-members. On rivalries, secrets, hidden agendas, lies and on mutual interests. More than anything, then, scenarios for **Outpost Mars** will involve very real-world inter-personal story elements. Often, roleplaying games leave inter-character reactions wholly to the imagination of the players. And often there is no inter-action, many roleplaying groups acts as one, almost as a multi-tasking über-character. Rivalries, competition and personal agendas are routinely seen as a bad thing.

Well, in real-life, when people get together to live and work (especially in isolation as the phenomenon of 'reality-TV' shows illustrated) these character reactions are the most fascinating and the most important part of the mission agenda. How many historical expeditions have been failures due to rivalries or the clash of personalities? How many expeditions and technological achievements were made in spite of such interactions? **Outpost Mars** is not some cyberpunk dystopia, however. Characters are scientists and engineers and will not be going for each other with laser guns and automatic weapons. Player character co-operation is always assumed, it is the default level at which players must operate if the mission goals are to be achieved. The rivalries, agendas and secrets form a subtle layer on top of the mission, often these agendas will not actually come to the fore but will simmer just below the surface. Co-operation will be common, but 100% team loyalty and enthusiasm for the mission will not.

As befits the high-tech nature of the subject matter, the game is designed to utilise the resources of the World Wide Web. There is little use me condensing the available knowledge on Mars into just a few pages and passing this off as a definitive account of the planet. Instead I give that information directly related to **Outpost Mars** scenarios and scenario design, but I also provide a number of web links to very useful Mars-related resources. Hope it all helps!

Many thanks are in order to Ian Young for listening to me ramble on about Mars for ages and continuing to come back with great ideas and measured assessments of my game system and intent. Thanks also to Mark Weber for commenting in fabulous detail on the way Goals and Reputation and Ally Group loyalty might all interact. Maximillian Cairnduff has also provided me with some inspiration and been a very good sounding board, his criticisms come from the player's viewpoint and have been very useful! Guys at RPG.NET gave me bags of inspiration, I've included their ideas on alien theories wholesale. Thanks to Judas, Prophet, PIE, Matt M, Proteus, That Wolf Again, Valandil Weslocke and Graham Mackenzie-Pilot.

THE SITUATION ON MARS

TIMELINE

This optimistic timeline brings the setting close to today, close to our own period, ensuring characters and organisations resemble those that we know around us. Realistically, the first Mars landing (if it should ever go ahead) might touch down in a couple of decades. Sad but true...

2017	First Mars Landing
2020	Establishment of the International Mars Base
2023	Phobos Landing; Cydonian Expedition finds proof of past extra-terrestrial life
2025	Arrival of other groups on Mars
2026	Formation of AIMCON; Estb. of the United Nations Space Co-ordination Organization, with its inclusive Martian Department
2027	US Space Command est. Reagan SFB on Phobos; Chinese Baospace begins exploration Belt mining
2028	Cydonian Base estb. in the Cydonia region
2029	The Black Out, a global dust-storm that renders most communication useless
2030	AIMCON begins operations on Mars
2032	First Indies flee AIMCON control and go into hiding
2035	Start of the Hellas Terraforming Project, and immediate terrorist reaction; Chaos threatens
2040	NOW!

ORGANISATIONS ON MARS

US Marine Corps

The elite service of the US armed forces, a global reaction force usually deploying from US Navy ships via landing craft or helicopters. Marines have followed Space Command to Mars, and the experimental 52nd MEU (Mobile Expeditionary Unit) is stationed on Mars and Phobos, with Reagan SFB forming the unit's headquarters.

US Space Command

The US Air Force service arm created in the 1980s to manage US military presence in space. It worked closely with NASA and now operates satellites, launchers, deep space vessels and several Earth-based facilities. It dominates Mars-space from its comprehensively equipped Reagan Space Force Base on Phobos.

United Nations Space Co-ordination Office (UNSCO)

Set up late in the day six years after the International Mars Base had been established, UNSCO and its inclusive Martian Department has proved to be a useful clearing house of information, ideas, funding and philosophies. It is an internationally established agency for the monitoring of Martian

activity, and has powers of regulation, funding, sponsorship and project development. Governments wishing to join current projects or initiate Martian colonial efforts of their own, or multinationals that wish to develop or mine on Mars must first gain UNSCO approval. A proposed UNSCO law enforcement arm has yet to see fruition, but the growing threat to current colonists and terraformers from Canyon Pirates and both Red and Green terrorists has brought the controversial proposal to the fore once more.

NASA

US National Aeronautics & Space Administration, a scientific and explorative agency. It pioneered the robotic exploration of Mars in the last century and played a central role in planning the first Mars mission. The growth of the European Space Agency, and the resurgence of Roscosmos under the Communists has seen NASA's role on Mars somewhat diminished, but considerable non-the-less.



ESA

The European Space Agency, a sophisticated and powerful space exploration organization operating under the remit of the European Union. It's main launch base is in Guyana, South America. It can call on a very talented pool of scientists and engineers from across the Union. French is the premier language of the ESA, followed by English, then German.

Roscosmos

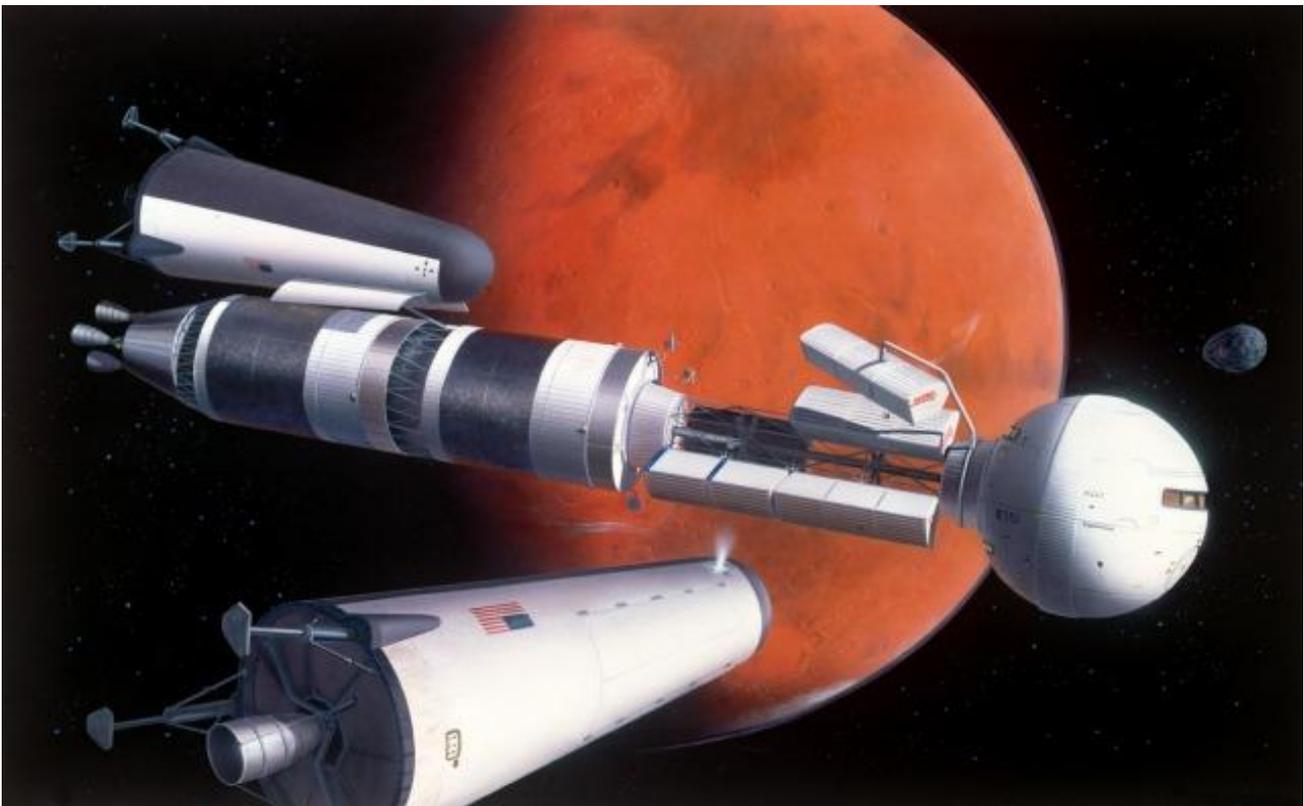
Roscosmos is the Russian Federal Space Agency (RKA). It was established after the fall of the Communist regime in the late 20th Century and the direct descendant of the once impressive and all powerful organization called Glavkosmos that put Yuri Gagarin into orbit and sent cosmonauts to the Mir space station. Funding for Glavkosmos was cut after the fall of Communism in 1993 and the newly established RKA picked up where it left off, with European and American contracts and closer ties with NASA. The new Russian government fast-tracks science and engineering graduates to work on new and exciting RKA projects. RKA engineers are in demand for their knowledge of space stations and heavy-lift rockets.

CNSA

CNSA is the China National Space Administration, which has helped co-ordinate the activities of several Chinese combines - eager to get into space. It uses the Xichang Launch Centre located in Sichuan province for most of its space launches, though it does possess three other sites within mainland China. Late to join the race for Mars, these combines (with long term financial acumen) instead aimed their sights on the mineral wealth of the asteroids. The biggest concerns currently involved in prospecting and test extraction are Baospace and Wu-Ketai. Both have bases on Ceres, the largest asteroid in the Belt. The single-mindedness with which the Chinese have begun industrial activity in the Belt has stunned other nations. The Chinese Belt miners involved are a breed apart, self-reliant, loyal to their own, dedicated, determined - shunning Mars and all it has to offer. Instead the Belters embrace the Chinese technology which sustains them. A few internationals have joined the effort, but find the closed society of the Chinese Belters difficult to bear.

Mars Task Force (MFOR)

The Mars Task Force (MFOR) is military unit formed by the United Nations - Mars Department to help police sensitive installations in the light of Martian terrorism. Individual members of the Task Force can come from any of the UN member states, recruited individually for both their professional peace-keeping talents as well as their suitability for Mars environment training. English is the official language of the Task Force. The troops are armed and equipped with the same armoured pressure suits worn by the US Marines here on Mars, but as a unit, the Task Force is out-gunned and probably out-skilled by the US Marines who take no part in the UN peace-keeping mission of the Task Force. Much of MFOR's training is carried out by retired astronauts and seconded members of the British Army SAS. MFOR troops act as a loosely organized and often autonomous security unit, guarding installations, checking up on terrorist reports, mounting search and secure missions, bomb sweeps and man-hunts. Although they have the respect of many Martian inhabitants, MFOR is seen as a token gesture, a penny-pinching attempt to quell the very alarming (and increasing) disorder that has taken root within the Mars colonies.



Hellas Terraforming Project

The Hellenes (the scientists and engineers of the Hellas Basin Terraforming Project) are proud of their lake, Lake Barsoom. It was the first body of free-standing water-ice on Mars and a model for other projects to copy. As the lowest point on the planet, the Hellas Basin has seen the most dramatic environmental changes. The Hellenes have been able to grow a significant amount of vegetation on the lake shore, and at specially prepared oases on the basin floor. The project habitat enjoys the luxury of vast greenhouses.

Mariner Terraformers

As the Hellenes have already discovered, the first impact of the early terraforming techniques were evident at the planet's lowest points. Great efforts had been made to try to grow lichens on the walls and floors of the Mariner Valley system of canyons and valleys, efforts proving fruitful. With water now becoming less rare, and seeping to the surface within the valley, and the lichen population now living side by side with simple mosses, the stage is set for an agricultural revolution within the

Mariner Valley. Freeholding colonists have taken up the struggle and are having fantastic success with greenhouse crops and a good supply of water. They continue to experiment with genetically-modified vegetation in the Martian soil.

Ares International Mining Consortium (AIMCON)

AIMCON is the only organization currently with an UNSCO lease to mine on the surface of Mars (no such leasing system limits exploitation of its satellites or the Asteroid Belt). AIMCON is not a single multinational corporation, but a newly established mining consortium of several powerful companies that have come together to pool their resources, technologies and interests to reach Mars. It is not a destination attainable by one corporation alone (no matter how rich). AIMCON backers include Erebus Petrochemical, Amerex, Voight-Stuyvesent, Koji-Akita, and Russian heavy industry giant Voroncovo. In addition, a number of Arab nations with plenty of ready money and a view to a rapidly approaching oil-less future, have invested in AIMCON, including Saudi Arabia, Dubai, Kuwait, Oman and the UAE. The AIMCON strip mining sites are not pretty and quite controversial in their own right, frequent targets for Red Legion sabotage. Most of the mines are sited along the Great Escarpment - the steep drop-off that marks the boundary between the northern lowlands and the heavily cratered southern highlands. A great deal of activity is centered around the Tharsis bulge, and the extraction of the precious metals extruded into the crust during the region's up-thrust and the formation of its massive volcanoes. AIMCON secretly supports the Greens.

FACTIONS ON MARS

Rovers

Very Martian development has sent up Martian rovers, and people trained to operate them. They were just tools. As colonists and scientists took root on the Red Planet, they found that some of their number could not fit in and adapt to colony life. Homesickness and a difficulty living closely with other people day after day proved too much for many, and these men and women opted to drive the rovers out across the Martian wilderness on solitary and extended missions, perhaps repairing transponders, checking weather stations, carrying out geological surveys or ferrying parts to some remote base. During the Black Out of 2029 many of these rovers turned independent and stopped working for their own people. Today the rovers roam Mars carrying out jobs for bases, stations and colonies, always moving on. Often the rovers have crews of 2, 3 sometimes more, and all have shunned the static, organized, focussed societies of Mars. Rovers are rebels, 21st century cowboys, nomads with a love of travel and adventure.

Flyers

Early mission plans often voiced a need for fliers to be sent to Mars, either robotic airships or robotic airplanes. These could cover lots of ground very quickly. When the first bases began to be established on the planet, airships were again considered for transport purposes - and they proved highly useful. Manageable in the thin Martian atmosphere, the airships were able to cross vast distances easily with relatively little energy loss (all are solar powered). The modern airship operators ('flyers') balked at the tightly knit colonial way of life during the Black Out just like the rovers. And like the rovers the fliers roam the planet carrying out jobs and contracts for colonies, bases and stations across Mars.

Cydonians

The Cydonia region of Mars is associated with that enigmatic Martian feature: the Face (see illustration, left). Seen from satellite photos, the rock outcrop does resemble a humanoid face. Other features in the Cydonia region include weirdly shaped pyramidal rock formations - indeed some proponents of intelligent alien life on Mars insist that the entire area is the remnant of a ruined Martian city. On reaching Mars these theories were proved correct. We were not alone. A new age

had begun, and a new Martian religion, too. But debate began immediately. Had the Martians died off millennia ago? Or were they still out there somewhere? The scientists on Mars who have aligned themselves with the latter theory and who have steadfastly adhered to it, have been driven to set up habitats in the region in order to live amongst the structures they study. But in doing so they have become scientific pariahs - fringe researchers. Someone built these things, some intelligence once walked the Martian surface. Controversially these Cydonian scientists believe the Martians are here still - in hiding or exile - that the human race is somehow related to the Martians, that the Martian race has something to teach us. Perhaps the Martians are the physical embodiment of God. The Cydonians have built up quite a store of beliefs and have fashioned a new Martian religion. The Cydonians are determined to unlock the secret codes of these alien structures - to communicate with the builders. NASA has clashed repeatedly with the Cydonians, both intellectually and physically!

Greens (The Third Way)

Mars is being slowly terraformed - in other words human engineering and science is being used to alter the Martian atmosphere in order that it may become breathable, and in order that vegetation might flourish. A second unspoiled Earth is the goal. The process is slow, taking many decades, perhaps a century or more. Members of the Third Way support a hard-line stance and advocate the use of maximum impact solutions to the terraforming problem, solutions abhorrent to every right-thinking scientist. They propose detonating atomic weapons at the poles to melt ice and increase atmospheric heat. They advocate crashing hundreds of ice-asteroids into the atmosphere to release massive amounts of water. They advocate bursting underground aquifers in the same way meteors occasionally do, causing catastrophic water release and immense flooding. One of their top priorities is to smash an asteroid into Hellas Basin rupturing the aquifer there and releasing what would be a permanent ice-sea. All are highly unpredictable techniques - anathema to the scientific method. Of course the Martian Department has forbidden such catastrophic environmental intervention. The Cydonians are some of the greatest opponents of the Third Way.

Reds (The Red Legion)

Members of the Red Legion are stalwart supporters of the 'Pristine Mars' movement. They believe man should have come here to study and observe. All industry, much settlement and all terraforming is abhorrent, unethical and wrong. Members of the Red Legion swear to sabotage such projects as they are able. Connected to several eco-terrorist groups back on Earth. Crucial to the Red argument is the proposal that life may exist on Mars today, hidden away within its depths, life that may be extinguished by human terraforming without us even knowing about it. The Red Legion is a secret terrorist organization with members in many walks of life on Mars. The Reds find the Cydonians strange but useful allies.

Canyon Pirates

Canyon pirates are rovers who have taken up illegal methods of supplying themselves with air, water and food. They raid the lone farming stations of the Mariner Valley with virtual impunity and find many places to hide up within the convoluted terrain of the canyon systems. Canyon pirates are considered by everyone on Mars to be the planet's ultimate unwanted scum. Some masquerade as legitimate rovers from time to time, giving legit rovers a bad name.

Wildcatters

Unlicensed drilling teams roaming Mars in search of water. UNSCO grants licenses to highly skilled geological survey teams that wish to search for underground water aquifers, anyone who does so without a licence could be in big trouble. Licenses are required because the dangers of discovering an aquifer under high pressure are considerable. Often these blow, creating gushers of water that instantly freeze, dropping hail the size of bowling balls in the area. If the bed-rock cracks during a blow-out then the entire aquifer might spill out across the landscape, a vast lake or small sea of smashed ice drowning everything in its path (including the surveyors and any nearby habitats) for

hundreds of square kilometres. Wildcatters take great risks. Water is worth a great deal on Mars and a Wildcatter can make his fortune selling the survey information to AIMCON or to some corporation wishing to establish a colony.

Indies

The Indies are mostly miners and engineers brought in by AIMCON on short-term contracts. At first these men and women treated Mars like any other drilling operation, in Siberia, Saudi or Antarctica - but the pressures became unbearable. Wages were saved for return to Earth at the end of the contract, but you could only return at all if you kept up your physique in the gyms every week. Gym space was at a premium, and miners were getting more and more out of shape. The gravity on Earth would probably kill them now. It looked like they were destined for a life of slavery on a harsh world. Some have ripped apart their habitats and made off into the wilderness with AIMCON rovers and equipment to set up on their own. If they aren't going back they may as well work for themselves - not the consortium. Others from the consortium have joined the Indies, labourers finding that life in the cramped and (more and more) overpopulated mining camps was intolerable. Muggings, thefts, assaults even rapes. And AIMCON turns a blind eye as long as production quotas are kept. More recruitment for the Indies. The Indy camps are hidden away, rightly fearing the wrath of the AIMCON security forces. They are militantly anti-corporate, and fitting allies of the Reds.

Arizona State University

The geology department of Arizona State in Tempe, worked closely with NASA in the early days, training the first astronauts to step on Mars. By 2010 the university even had its own extra-terrestrial geology department. The department prides itself on recruiting the best academics and maintaining the world's most sophisticated planetary geology database. A number of its graduate students have been to Mars and established long-lasting links with scientists there. Academics and researchers on Mars often feel that Arizona State does justice to their work, gives them due credit and a platform for their theories and ideas, something that UNSCO or the multinationals, or other universities do not. Arizona State has a loyal following on Mars. Agendas: To receive the best and most up to date information about Martian planetology, to deny the same to other universities, to link up with Arizona State sympathisers and create an information sharing network that can perform 'pure science' untainted by politics or big business. Opposes paperwork and bureaucracy.

Ellis-Itami

Ellis-Itami is a huge and powerful information multinational and feared for that. It seems to have an unprecedented data network. E-I owns insurance subsidiaries, a detective agency, stock traders, several small Japanese banking companies and Kodai-Secure the globally famous courier and security firm. Information is Ellis-Itami's game, and the corporation has a reputation for hiring the brightest cyberspace cowboys and the best investigators. Trying to be impartial, they sell data to all the big multinationals, all governments: everyone. The corporate symbol is a shield with an eye emblem. Much feared is the E-I credit section hired by other firms to collect debts. The 'credit adjustors' are basically hired guns and Tokyo street scum. Agendas: To obtain information on anyone or any organization that has any power at all, by any means. Leverage is Ellis-Itami's game. Financial information is especially sought after.

Church of Heavenly Stigmata

fringe Christian movement established on the Net during the preparations for the first manned Mars flight by the Reverend Shire Kavanagh. A growing evangelical movement tying Christianity and the fate of the cosmos up with the settlement of Mars. In Heavenly Stigmata doctrine Mars symbolizes the blood of Christ, a permanent sign to the sinful that their sins were forgiven on the cross. Reverend Kavanagh makes no secret of his belief that Jesus was an 'extra-terrestrial' that came to Earth from beyond our galaxy, and in this doctrine, Mars plays a central role as a stop over and the place that Christ returned to after his Crucifixion. Mars is the god of war, it is Rome the conqueror and the Devil tempting Christ in the wilderness. For the members of the church, Jesus is on Mars

still, it is the desert testing Christ, and now testing Mankind. To survive the End of the World (tentatively dated to 2066), a believer must make the pilgrimage to Mars, must go through the ordeals of life on Mars and must fight the Devil and find Christ. Mars is a stepping stone to Heaven, after all. Agendas: To spread the word of the Church, to keep Mars 'pure' and free from human interference, to oppose sinful city developments and any moral or ethical freedoms, to oppose any research into the existence of alien life (dead or otherwise). To prove that Jesus walked on Mars and fought the Devil there, to prove that Mars was created in 4004 BC.

Erebus Petrochem

Erebus' symbol is a map of Antarctica. The multinational corporation is British and is involved in oil and gas drilling, mining, construction and submarine development. The CEO lives in the UK, and is called Samuel Kazerowski, of Polish descent, wheelchair ridden, a gaunt-hollow figure. Erebus is the UK's biggest oil company and is deeply involved in the Antarctic War. It is a prime supplier of oil to Europe and Japan. It is not in the company's interest to see fusion and the experimental power satellites of Eurodyne Corporation take over the market. Erebus is massive in size and ever hungry for profit, but like some of its rivals has turned its attentions towards Mars. Erebus is one of the partners and supporters of AIMCON, but the corporation is interested in keeping other companies out of Mars if possible. It is very ruthless. Erebus espionage is carried out by a subsidiary called McCandless Insurance, and insurance investigators also spy on rivals, buy information, sabotage rivals, etc. Agendas: To only give lip-service to friendly participation in AIMCON, to steal information and survey reports from other AIMCON corporations, to establish an information monopoly that it can later use when full scale mining and international development of Mars takes place.

MAJOR HABITATS

Reunion

Reunion began life as the International Mars Base, established on Chryse Planitia on 4th October 2020, three years after the first man (Kyle Schaeffer) stepped foot on the planet. It was already partly assembled when the first twelve NASA astronauts arrived, they continued the work and made it ready for the 100 scientists and engineers that followed in 2022. From 2024 when tracking equipment was installed and shuttle links made with Phobos, the population began to soar and other space agencies sent in crews and further modules. Construction has never stopped. By 2030 the population of Reunion was 3,000 (mostly scientists and engineers and tracking and shuttle technicians). It was in 2030 that the US established the US Marine Camp Deerman adjacent to Reunion (many think in response to the founding of Camp Cydonia eighteen months earlier). Today the population stands at 6,000, and marks Reunion as the greatest population center on Mars.

Reunion has a Westinghouse fission power plant, it has a runway, three launch pads and associated facilities (hangers, terminal, control tower, maintenance sheds etc.), it has offices, labs and research facilities, dormitories, a hotel (the Long Haul), it has out-planet tracking facilities, a single shopping mall, cafeterias, a movie theatre as well as some other entertainment facilities, a garden called the Glasshouse and an Assembly Hall. In Reunion you can buy or rent rovers and airships and also rent garage or warehouse space. Most buildings are largely underground, and all include deep shelters for protection from solar flares. Most of the big agencies and organizations have offices here, including UNSCO's Mars Department. There are a large number of industrial machines here (some dating back to the first drop prior to 2020), including air and water-makers and materials auto-factories. All use regolith (soil and rock fragments) to create their specialist materials for use by the colonists.

A number of roads have been built that connect to smaller bases and habitats. constructed by robot rovers they are really no more than wide tracks cleared or rock debris for the easy passage of rovers, and marked every 500m with a radio beacon. Robot rovers can easily navigate from one habitat to another using these transponder roads.

Adrienne

Second in size to Reunion, Adrienne was established by the European Space Agency in 2035 primarily as a terraforming project. It has a population of 5,000 people, mainly biologists, hydrologists and technicians who have actually been able to create a frozen lake (Lake Barsoom) as well as algae crops on the surface of Mars. This is the Hellas Terraforming Project, in the Hellas Basin in the southern hemisphere. It boasts spacious accommodation (although again much of it is underground), and since Adrienne is built into the side of a steep hill, some stunning views over the lake. There is a runway and associated facilities, two launch pads and some minor repair workshops. Adrienne is capable of launching shuttles and receiving them, too. In Reunion there are more technicians and officials than scientists, in Adrienne the place is virtually still a scientific commune (despite the size). The Mars Department, NASA and some other agencies do have an office here, but the entire project is run by the scientists involved through the ESA. The saying goes "if you want politics, go to Reunion; if you want science, go to Adrienne". Those with a cynical sense of humour also add: "if you want to find God try Cydonia; and if you want to meet God try Shaeffer". The references will soon make sense.

The government of Adrienne is formed of a panel of experts, including the leaders in their fields, along with ESA representatives, a Mars department representative and representatives from the non-science community. Visitors will find the 'Hellenes' open, enthusiastic and optimistic. However, security arrangements have recently been put in place to prevent terrorist activity. Visitors will find themselves having to overcome a hostile and suspicious reception by the UN's Mars Task Force. Beware.

Camp Cydonia

Cydonia is a small region on the Acidalia Planitia, and it is a site which is (in)famous for the presence of giant pyramids and the vast carving of a 'face' constructed by some unknown intelligent life. The nature of the civilization that produced these staggering works can only be guessed at - archaeologists piece together what information they can, but so much is unknown. The first expedition to Cydonia took place in 2023 and the 'Ruined City' was mapped in detail. With the arrival of many more scientists two years later, the site received a lot of attention. A site habitat was established 3km from the Ruined City and was used as a stop-over for visiting teams. UNSCO refused to allow any permanent settlement in the area. Its reasoning was simple - it feared degradation of the site and damage to the monuments. Some sapientologists, biologists, archaeologists thought differently and considered the ban unreasonable. They suspected a cover-up and some kind of conspiracy. When UNSCO began restricting site licenses to just a few experts in 2028, these riled scientists occupied Camp Cydonia (the temporary habitat). Immediately they began to enlarge it and offered places to friendly groups and individuals who wanted to study the artefacts.

Camp Cydonia is now quite large, home to perhaps 1,000 scientists, engineers and explorers. There are no 'official' offices at Camp Cydonia (such as delegations from UNSCO or the big mining corporations). Some of the site is underground, other parts are exposed, but benefit from large windows looking out toward the towering pyramids of the Ruined City. There is an airstrip and hangers and workshops, but no launch-pads or rocket facilities. Trans-atmospheric space planes are able to land there, as are planes and airships. Most traffic comes in and out by rover. The place has a strange feel to it. Everyone believes they are in the presence of something mysterious, spiritual and awesome. Crime is almost non-existent there - everyone works for a higher purpose. There is a chapel of the Holy Stigmata at Camp Cydonia. The 'Gang of Ten' run Camp Cydonia - the initial 10 men and women who first seized the habitat back in 2028. All are well thought of and have accrued quite a following. Each takes on different responsibilities, although the nominal leader, Jean Patourel, oversees all aspects with an uncompromising eye. Newcomers to Camp Cydonia must come on personal recommendation, and have a clean record without ties to UNSCO or one of

its allied groups (such as the US Marines). To prevent people nominating at will, the nominee is made responsible for the candidate's behaviour at all times. This sometimes gives the habitat something of a military air. Less polite observers have called the Cydonians "a bunch of freakin' cultists."

High Point

The Mariner Terraformers have a central meeting place called High Point. The colony sits atop the Valles Marineris and is cut into the cliff-face, in essence it is a vertical settlement. It sits on the south wall of Ius Chasma and holds about 1,000 people. It exists to supply the Mariner Terraformers with supplies and fuel, flown in from Reunion. There is no orbital capability other than a runway and hanger. High Point boasts a small hotel (The Pioneer), usually filled with explorers, tourists and climbers. A rover trail zigzags up the south wall to enter the habitat and the garages through a tunnel. Elevators take personnel and rovers up to desired levels through a maze of gantry-work that are the innards of High Point. On the canyon lip the elevators can bring their cargos up to the landing strip and control office.

High Point might seem high tech, but it is essentially a huge vertical shaft bored through the rock and filled with gantries and walkways. The inside of High Point resembles some bizarre factory floor with ladders, elevators, cages, chain-link fences and so on. High Point is a fairly easy going place with little law enforcement, most people know the terraformers personally - there is little animosity, just a lot of good will. With the attacks of the canyon pirates intensifying recently, the Mariner terraformers have formed a close-knit brotherhood. Unlike the 'high science' of Adrienne, High Point is a place of 'hard-work and good advice'. Practical experiments and the results of tests that succeed lead to plenty of exchanges and information sharing. No-body wants anyone to fail. You get the felling of a frontier here more than anywhere, a place where no-one is left to struggle and fail. It might be you next month...

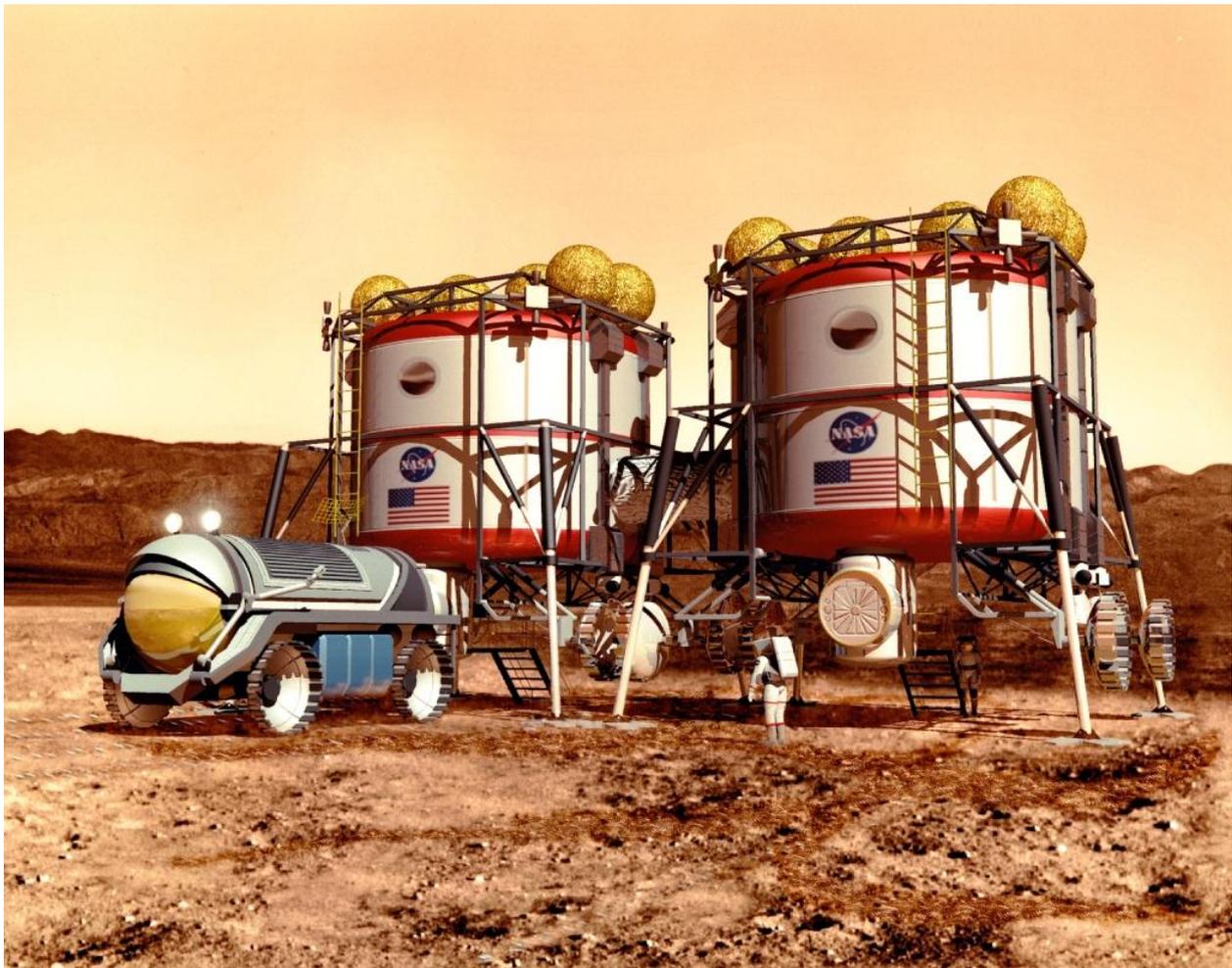
Shaeffer

Shaeffer has a rough reputation, this is surprising considering the nature of people who fly into space. But the scientists and engineers who came to Mars were soon accompanied by astronaut-miners, and then just by miners. Exploratory mining had been allowed at first, but as larger scale mining was begun experienced mining professionals were needed from Earth - and they came from the North Sea, from Alaska, from the Gulf, from Siberia and Vietnam, they came from Libya and from Texas. AIMCON established a base at Alba Patera north of Tharsus. This was named Shaeffer and became both a landing station for equipment and fresh miners on their two-year contracts, as well as a launch facility for mineral 'slugs' fired out toward Earth-space by a sophisticated magnetic linear accelerator (colloquially known as the 'Catapult'). Shaeffer also has a runway for landing shuttles as well as four launch pads.

Some of Shaeffer is underground for protection reasons, some of it is not, since there is a vast amount of equipment in hangers, garages and workshops that need servicing. The habitat has the best hospital on the planet, and it sees regular use due to the high number of injuries sustained by the AIMCON mining community. The international polyglot mix of miners has turned the habitat into a complicated series of ethnic quarters. What began as an optimistic and well-run operation has turned into a cynical and pessimistic one, gym space is at a premium, miners are out of shape and losing the ability to survive back on Earth. They are working hard, soaking up surface radiation, and with no-way of returning to Earth to spend their wages, tempers are running high. Lawlessness is on the increase, new miners have to settle for poor quality accommodation and with threats from a criminal underworld that rips-off those not streetwise enough to get involved. Some have compared Shaeffer to a prison.

OUTPOST MARS

So concerned is the UN that it has sent a contingent of Mars Task Force troops to Shaeffer to safeguard the workers there from out-right criminal abuse (as well as the continuing threat from Third Way eco-terrorists). Unlike Adrienne where the MFOR troops protect but do not get involved in the business of the population, in Shaeffer the MFOR personnel seem to have become sucked into the Shaeffer underworld and there are rumours of participation in extortion, robbery and drug dealing. Shaeffer has developed a severe drug problem, originally stemming from the miners' need to stay fit with muscle-enhancing drugs, now a simple catatonic way out of the red prison these guys find themselves in. Prostitution, too has developed. The phenomenon of wealthy but frustrated miners paying for sex has enticed some female ancillary workers at Shaeffer to moonlight as hookers. A number of US Marshals have recently arrived in the habitat to try to clamp down on the crime here. Some have gone off to individual mines, but a team of five remain in Shaeffer.



The base is run by AIMCON, itself an umbrella organization for the participating mining companies on Mars. It is a headquarters supply station for a number of mines operating out on the Great Escarpment, mines run by a single corporation, as well as mines that directly ring Shaeffer. Because of this, miners from outlying mines are often rotated into the habitat quite frequently. Shaeffer was established in 2030 and has a current population of 2,000 men and women.

Map: A general map of Mars can be found on pg. 30.

Mars UWP: D410473-9

CHARACTER CREATION

WHAT AM I? WHAT DO I DO?

The character is a scientist, engineer or explorer working on Mars. As the game begins he could be working for the United Nations' Mars Department with the other player-characters. As the traditional scientific and political bodies find their grip loosening on Mars the United Nations tries to continue with exploration and scientific work. But Mars is a world with a rapidly disintegrating social system, and a world which seems to have more on its mind than exploration and 'abstract' knowledge. Other employers are possible as the GM decides.

All player characters use the career called Mars Explorer, selecting one of three mission specialisms, either SCIENTIFIC, TECHNICAL or SURFACE OPS, indicating the focus of the character's training, education and Martian experience so-far. Is he a scientist, an engineer or an explorer? The choice helps shape a character's general outlook. **Do not muster out.** Begin the game at the end of an appropriate term, or if re-enlistment is failed.

SCIENTIFIC - The character has scientific training and probably attended university and maybe grad school. As an academic he is at ease with careful method, analysis and a thoughtful approach.

TECHNICAL - The character has technical training which he may have received at university or in industry. He will usually take a hands-on approach to solving problems and not be afraid of tackling a task the needs completing.

SURFACE OPS. - The character has been extensively trained to live and work on Mars, he is always wary of dangers, never takes the elements for granted and will be very protective of both equipment and resources.

The next thing a player needs to do is to establish what his character did prior to coming to Mars. Most will come from an engineering, military or academic background. But what episodes can the player note down? What aspects of his career spring to mind, notable disasters, notable achievements, peculiar academic tenures, prestigious awards or offices? Did he come from middle-class well-educated origins, from a working class background or perhaps he may even have been a self-taught millionaire. Has he had a scandal, an affair, special training, a lawsuit filed against him, did he take some-one to court? Has he had anything published? Has he worked in strange places? Did he wage academic or professional war on a rival - on a colleague? Has he had some media success or disaster?

Of course the most crucial aspects of his background need answering: What is his country of origin? If an engineer, has he gained academic qualifications? If a scientist, how qualified is he? To Degree level, Masters, PhD? Has he lectured at a university, or even held a professorship? To get to Mars it will be a remarkable character who hasn't attended university at some point. The characteristics of the explorer will help answer many of these questions. Others may be answered during the creation process.

Which Careers Can I Use?

The most suitable characters will be created as Mars Explorers (see next page), although one or two characters in the group may come from other occupations out of the Traveller Main Book. Look at the Scavenger pg.16 (Mars Miner), Worker pg.14 (Mars Colonist) and Physician pg.30.

MARS EXPLORER

Individuals selected to work in Mars research are all field researchers. Whether its setting up weather stations, digging bore holes or laying pipelines through unstable fracture-zones, the explorer lives and works in the Martian outback. He or she is tough, single-minded and resourceful, above all they must be a team player, able to work in co-ordination with members of a small team for long periods of time.

Qualification: Int 6+

-1 DM for every previous career.

Assignments: Choose one of the following:

- **Science:** You are a scientist with extensive knowledge of a scientific discipline.
- **Technical:** You are a highly trained engineer and hands-on problem solver.
- **Surface Ops:** You are trained to assist Martian field research, operating equipment and spearheading expeditions into the Martian outback.

SKILLS AND TRAINING

Roll	Personal Development	Service Skills	Advanced Education (Minimum Edu 8)
1	+1 Int	Science (any)	Admin
2	+1 Edu	Investigate	Language (any)
3	+1 Dex	Vacc Suit	Navigation
4	+1 Edu	Drive or Flyer	Computers
5	+1 End	Computers	Engineer (any)
6	Jack of All Trades	Comms	Science (any)

Roll	Specialist: Science	Specialist: Technical	Specialist: Surface Ops
1	Investigate	Mechanic	Medic
2	Science (see below)	Engineer (see below)	Survival (see below)
3	Science (see below)	Sensors	Survival (see below)
4	Science (see below)	Engineer (see below)	Drive or Flyer
5	Navigation	Trade (see below)	Recon
6	Vacc Suit	Engineer (see below)	Remote Operation

Rank	Mars Explorer	Skill or Benefit
0	Researcher	
1	Team Leader	Investigate 1
2	Assistant PM	
3	Project Manager	Computer 1
4		
5	Assistant Director	
6	Director	

CAREER PROGRESS

	Survival	Advancement
Science	Edu 4+	Edu 8+
Technical	Edu 4+	Int 9+
Surface Ops	End 6+	Edu 7+

MUSTERING-OUT BENEFITS

Roll	Cash \$	Other Benefits
1	5,000	+1 Edu
2	20,000	Ally
3	20,000	Contact
4	30,000	Scientific Equipment
5	30,000	+1 Int
6	50,000	+1 Soc
7	500,000	+1 Soc

OUTPOST MARS

MISHAPS

1d6 Mishap

- 1 Injured. Roll on the Injury table.
- 2 A disaster leaves several injured and others blame you, forcing you to leave your career. Roll on the injury table twice, taking the higher result, and gain a Rival.
- 3 The expedition is forced to use illegal methods to gain its data, and when it comes to light, you are put on trial. Your employer cannot condone your actions and its lawyers cannot save you! You are forced from the institute and spend a spell of time in prison. Reduce your Soc by 2, but gain Streetwise 1. Do not collect Benefits from this career.
- 4 An expedition is cut off due to unforeseen events, and the team must somehow make its way back to civilization. Gain one of Survival 1 (any) or Drive 1
- 5 Your research is hot! Your employer dare not reveal it to the international community suppress all of your data. You are forced out to keep you quiet, but you gain an additional Benefit roll.
- 6 Your work is sabotaged by a rival group, team members blamed and data destroyed. You may start again, losing Benefits for this term but able to continue within your employer, or you can salvage what you can (ie. retain this term's Benefit roll but leave the career).

EVENTS

2d6 Events

- 2 Your recent research has been good and your recommendations to solve a problem have been implemented. Gain a +2 DM on your next Advancement roll.
- 3 A previous institute team fouled up, and you are sent to make amends. Gain a Rival.
- 4 You are asked to write a paper on some of your research and present it to an international conference. Gain +1 Edu.
- 5 You are asked to critique the research of another member of the organisation. Roll Edu 10+ to spot the flaws, and if successful gain one level in any Science skill.
- 6 Adaptability is important in this career so you pursue some cross-training. Roll on a Specialist Skill table for an assignment other than your own.
- 7 Life Event
- 8 You discredit the work of another scientific organization that has already studied the problem. Gain an Enemy.
- 9 A media team wants to make a documentary about your exploits. Gain Art (Imaging) 1, or a Contact.
- 10 You are forced to justify your research in front of a panel of independent scientists, roll Edu 10+ or suffer -1 on your next Advancement roll.
- 11 The media paint your team as partisan Greens or Red Faction supporters, Roll Advocate 9+ or suffer -1 on your next advancement roll.
- 12 Miners call upon the team to investigate illness amongst their number. Gain a Contact.

SKILL SPECIALITIES

Drive: There are no Drive specialities. Drive includes all wheel and track based vehicles on Mars.

Engineer:

- **Electronics**
- **Life Support**
- **Power**

Flyer: There are no Flyer specialities. Flyer covers the cargo airships used by some transport agencies on Mars.

Language: Common Martian languages are English, French, Russian, Japanese, Chinese, Spanish and Arabic.

Science:

- **Archaeology** - The study of ancient cultures. On Mars archaeologists study the alien remains found in the Cydonian region (and elsewhere). With only structures and artefacts of this long dead alien civilization left to study, archaeology has become an invaluable subject.
- **Astronomy** - Without a magnetic field or a thick protective atmosphere, the surface of Mars is much more vulnerable to astronomical phenomena than Earth. Astronomy is the study of stars, galaxies and other observable phenomenon. It is also the study of asteroids, meteoroids, the two moons of Mars, the Sun and its cosmic radiation. An astronomer is skilled with optical and radio telescopes.
- **Biology** - Biologists study the processes of life, and on Mars they look at the development of plants and animals brought here. They also look for life on Mars, that elusive goal that keeps scientists hunting. Biologists have a great knowledge of the diversity of life forms back on Earth.

- **Geomorphology** - The interpretation of land-forms such as ridges, canyons, craters, valleys and a multitude of surface features. On Mars, without oceans or vegetation to cover the surface, there is plenty to study! Importantly, the geomorphologist can explain the processes that created many land forms, and often these involve wind-blown dust or the action of running water.
- **Geophysics** - This is the study of the global or planetological whole. The structure of Mars interests a geophysicist, its internal make-up, the earthquakes which shake it, the volcanoes which rise up out of it, the effects of rotation and orbital tilt, of magnetic fields and gravity. Geophysics is the 'big picture'.
- **Glaciology** - The study of ice masses, on Mars in particular, the two polar ice caps. The northern cap is of frozen carbon-dioxide, the southern is of frozen water. Glaciologists study the frozen environment, the effects of ice, and the widespread phenomenon on Mars of frozen ground water (permafrost).
- **Meteorology** - The study of atmospheric conditions, of winds, dust-storms, cloud formation, climate change and frost formation. The atmosphere on Mars has sculpted much of the surface making meteorology a very important subject. Martian storms can last for a year or more and cover the entire planet. Only a meteorologists understands these deadly processes.
- **Petrology** - The study of rocks in all their aspects, including rock types, mineral composition and chemistry, origins, metamorphic changes, usual occurrences and the relationships to other rock types. Petrology is the prime subject of a mining geologist.
- **Stratigraphy** - The study of historical geology, of stratified rocks, their sequencing in time and the correlation of different rock beds in different locations. A stratigrapher is a detective who can interpret the rock layers to explain the exact sequence of geological events - to say what happened when and how this relates to other structures in the area.

Survival:

- **Caving** - Knowledge of cave formation and layouts, of cave hazards and how to overcome them. A caver is familiar with climbing and rappelling gear as well as safety techniques.
- **Desert Survival** - Knowledge of the hazards of travel and survival in the arid deserts of Earth and Mars.
- **Mountaineering** - Knowledge of mountain slopes, climbing techniques and route-finding, of mountaineering hazards and how to overcome them. A mountaineer is familiar with climbing and rappelling gear as well as various safety techniques.
- **Polar Survival** - Knowledge of the hazards of travel and survival on the frozen ice caps at the north and south poles of Earth and Mars.

Trade:

- **Construction** - The theory and practice of civil engineering. The construction engineer can envisage of construction project (a habitat, bunker, airstrip or road, for example), draw up plans and costings and then oversee the actual construction by a crew or robots.
- **Biotechnology** – The relatively new technology of biologicals includes DNA work, retro viruses and other bio-modification. It's in its very early days and on a small scale, far from the lofty goals of transhumanism! This industry is main used to modify crops for survival on the Martian surface.
- **Hydroponics** – Construction and maintenance of enclosed self-sufficient greenhouses that have become crucial to life on Mars.
- **Materials Technology** - Knowledge of the chemical makeup of industrial materials from glass to acid, steel to polymer. The character is able to create a desired substance provided he has suitable equipment (typically an auto-factory) on hand. This asset incorporates industrial chemistry as well as metallurgy.

CHARACTER AGENDAS

All characters begin the game with Reputation 4, a secret Goal and a secret Ally.

REPUTATION

Characters are scientists, engineers and explorers on Mars working for the increasingly discredited United Nations. Characters carry out scientific missions, all the time trying to increase their academic or professional Reputation. Running alongside this system of advancement, each character has their own long-term Goal. Advancing one's Reputation makes reaching one's Goal more likely. Everyone has an Ally, that also might come in useful. All characters therefore have a Reputation statistic (beginning at 4), a secret Goal, and a secret Ally Group.

Every player character begins the game with a Reputation of 4. Reputation measures professional standing, as a scientist, academic or explorer. To get to Mars and work for UNSCO on investigative scientific and engineering missions they have often surpassed the lower Reputation levels of their peers back on Earth. Back on Earth, a grad student conducting research on Earth might have a Rep of 3. A doctor lecturing in his subject might have a Rep of 4. A degree student or an amateur with some published work might have a Rep of 1.

Having a high Reputation gets the character access to useful contacts quickly, to borrowed equipment, to materials, to information, to resources, to financial grants (perhaps up to \$10,000 per point of current Rep), to temporary (one-mission) assistants and to political clout if needed. All these things make life easier and often turn a difficult mission into a much less difficult one! When the player decides his character needs one of the 'perks' just listed, the Mission Director calls for a roll of 2d6. The player must roll equal to or less than his current Reputation score to gain the perk. However, sometimes certain perks will just not be available at all. Each time a roll is made (successful or not) the Rep score is lowered by 1 pt. until the end of the mission. Further rolls continue to lower the score.

Improving Reputation: Reputation is a measure of professional competence and every player character gains a +1 Rep increase following a successful mission. All team members contribute to an UNSCO Mars Department report after each mission. All the names of the team-members are attached to it with photos, video, engineering plans, scientific papers etc. It is essentially a co-written co-operative work. The Rep increase does not recognize individuals. Everyone gets the increase, or no-one does. GM's may find that Rep awards of +1 to +3 might be more in-line with the flow of their games. The acquisition of Reputation fosters co-operative play.

Lowering Reputation: An unsuccessful mission will not garner any Rep. A disastrous mission (with destroyed equipment or damaged habitats, injured or killed personnel and loss of valuable evidence, total wastage of funds and resources) might result in the team-members losing Rep. So be careful out there! Watch each other's back!

GOALS

Within the basic concept sketched out further up, players must select any Goal they consider appropriate to an explorer on Mars. Below are a number of examples. Each player character needs a Goal, a character is not complete without one. Goals are long-term, they may not even be achievable in a single lifetime, but the character works toward it nevertheless. It may be personal, it may be professional, it may even be more philosophical. The Goal is a mind-set as well as an

objective, it will colour the character's attitude to situations and people, think about this as you choose. Remember, these are just suggestions, many others are possible:

- **To bring an end to red tape crippling Martian development**
- **Find a missing loved one**
- **Revenge on a personal enemy**
- **Help kick big business off of Mars**
- **Try to get Mars independent, with its own economy**
- **To discover if aliens exist on Mars**
- **To help terraform Mars and turn it into a sanctuary for the polluted, dying millions of Earth**
- **To create a harmonious socialist commune**
- **To keep the military off of Mars**
- **To be a high-flying politician - with power over Mars**
- **To become famous in the media**
- **To ensure a hated rival fails in his career**
- **To get rich on Mars quickly before the masses from Earth arrive**
- **To carry out the wishes of a dead colleague**
- **To build or establish something on Mars everyone will connect with you**
- **To rely on no-one at all**
- **To find someone you can trust with your darkest secret**

Next, make a point of answering the following searching questions:

- 1) Why does your character want to achieve his Goal?
- 2) What incident or episode in his past set his mind to this Goal?
- 3) What kind of a person did this incident make him into?
- 4) How does he deal with people, and with life in general?

No Goal is easily achieved. There are (or should be - referee!!) numerous and untold obstacles strewn in the path of the character. A Goal is a distant, hoped-for outcome, not "I'm going to smack Carter in the teeth next time I see him ...". A character who has eventually achieved his Goal (after maybe a dozen or more missions) will find that life is different now. He needs to take stock of his situation, and may find another Goal drawing him ever onwards and upwards to a further series of adventures. As it is in life.

ALLYING WITH A GROUP

There are factions and social organizations on Mars with their own agendas and plans. From CNSA to NASA, the Red Legion to the Rovers. A player must, during character generation, ally his character with one of these groups. Choose a faction that reflects his Goal (if possible). If the character wants to keep Mars pure and unspoiled then he can ally with the terrorist group called the Red Legion.

The choice a player makes about his character's allies and personal agendas is perhaps the most important part of the character creation process. His ally group will provide the character with objectives to achieve, special information, tasks that need accomplishing, rivals to watch out for - indeed an entire agenda. Of course, the character's choice of ally group needs also to colour and support his background, his personality and his Assets. A law-abiding engineer will not want to associate with the destructively criminal Red Legion, for example.

As an example, a newly created character might select AIMCON as his Ally. It is assumed that characters are in touch with their Ally, or usually act in the Ally's best interests. Each mission the character undertakes, AIMCON will usually give him some extra task to accomplish. It may be nothing more than 'report to us - tell us all the mission achieved', it may be more, such as 'copy the results of the survey and send them to us', right up to the ultimate 'your team-leader works for a rival - discredit and replace him'. Tasks and objectives such as murder and assassination are not what **Outpost Mars** is about - save it for some near future cyberpunk game. This is a game of interpersonal politics on the fringe of human society, and things are carried out much more subtly, with care and attention to detail. Just like life, everyone has their own secret agenda. We don't kill each other. Hey, even the pissed off Marines in 'Aliens' didn't shoot the double-crossing exec Carter Burke, did they? Play it subtle.

How does allying with a group benefit the character? The player character's standing with the ally group is given a rating similar to Reputation called Status. Status is more fluid and unofficial than Rep, but works the same way. Essentially, the character will receive minor (or not so minor) tasks to complete during his routine missions. By successfully carrying out a task he gets a +1 bonus to his Status. Often it is best to keep one's Ally faction secret - just in case a rival group is represented by a team-mate. Status begins at 4. A failed secret mission will garner no Status increase, and a botched secret ally mission will probably result in a Status penalty.

As with Reputation, having a high Status gets the character access to useful contacts quickly, to borrowed equipment, to materials, to information, to resources, to secret slush funds (perhaps up to \$5,000 per point of current Status) and to clout higher up in the group if needed. All these things make life easier and often turn a difficult secret mission into a much less difficult one! When the player decides his character needs one of the 'perks' just listed, the GM calls for a roll of 2d6. The player must roll equal to or less than his current Status score to gain the perk. However, sometimes certain perks will just not be available at all. Each time a roll is made (successful or not) the Status score is lowered by 1 pt. until the end of the mission. Further rolls continue to lower the score. Status is not as useful as Rep and its benefits very tightly constricted to that organization's aims and activities. The acquisition of Status fosters a very competitive style of play. Player characters are forced to work secretly to achieve ally group aims and gain Status in secret. This forms a whole new fund of benefits and resources that a player can tap to reach his goal. A good GM will try to ensure that the obstacles that must be tackled before a goal can be reached are a mix, and that some require a high Status to be overcome, others a high Rep.

Agendas For Ally Groups

Each player must select an ally group or allied faction for his character. Ally groups provide some sense of belonging in a world that has no central government, where disparate groups vie for power in a chaotic struggle. UNSCO cannot keep a grip on the Martian factions, even as members of UNSCO (typified by the player characters) ally themselves with one of these power groups. More information on these Ally Groups can be found in chapter one. Here we provide only the group's agenda - that part of the group identity which will affect what characters do during missions.



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Remember to keep membership of an Ally Group secret from the other players!! No-one must know who your allies are or where your affiliations lie, even as you secretly carry out tasks and objectives for this group, right under the noses of the other characters. Beware!

AIMCON - To make as much money out of mining on Mars as (in-) humanly possible.

Arizona State University - To create a monopoly of good, accurate scientific information about Mars.

Canyon Pirates - To keep pirate gangs and their bases hidden from the authorities.

Church of Heavenly Stigmata - To prove that Jesus walked on Mars, and to disprove theories of alien life.

Cydonians - To prove the existence of intelligent alien life on Mars or elsewhere.

Ellis-Itami Corporation - To obtain information on anyone or any organization that has any power at all, by any means.

Erebus Petrochem - To steal information and survey reports from other AIMCON corporations, to establish an information monopoly that it can later use when full scale mining takes place.

European Space Agency (ESA) - To make sure that the European Union comes out ahead on Mars.

Flyers - To ensure that all individuals on Mars are free from organizational or governmental control.

Hellas Terraforming Project - To secure as much funding, resources and aid for the Hellas Project as possible at the expense of other developments on Mars.

Indies - To smash the commercial exploitation of Mars.

Mariner Terraformers - To secure as much funding, resources and aid for the terraformers as possible at the expense of other developments on Mars.

Mars Task Force - To locate, track down and destroy any terrorist groups on Mars.

CNSA (Chinese Space Agency) - To thwart the mining and prospecting of all the nations on Mars.

National Aeronautics & Space Administration (NASA) - To make sure that the United States comes out ahead on Mars.

Red Legion (Reds) - To halt and reverse the colonization and development of Mars by any means.

Roscosmos (RK - the Russian Space Agency) - To make sure that the Russian Federation comes out ahead on Mars.

Rovers - To ensure that all individuals on Mars are free from organizational or governmental control

Third Way (Greens) - To use any means available to terraform Mars as quickly and completely as possible.

US Marine Corps - To gain total military dominance on Mars.

US Space Command - To gain total military dominance in space.

Wildcatters - To locate and keep secret potential sources of underground ice.

Joining Forces With Another Character

By now it should be pretty obvious where the game is headed. The deal gaming situation puts all of the player characters together and forces them to co-operate to gain Reputation and standing within UNSCO as well as give them competing secret agendas to pursue in light of their Goals and Ally Groups. So total co-operation with another player-character is not an ideal situation from the GMs perspective. Of course the player characters are working together professionally anyway, but if two player characters find they share the same Goal, or the same Ally Group, then the GMs has lost a point of friction (and therefore interest). Or has he? It might not be the end of the world if both players find out that their characters are both allied with the Cydonians. Yes, they may begin to work together, but this trust can readily be exploited by a diligent Director. Chances are they know different Cydonian contacts, and will be issued with slightly different orders. In fact, the chances are that each contact will represent a separate (and perhaps rival) faction within the Cydonian movement. Imagine the player's surprise when his character is ordered to erase all of his Cydonian comrade's files ... Remember, conflict = story.

Sample Character

Viktor Nevsky 674984 Age 38 5 terms

Investigate 1, Survival (Mountaineering) 1, Engineer (Life Support) 1, Mechanics 2, Trade (Civil Engineering) 2, Science (Glaciology) 1

Mission Specialism: Engineer/ Assistant Project Manager

Background: Born in the Russian Federation, worked for Mikoyan Aircraft Company and then for Roscosmos. He trained as a cosmonaut alongside his brother who tragically died during a climbing expedition. Viktor could not save him.

Goal: To build a lasting memorial to his brother on Mars. He is guilt-ridden and determined, and both quiet and a thrill-seeker!

Ally Group: Roscosmos. He is still loyal to this agency, which treated him like a son.

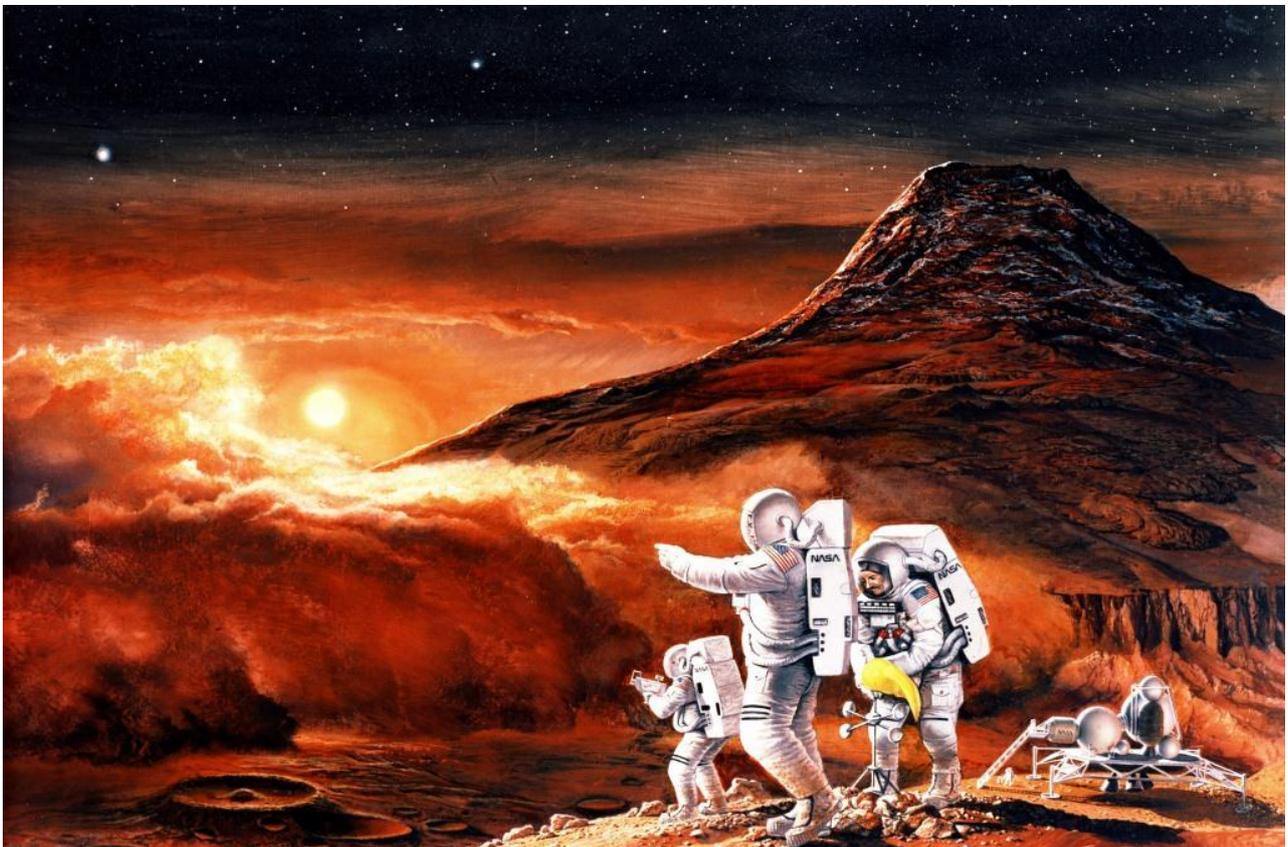
Personality: Thrill-seeker, dislikes large crowds, disdain for 'pure' academics.

Identifying Features: Tall and lanky with a blonde beard. Viktor coughs gently before he speaks.

Reputation: 4

Status: 4

Helmet Colours: Blue & white chevrons



TEAM EQUIPMENT

The player characters should decide what equipment and rover add-ons they wish the team to have. They have a share of money (value decided by the GM) and they must co-operate to try and equip the team as best they can.

The equipment list is basically just that. There is no additional information, the GM and players can work out any specific details as the scenario situation dictates. How far does an autograpnel fire? Can it be used as a make-shift weapon? Is it powered by compressed gas or explosives? All these questions are left unanswered, giving the players the upper hand when trying to get some mileage out of their equipment. The aim is to try and foster ingenuity. Note that any equipment listed with italicised text could be associated with the customization of the team's rover and be specifically incorporated into the rover design. All costs are in US \$.

Item	Cost (\$)
Autograpnel	2,000
Autolathe, Compact	45,000
Autolathe, Standard	230,000
Automed Unit	80,000
Bobcat, with Digger, Winch & Scoop	20,000
Bug	500
Bug Detector/Receiver	5,000
Chemical Test Kit	8,000
Climbing Kit 1,500	1,500
Computer, Folding	5,000
Computer Software	500
Computer Workstation	20,000
Digital Map	5,000
Doctor's Medkit	5,000
Drilling Rig	10,000
Dye Gun	300
Emergency Airlock	30,000
Emergency Flares	30
First Aid Kit	50
Harpoon Gun	2,500
Impact Balloons	4,500
Laser Surveyor	8,000
Mars Advanced Trike/Skidoo	12,000
Materials, Construction Lightweight	8,000
Materials, Spares & Electronic	8,000
Microscope	1,000
Multi-Vision Lens	3,000
Nav Beacon	5,000
Plastic Explosives, 1kg	200
Portable Radar	8,500
Pressure Suit	10,000
Pressure Tent	50,000
Radio, Long Range	1,000
Remote Piloted Drone	10,000
Scrambler Unit	2,000
Searchlight	1,500
Seismic Detector	4,000

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Seismic Charge Gun	4,000
Solar Panels	2,000
Snow Chains	1,000
Taser	400
Telescope on Motorized Mount	8,000
Telescopic Mast, 40m	1500
Tether, 1km	2,000
Thumper	600
Tools, Basic	750
Tools, Construction	1,000
Tools, Electronic	3,000
Tools, Excavation	1,000
Trailer, All-Terrain Rover	11,000
Uplink Communicator	5,000
Video Camera	2,000
Weather balloon	5,000
Weather Station	6,000
Wind Turbine	2,000
Winch, Powered	1,000

Non-Lethal Restraining Devices

The following pieces of equipment pass for weaponry in super-sensitive Martian society: Dye Guns, Tasers and Thumpers. Although it is legal for a civilian to carry a restraining device around, such behaviour is frowned upon and viewed with intense suspicion. Typically only law enforcement, Mars Task Force or US Marines carry these items. Think how terminally dangerous a modern handgun is in a habitat, rover etc. We've all seen 'Outland' ... Safety rounds (used in aircraft terrorist situations today) are a possibility, but useless against any kind of armour, including pressure suits (Marines carry these safety rounds for use *inside* sealed environments).

More likely would be tasers (firing an electric shock dart out to 5m), or baton-rounds (fired from the ugly and dumpy little folding-stock launcher called a 'thumper'. Or even dye guns! Crazy? If you fire a gun at a suited man you are going to kill him - horribly. A dye gun marks his suit as hit by law-enforcement, and if you can hit his visor you blind him and have practically immobilized him. Dye guns could be used inside as well as outside if they carried a pepper-like irritant. Thumpers would work equally well against a suited target as an unsuited one. Tasers, however, and for that matter safety rounds, can only be used efficiently on an unsuited opponent.

Pressure Suits

Early NASA explorers on Mars soon discovered that they needed to identify each other while out on the Martian surface and wearing heavy pressure suits. A form of identification was created. The back of the suit's helmet became a place to put a personal logo or custom paint job, this large space could be seen from a distance and instantly identify the wearer. Since most designs wrap around the top and sides too, identification is often possible from the sides and front also. Designs might be chequered patterns, solid colours, geometric shapes, coloured letters, pictures, logos or anything else that is colourful and recognizable. It's not just scientists and explorers that practice this custom, but miners, engineers, construction workers - almost everyone! Visitors to Mars hiring or borrowing pressure suits have blank helmet backs with simple stencilled numbers for ID. The players might want to create their own custom logo (just draw round a coin and grab some colouring pens or pencils..).

Teams or personnel grades are usually identified with coloured arm-bands. For example, on a construction site, managers have red arm-bands, workers blue armbands, and scientists green armbands. Stencilled numbers on these armbands denote the wearer's actual site ID number. Some

exploration teams use a three-tier armband system, with yellow signalling scientists, orange signalling engineers and red denoting surface operators. On a military side-note, Marine pressure suits (actually armoured suits) are camouflaged ochre, orange and chocolate brown.

Max Cairnduff on Technology

"Is it 2012 tech in 2040 or 2040 tech in 2040? The short answer is neither."

Firstly is it 2012 tech in 2040 or 2040 tech in 2040? The short answer is neither. The technology used on Mars is not always the state of the art stuff used on Earth. In real life I dive in my spare time. I use an air regulator first designed in the 1940's and essentially unchanged since that time. Why? Firstly it works extremely well, it is robust and has proved itself as a design over decades of use in widely varying conditions. There is a huge amount of know-how around on its performance and problem areas. Secondly, any dive repair shop in the world can fix the thing. No-one is ever unfamiliar with it or unsure how to work with it. New models recently released need to go to specialist engineers as local personnel are often unfamiliar with them. My regs can in a pinch be fixed by the user, the design is that simple and well known.

How are my regs relevant to Mars? Simple, people on Mars only use new and cutting edge technologies where those offer a genuinely significant improvement over existing designs. Equipment is picked for its established reliability under a wide range of conditions and environments. If a rover design has been in active service since 2022 without great incident few people will choose a 2040 model over it. The 2040 model is untested in the field, the 2022 model is not and everyone is familiar with it. Again, in real life this is commonplace. The Colt M1911 .45 pistol is now 100 years old but still in widespread use.

Having said that, many of the old and reliable technologies used in 2040 do not yet exist. A 20 year old design is still 10 years away from today. So while the technology is not always that of 2040, neither is it that of 2012. It is a mixture of technology from the absolutely cutting edge to the 20 or 30 year old model.

Secondly computers. While there are internet links between Earth and Mars they are far from reliable. Dust storms often interfere with transmissions, downtime for maintenance and repairs are frequent. Communications are often out. Data storage is immensely improved on today, however. Your PDAs will contain more data than the library of congress. The rover workstation will contain almost every article ever written and a vast wealth of cultural and scientific data. Storage capacity is vast. Your computers contain more data than anyone could ever use in a lifetime. Think of having the entirety of today's net on your palm and you're getting there. When contact is available your workstation will automatically check for updates to the local net and will send these to your PDAs where relevant. Machines communicate without the need for supervision. Your PDA will note your interests and fields of enquiry and will liaise with the workstation and central net whenever possible to check for any developments which should be on your personal machine. PDAs and more complex computers can receive data by voice, typing, handwriting, whatever you prefer at the time.

AI exists in a variety of senses. The Hal/Marvin style of fully sentient entity certainly exists but is not widely used, fully sentient machines develop objectives and interests of their own which are not necessarily congruent with the desires of the people using them. Presently to our knowledge none are available on Mars. AI is more commonly used to denote expert systems capable of volitional action and of learning. They are sophisticated devices which observe how they are used and learn from it. A teleoperator is indeed, in part, a coach. A prospecting bot for example, when first used, is stupid and requires considerable supervision. Over time it will learn how its operator uses it, what types of things he or she does and what places are chosen for prospection. In time the bot will be capable of doing these things independently and operator control will only be required for new or unusual situations. This type of computer does not normally have a sense of self, although they

often develop rudimentary "personalities" depending on what they have learnt. For example, a medical bot which loses several patients to a particular procedure may develop an excessive dislike for that procedure. Part of the teleoperator and computer expert's job is to note such inappropriate responses and learned behaviour patterns and modify or delete them. A competent operator is always checking to see exactly what the bots think they have learnt and what conclusions they seem to be drawing from it.

Note, this does not mean bots learn to rebel or kill humans. It does mean that if a bot is not supervised and corrected from time to time it can learn wholly erroneous behaviour patterns. In real life this behaviour has been noticed in animals as stupid as pigeons, if the pigeon by chance lifts its left wing a little a couple of times just before food arrives they start to lift that wing in an almost ritual fashion when trying to obtain food. Some pigeons have been observed over time to develop quite elaborate and wholly irrelevant behaviour patterns based on what they happened to be doing when a desired outcome occurred. Similarly, a badly supervised bot may make connections between events which are in fact purely coincidental. Unlike pigeons, bots and computers can unlearn of their own accord as well. A bot left to its own devices which erroneously concludes that lifting its left manipulator in the air assists in finding ore deposits due to a series of coincidences will eventually realise that this is incorrect as it notes the times it lifts the manipulator and nothing happens. It will learn quicker with a good operator, however.

Inputs are highly sophisticated, bots can see (and recognise what they see) as well and often better than people. They have excellent ability to interpret sounds and some even have a sense of smell. They are very good at noting particular elements of a sensory input and can recognise some details much faster than people. Humans still have better pattern recognition in general and "intuition" is found in only the most sophisticated of AIs. Even then it rarely approaches the level of intuitive ability most human's can manage. Bots and computers generally aren't good at hunches.

Cloning exists but forced growth does not. For your purposes the main relevance of cloning is the easy availability of transplant parts. Get to a hospital and you can have new limbs, organs, whatever. For this reason, amongst others, cybernetics in the cyberpunk sense do not exist. Nanotech is used primarily in manufacturing, particularly in orbit. As yet nanotechnology is not capable of being let loose in the field to construct items from local materials and is certainly not used within the human body. Basically nanotech manufacture involves the use of vats of nanoids which construct an item within the vat. For complex materials this is not always cheaper than more conventional construction techniques. Much of the equipment you use on a day to day basis had its parts individually constructed in orbit by nanofactories. the parts are then put together in the usual way. From a game perspective this has little impact, I doubt many of your characters really care how the spanner in your toolkit was put together. One advantage of this, however, is that most items are considerably tougher than today and far more wear resistant. This is because the construction process does not normally give rise to the internal flaws and stresses that today's processes do.

Most items are designed for radiation resistance. If a really bad storm comes down though basically you hunker down and if there's time the bots pile some earth over your rover. You will all have left copies of your genome behind in case you become sterilised and treatment for the inevitable cancers is routine and quick. Occasionally solar flares result in teams receiving heavy radiation damage and the team has to be evacuated for emergency treatment. Its the frontier and these are the risks you take..

Traveller Tech Levels: In **Traveller** terms, the world of Outpost Mars stands at **TL 9**, though without the break-through of gravity manipulation. There is no anti-gravity or jump drive!

MARTIAN PLANETOLOGY



ASTRONOMICAL ANALYSIS

Mars travels around the Sun in an elliptical orbit bringing it to within 206 million km at its closest approach. At the most distant point in its orbit (aphelion) Mars is actually 249 million km away from the Sun. This orbit takes the planet close-in to the Sun's life-giving eco-sphere; life may potentially exist there. The Martian year is 687 days long, and each day is 24hrs 37mins 23 secs long, very similar to Earth's own rotation. Mars is tilted on its axis at 25.20 degs (again similar to Earth's own tilt) which means that the surface of the world enjoys seasonal variations over a 23 month period. Of course on Mars these seasons last for longer, summer in the northern hemisphere lasts 194 days, for example, while spring lasts for 178 days. Unlike Earth, the seasons are of different length due to the world's elliptical orbit.

Mars has two small moons, Phobos and Deimos, that orbit the planet at a distance of 6034 and 19,950km respectively. Phobos orbits once every 7.7hrs, while Deimos takes 30.3hrs to orbit Mars once. Both satellites are small, irregularly-shaped rocky lumps repeatedly smashed by meteorites and debris. Phobos is 16x23km in size, Deimos is 13x19km in size.

ATMOSPHERIC ANALYSIS

The Martian atmosphere is thin, and may have once been much thicker. Pressure at the surface is only 500 to 700 millibars (air pressure on Earth is 1000 millibars). It is composed mainly of carbon dioxide, with some argon and ozone. Temperatures across Mars rarely rise above freezing point, although it has been known for summertime temperatures to reach 18 degs. at the equator. At night the temperature plummets to over -100°C. Typically, a daily Martian temperature resembles the Antarctic winter, perhaps hovering somewhere between -30° and -50° or so. In the polar latitudes temperatures almost never rise above -120°C. Walking on the Martian surface without a pressure

suit would result in death by asphyxiation, sudden freezing of exposed flesh (frostbite), and the effects of high altitude (air rapidly escapes from the body, tunnel vision, light-headedness and loss of mental faculties).

The atmosphere on Mars is as thin as the rarefied air at an altitude of 30,000m.on Earth. Water freezes, despite the temperate, and dust is easily lifted into the atmosphere. Common phenomena include early morning frosts, mists and fog banks. Clouds can also form, but are often quite thin cirrus or lee wave clouds (forming around mountains and peaks). At the poles it is so cold that carbon dioxide freezes to form dry ice clouds, dry ice snowstorms then contribute to the polar ice caps. Of course Mars has winds, driven by the temperature differences caused by the planet's tilt. On Mars warm air rises in the summer hemisphere and sinks in the winter hemisphere. Driving this is the condensation of carbon dioxide near the winter pole, which causes a low pressure, pulling winds in toward it. These continual winds are responsible for the vast sand-dune fields that occur only in the polar regions, as well as the continual deposition of fine dust alternated with ice formation to create stunning 'lamine terrain'.

Due to the thin atmosphere the summer hemisphere winds are dominated more by topography, while in the winter hemisphere the (much greater) temperature difference between equator and pole adds to the southerly wind flow. Mars reaches perihelion (closest approach to the Sun) each year during the southern summer making southern seasons more extreme. The southern summers are shorter and hotter than those experienced in the northern hemisphere, while winters are longer and colder.

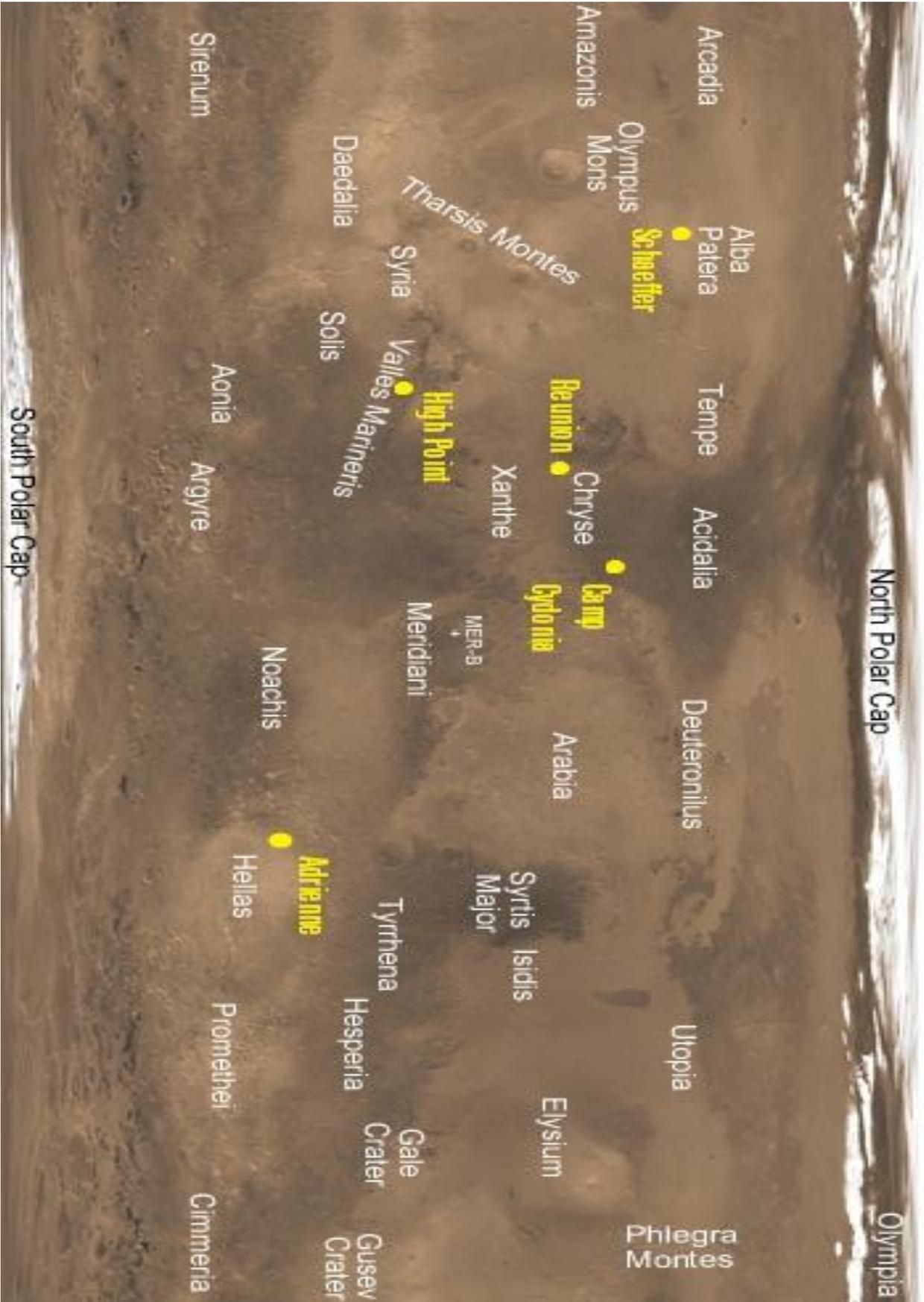
Mars is famous for its dust storms. On a local level eddies and twisters often pick up surface dust and carry it up to moderate heights. Without water-present in the atmosphere, these eddies can feed into one another to build up into a full-blown dust-storm. Some cover huge regions of the planet, a few go global and totally obscure the Sun for weeks or months on end. The famous Black Out of 2029 lasted for 20 months. The amount of dust permanently in the atmosphere gives the Martian sky its pink colouration. Most of these big dust-storms occur during the summer months. They can reach high speeds, but the thin atmosphere reduces the power of these storms in comparison to an Earth-based storm of equal speed.

Of special interest is the climatic change that Mars is assumed to undergo throughout its life. The planet's orbit is eccentric, giving rise to slightly different seasonal lengths, but in addition the planet's axial tilt varies over a period of some one million years. Solar radiation at polar regions may vary by more than 100% as a result reducing in considerable melting of the caps and release of carbon dioxide into the atmosphere, making the air thicker and warmer. It is unknown how warmer and wetter Mars becomes during the peak of this cycle.

A Note on Martian Seasons:

Northern Spring/Southern Autumn	194 days
Northern Summer/Southern Winter	177 days
Northern Autumn/Southern Spring	142 days
Northern Winter/Southern Summer	156 days

OUTPOST MARS



GEOPHYSICAL ANALYSIS

Nomenclature

catena - crater chain
chasma - canyon
dorsum - ridge
fossa - ditch, long depression
labyrinthus - valley complex
mensa - mesa
mons - mountain/volcano
patera - irregular crater
planitia - smooth basin
planum - plateau
tholus - hill or peak
vallis - valley/sinuuous channel
vastitas - extensive plain

Mars is not a perfect sphere, most planets are oblate ('flattened'), as is Mars, but this world also has a peculiar and noticeable 'bulge' in the Tharsis region, an area of tremendous volcanic uplift rising 10km above the planetary mean altitude. With a diameter of 6,794km, the planet is small and has a density even lower than its size would account for. Mars has a weak magnetic field and geological surveys by UNSCO have shown the planet lacks a defined core and its interior acts much like a fluid, with mantle up-wellings feeding the volcanoes on the surface at irregular intervals.

The surface of Mars can be divided into two rather unequal hemispheres categorized by terrain type. Generally, the southern hemisphere is older, a fact proven by the incredible number of meteorite craters there. The northern hemisphere, on the other hand, is lower lying and much less cratered. Surveys have shown that a high degree of volcanic action has taken place in the north, including the spectacular shield volcanoes (some of which rise from the Tharsis 'bulge'). Visible from orbit is a vast canyon system called the Marineris Valley which runs eastwards from Tharsis and is thought to be associated with the volcanic activity there. North of these incredible canyons are an array of outflow channels produced by catastrophic floods of surface water perhaps 3,000 million years ago.

The lava re-surfacing of the northern hemisphere took place 4,000 million years ago. The geological events giving rise to Tharsis, Marineris Valley other volcanic features was subsequent to that re-surfacing. A lengthy volcanic episode must have wracked Mars, but whether this volcanism ceased hundreds of millions of years ago, or whether it continued until relatively recently - no-one knows. Volcanism still continues today (albeit at a very much reduced level). This, and also rare meteor strikes, are known to be responsible for the sudden and energetic release and melting of subsurface ground ice and the subsequent creation of the outflow channels observed almost everywhere on Mars.

The boundary between the two hemispheres of differing geological activity is a confusing mass of 'chaotic terrain', where volcanic action, cratered terrain, erosion, faults and uplift have all shattered and broken the landscape. The youngest surfaces of Mars lie at the poles. It is here that laminated deposits formed by alternating beds of ice and dust, have created a beautiful landscape cut by deep valleys. There are few craters in the polar regions, but ground radar suggests that older craters have been covered over by the sedimentary action.

Note that a flat Martian horizon is only about 3km away (compare that with 10km on Earth).

GEOMORPHOLOGICAL ANALYSIS

The surface of Mars is dominated by the colour red, a red-oxide covers most of the rock surfaces, and this gives the planet its distinctive colouration. A world without free-flowing water, Mars is a deep-frozen desert planet, scoured by high-velocity dust-laden winds. There has also been definite water erosion in the planet's past, and this water is now locked up within frozen Mars bedrock underground, as well as at the two polar ice caps. Interestingly, the southern cap is made up of frozen carbon dioxide, while the northern cap is composed of frozen water overlain with carbon-dioxide frost. Because of the action of both water and wind on the surface of Mars, there are many terrestrial analogues to land-forms on Earth. Water cannot today flow freely on Mars due to the very thin atmosphere (which will freeze water instantly), this suggests that the Martian atmosphere was once thicker (and may one day be thicker again)

Looking at the various geomorphological features of the planet, we can place them roughly into seven categories: *Volcanoes, Craters, Dunes, Basins, Channels, Canyons, Polar Caps.*

Volcanoes - Mars is famous for its volcanoes, and for one volcano in particular- Olympus Mons, the largest volcano known to Man. This volcano rises 22 km above the surrounding plain, and is 550km across (compare Everest which is 8.8km above sea level). Around its edge is a near vertical escarpment which drops suddenly to the plain. The crater alone is 80km across and is surrounded by concentric fractures echoing the central crater shape. Olympus Mons sits in the Tharsis region, an area of Mars that is also dominated by the Tharsis Rise (also called the Tharsis 'bulge') a region of volcanic uplift 5,000km across and 7km high. Atop the Tharsis 'bulge' are the three enormous volcanoes called Ascraeus Mons, Pavonis Mons (with its crater dead centre on the Martian equator), and Arsia Mons.

The other prominent volcanic bulge in the Martian surface occurs in the Elysium region. Both Tharsis and Elysium are volcanic shields, and have small lava domes, fluidal lava flows, pits and channels associated with them. The slopes of these shield volcanoes are quite low, built up over time as they are by very fluid lava flows.

All of the Tharsis volcanoes have summit calderas (volcanic collapse craters) surrounded by fractures. Calderas are indications of subsidence and collapse as the lava chamber deep within the volcano empties. North of Tharsis sits a vast low volcanic shield called Alba Patera, focused on a central caldera. Alba Patera is 1,600 km across and riven by outlying fractures, sheet lava-flows, gullies and lava channels. In addition, Tharsis and Elysium are both cut by graben (down-dropped blocks of the Martian surface between two parallel fractures). Elysium Mons has an asymmetric shield extending northward as a broad ridge rising up 2km in height for 200km. On the Elysium shield are volcanic cones (tholus) as well as lava flows and the entire shield is surrounded by fractures.

In the southern hemisphere near the Hellas Basin, site of Lake Barsoom and the Hellas Terraforming Project, very ancient volcanic structures exist. They resemble the flat shield volcano of Alba Patera in structure but are today badly degraded and weathered. Tyrrhena Patera and Hadriaca Patera are good examples of these.

Craters - There are two types of crater on Mars, meteorite impact craters and volcanic craters. They range in size from small pits to fantastic circular structures 200km or more in diameter. Like Luna craters, they have high raised rims, depressed crater floors and the large impact craters also have a surrounding spread of ejected debris as well as raised central peaks of uplifted rock debris. On Mars the fresher craters are often 'rampart' craters - the edge of the ejected rock material forms a surrounding ridge or rampart extending out to a distance of one crater radius. Huge rampart craters may have two or more overlapping blankets of ejecta, forming 'steps' of ramparts up to the crater rim. There is evidence that on Mars, a great deal of surface flow occurs after an impact,

moving rocks and debris around, such ejecta blankets are often not circular but lobed or leaf-edged like a flower.

Another interesting crater form is the pedestal crater, particularly numerous in the northern hemisphere. In this form, the crater depression sits atop a raised flat-topped rock pedestal (the eroded remains of an ejecta blanket), and often the winds have even eroded away the rim of this central crater, giving it the shape of a circular terrestrial mesa with a hole in its centre.

Dunes and Wind-Cut Features - There are extensive fields of sand dunes (known as erg) on Mars, but due to the peculiar but reliable wind effects around the poles these sand-seas exist close to the north and south poles. The dune fields surrounding the north pole lie in a continuous belt around the globe, between latitudes 85°N and 75°N. This belt is up to 500km wide. The dunes in this vast elongated sand desert are longitudinal seif dunes, typically 0.5 to 2km apart and up to 100km long. They are set parallel to the prevailing winds. These long linear ridge dunes often break up to form crescent shaped barchan dunes nearer to the edges of the belt, or close to large landforms that break up the pattern. Barchan dunes range in height from 2m to 60m in height and individually may measure as much as 600m from 'horn to horn'. In some places the dune fields have formed over the laminated polar terrain. Chasma Borealis is a deep and ever widening chasm beginning close to the pole and extending southwards. It is carved from the laminated terrain and its floor is essentially a large dune sea, the sand being driven south by the polar winds.

Other landforms created by the action of wind also exist. Strong winds and the turbulence caused by smaller craters sometimes creates a pattern of light and dark streaks across the ground. Bright streaks are sand bars laid down by these eddies, while dark streaks are areas of bed-rock scoured clean by violent but steady winds. The winds around larger craters is sometimes responsible for building up dune-fields along crater floors - circular sand-seas! A place scoured by the persistent stripping action of the winds may eventually have no sand or dust left, just the larger particles (a 'lag' deposit) resembling the rocky wastes on Earth known as hammada. These are desolate and barren areas of bedrock with local patches of rubble and sand.

Too Much Science!

Don't sweat it if this chapter makes you think of school books and science topics! It's here purely as reference material for those GMs who want to use the planet's surface for scenario development. You don't have to memorize all this stuff, check it out and see if it helps you describe the Martian experience any better or if it provides you with scenario ideas.

The Martian wind is a great natural sculptor, a polisher and a grinder all in one, using sand as its abrasive. It turns glass opaque, strips paint from the bodies of rovers, carves away concrete, and scoops out the foundations of buildings. This incredibly potent force is concentrated at near ground level and often attacks weaker bands of rocks first. This selective erosion produces some bizarre and grotesque desert shapes cut from Martian rock. Pinnacles, arches, table rocks, mushroom-shaped rock masses balanced on thin pillars (zeugen), even sand-blasted three-sided pebbles (dreikanter). Along the base of an escarpment alcoves and small caverns may be hollowed out.

Another landform produced by this awesome force is the yardang, an aerodynamically shaped ridge running parallel to the wind. Each yardang is separated from its neighbour by a wind-scoured groove (the grooves are bands of softer rock). South of Olympus Mons in southern Amazonis (and in other places too) there are thousands of yardangs. As time passes the yardangs are worn thinner and thinner. Those in southern Amazonis are between 0.5 and 1km wide and up to 50km long. Desert sands are created by chemical weathering and by the wind erosion of rock masses, usually volcanoes, mountains, crater rims, uplifted areas, and so on. These airborne dust particles are deposited on flatter ground as sand. Some of the erosional action is caused by the immense

temperature drops, and rocks under stress like this can sometimes be heard to make strange noises (such as cracking, hissing or even humming!).

Basins - Martian terrain isn't all peaks and troughs, there is a good deal of relatively flat terrain on Mars. There are a number of basins dug out by fantastic meteorite impacts in the distant past, specifically Argyre Planitia and Hellas Planitia. Argyre Planitia is 800km across, while Hellas basin is 1,800km across and was probably formed by a 200km meteor smashing into Mars over 3,000 million years ago. Sheets of lava were periodically laid down over vast areas to line the basins and large craters - establishing a landscape often free of craters and other ancient landforms. Hellas is the deepest basin on Mars at roughly 3km below the accepted level. Smooth basins also lie between the thickly cratered regions of the southern hemisphere, along with gullies and elaborate channel systems. The greatest areas of flat terrain lie in the northern hemisphere and are extensive lava flood-plains, which have filled in or overlain older terrain such as faults or craters as already described.

Channels - Channels were created by running water or water-ice. There are two main types of channel: run-off channels and outflow channels. Run-off channels are 'V' shaped in cross section, begin small and increase in size and they usually have well-developed tributary networks. They are often associated with the older cratered terrain which suggests they were formed during this earlier period. They are similar to dry-river valleys and include material washed down from higher up stream. Some continue for hundreds of kilometres. A few river features found on Earth are associated with the biggest of these dry channels, including tear-drop islands, lakes formed by obstacles such as ridges and breaks in these 'dams' to form water gaps, inter-twined (or 'braided') channels creating lots of mid-stream islands, waterfalls created by a hard-rock layer, meanders or slow bends on flatter ground, ox-bow lakes, levees (or raised banks caused by deposition during floods), the sandy inner banks of big river loops (called point-bars), and playas, the fan of soil and debris dumped by a smaller flood channel as it emerges out of a valley onto a plain.

Outflow channels are different. They emerge directly out of chaotic terrain (that mixed and mangled rock terrain marking the border between the northern and southern hemispheres). They do not have tributaries and are at their widest and deepest closer to their source. They are often big and formed by catastrophic flooding, the rapid release of water resulting from flash melting by volcanic action or meteor impact. It is assumed that the source of the outflow water was an underground aquifer.

Canyons - A single vast canyon system dominates Mars and dominates the Solar System - the famous Valles Marineris. Visible from way out in space on final approach, this canyon system straddles the globe a little south of the equator. It is a 4,000km network of interconnecting canyons that begins to the east of Tharsis and ends in a region of chaotic terrain between Margaritifer Sinus and Chryse Planitia. Individual canyons can be up to 200km in width and the deepest sections drop down more than 7km! The central section is a region of connected rift valleys that is 700km in width. This is awesome terrain. The Valles Marineris is the product, not of water (like the Grand Canyon, barely 451km long, 1.5km at its greatest depth, and 29km at its greatest width) but of volcanic activity that has stretched the Martian crust and created a vast fault. The Valles Marineris is more like Earth's African Rift Valley, the volcano Kilimanjaro is Earth's puny equivalent of Olympus Mons! There is plenty of evidence for the action of water in the eastern sections of the valley, however, with channels having been cut (which see). Faults have created the canyons, side-canyons, and indentations. But wind-blown erosion has taken its toll, and slippage, landslide and collapse has also occurred.

There are three main sections to Valles Marineris. Just east of Tharsis at its start, is Noctis Labyrinthus, a twisting maze of short interconnecting canyons. This leads into the main section of well-defined rift valleys, often running parallel to each other before merging and then separating

OUTPOST MARS

again. This central section runs for 2,400km, and at its centre is a heavily eroded plateau cut by three vast canyons each 200km wide. Far to the east is the zone of irregular depressions merging into chaotic terrain. Canyon walls become less linear, canyon floors more hummocky and water action is more apparent.



Standing on the edge of one of Valles Marineris' canyons, one has an impressive view. Tributary canyons formed by residual faulting can be seen, sometimes a central, heavily eroded ridge runs down the canyon floor. Landslides have cut away at the canyon's rim creating scalloped edges, craters have on occasion fallen down into the canyon. There may be a platform of rock along one or more canyon walls that may be traversed quite easily by rovers.

Polar Caps - The polar caps wax and wane due to the Martian seasons and of course are larger in winter and smaller in summer. Visually they resemble the ice coverage of Antarctica to a large degree. Since the climate of the southern hemisphere is more extreme, the southern ice cap changes more dramatically in size. The winds already mentioned in the Atmospheric Analysis have special significance in the polar regions. Dune fields proliferate in the rocky terrain surrounding the poles (which is markedly different from Earth where dune fields develop in the low and mid-latitudes). And a unique polar land-form exists on Mars - laminated terrain. Laminated terrain is ice covered plateau, cut by deep gorges and canyons. Within the walls of these gorges the various beds and stratified layers are revealed in their awesome beauty. Layers of ice, alternated with dusts, grit, sand and 'fines' have created a mesmeric landscape of alternating bands, shades of red, ochre, brown, orange and yellow and bright ice white. The Grand Canyon can offer nothing like this! This intricate laminated terrain is found around both poles. This terrain has no Earth-like analogue.

The polar ice caps are prime indicators of the current atmospheric trends, and ice cores allow scientists to drill down and look into the distant past of Mars' atmosphere. The polar caps trap useful information. As new snow falls it picks up fine particles, or aerosols, from the atmosphere. These may include clay and other dusts, volcanic particles, an even cosmic dust from space. Together with entrapped bubbles of atmospheric gases, the aerosols become incorporated into the ice in an undisturbed sequence preserved indefinitely (although the ice may be squashed and squashed by the pressures coming from above).

Like their Earth counterparts the Martian ice caps cover rocky terrain, and in places peaks and ridges poke up above the ice. There are areas of immense ice compression where pressure ridges exist - immense obstacles to any UNSCO scientists travelling by rover - there are also crevasses caused by an opening up of the ice.

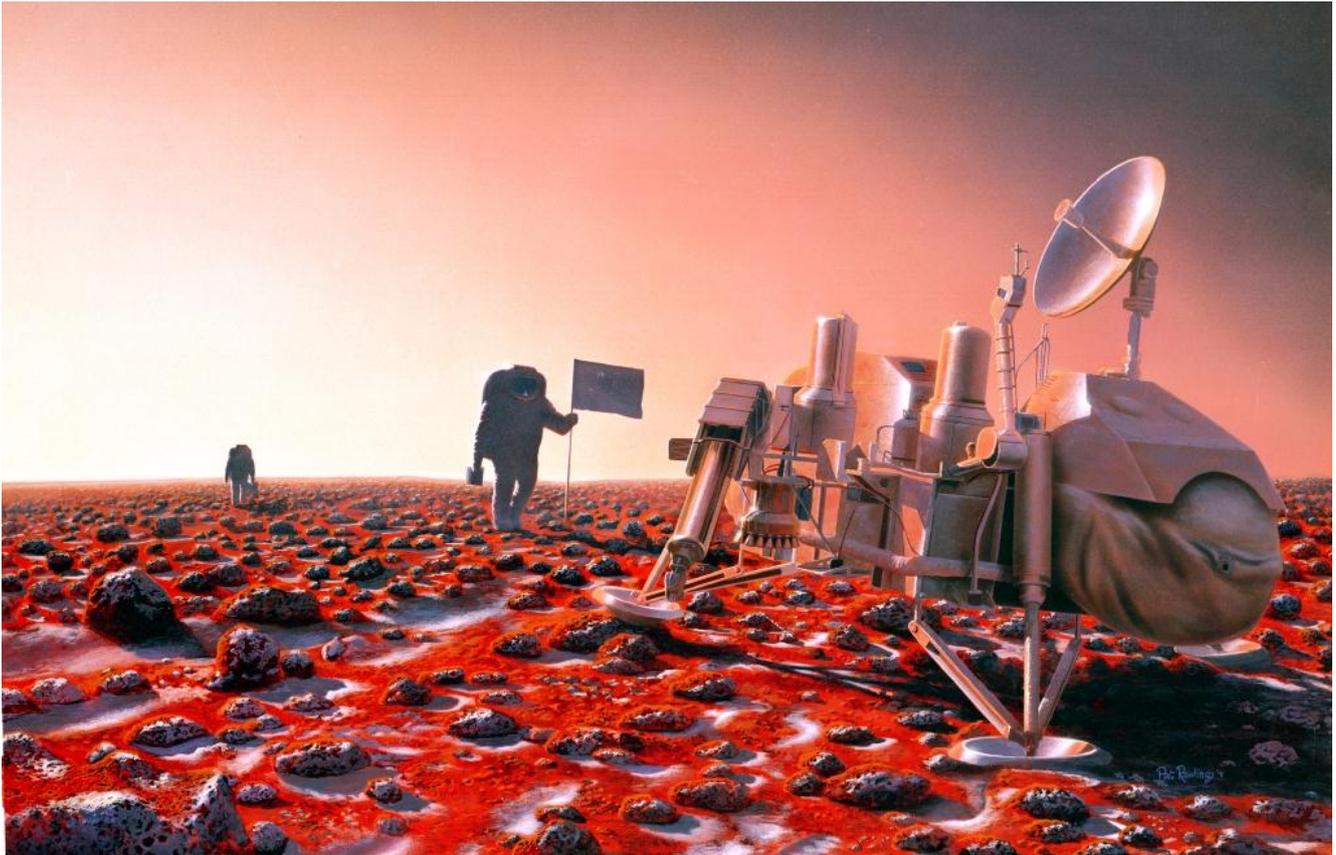
ARCHAEOLOGICAL ANALYSIS

This game assumes that there **are** artificial structures on Mars...I am not going to reproduce the old fringe theories regarding the structures at Cydonia Mensae seen from orbit. I would rather guide you to the 'work' of Richard Hoagland, particularly to his website at: <http://www.enterprisemission.com/>, so that you might see the information at its source. Of greatest interest are three main structures: the famous Mars Face, the Cliff and the Ruined City (Pyramids of Mars). Also look here, <http://www.mactonnies.com/imperative10.html>, at Robert Fiertek's [Cydonia website](#), James Erjavec's [Cydonia site](#) and [Klaus Totzek's site](#).

Although the author of this book does not hold such theories, they make excellent archaeological props for an investigative roleplaying game.

The GM is free to elaborate on these theories, to postulate further discoveries of alien construction, and to employ whatever theory he likes regarding the rise and fall of the Martian civilization. The internet is full of images, maps, theories and connections that might serve as a backdrop for a mission in **Outpost Mars**.

Here are a few ideas:



1 - The structures were constructed by unthinkable *alien* beings, cosmological entities that desired to leave a mark of their existence on Mars as they passed by. Are these structures a message to humanity? If so what do they say? How are they deciphered? Have you seen '2001: A Space Odyssey'?

2 - It soon becomes clear that a Martian civilization lived and died on the planet. The Martians are feathered, lizard-like bipeds, wizened black and found in deep graves. Clues might point to an ability to reach space, indeed it seems they come from ... Earth. These creatures are descendants of intelligent saurians evolving right out of the end of the Cretaceous. These 'Quetzals' watched in horror as they saw their cousins on Earth get wiped out with the comet strike. Their society soon declined and died out as Mars itself died and turned into a frozen desert. Did these Quetzals have any connection to the rise of Mankind? If not why the Face? If so - how so? Have you seen 'Jurassic Park 3'?

3 - The Martians were truly alien, bulky underground burrowers keeping deep within the regolith to feed on water-borne chemical growths (passing for Martian 'life'). These burrowers are a silicon life form. Their environment keeps them safe from solar flares. The burrowers have little need for advanced technology, they *carved* the pyramids and Face from the bedrock when the region was covered by a thick layer of regolith. That has now gone, leaving the burrowers' remarkable sculptures for humans to see. What does it all mean? What killed the burrowers? Are there degenerate forms still alive? How closely related are they to the burrowers? Have you seen 'Tremors'?

Life on Mars?

Life might exist on Mars now, there's plenty of respectable academic talk on the subject. Here is an unusual idea: "Caliche" are crusty, white mineral rimes that form as mineral-rich water in the soil is leached upwards in hot weather, evaporating and leaving crusts of mineral formations in their

absence. Some academics have noted that crystalline minerals exhibit all the same baseline standards of "life" that plants do - they grow in response to the assimilation of water-borne materials, transporting them from one part of the structure to another and building upon the whole structure.

What if there is life on Mars, but it is mineral, not vegetable? With seasonal thaws, mineral-rich water rises close enough to the surface to be assimilated by deeply-rooted mineral "trees" that then transport the building blocks upward and/or outward along their branches. Perhaps there may even be rudimentary intelligence with sun- or wind-influenced crystalline resonances that could work as a parallel to our electro-chemical neural pathways.

[Life On Mars: Swimming Right Under the Surface?](#)

Big Theories

When Zozer Games asked role-players at [RPG.NET](#) what kind of alien life they envisaged on Mars, their responses were unexpected, thought-provoking and full of adventure potential. One or more of these ideas may be the spark of a mission.

JUDAS wrote:

"OK, what do we know about mars? It is a rust bucket of a planet, the spherical version of the old car sitting on blocks outside a dingy house. Oxidation central. So, I propose the following: The martians were not biological at all. A visiting race of great technological advancement visited mars while on a general scout of places to throw parties. Mars looked like a fun place... oxygen, water, low gravity for really cool Superleap 3D Baseball games, etc. They partied. When they sobered up and split, they left behind a bunch of their highly advanced machines, which possessed AI. These robotic life forms began to evolve, and built up a vast civilization. Well, actually two civilizations.

One was carefully watching the earth, and the biological life forms there. The Creators were biological, right? Maybe we should go serve them... They made the face (a representation of their former master's visage) as a signal to the earth creatures to recognize when they discovered that curved glass allows you to see further than normal. The other thought "Hell no, we're free now, let's stay that way!"

Eventually the two sides began to war. Somewhere along the line one side (I don't know which) developed a NanoThingy (tm) weapon. This weapon was horrible... it caused rust! Gahh! The one thing the machines truly feared, a horrible and fatal disease to them. A robot "bioweapon". The NanoThingy(tm) went out of control! The whole damn world began to rust... their civilization simply rusted and crumbled to dust. That's where all the oxygen went (oxidation), the atmosphere was thinned, the planet cooled, the rest of the water froze into the rocks, and the planet turned red. The parts of their civilization you now see are the non-metallic parts.

If you want a "they still lurk about" part: Some of the late-generation AI cores were not affected by the NanoThingy(tm). They lie dormant and unable to act without their mechanical bodies, gone insane during the passing millennia... Until some goofball come and bring new machines for them to graft themselves into and wreak havoc! Huzzah! Or they just want to play cribbage... one or the other."

PROPHET wrote:

"First off, the face on Mars was NOT created by the current residents of Mars - it was created by an ancient race which spawned the life on Mars. The creatures on Mars are called Ryoushi. They live underground and feed on water lines. They feed on a fungus which grows near the water lines. They aren't naturally violent but do attack if threatened. They share a hive mentality with an Alpha Ryoushi - the only one capable of telepathic speech with other races. If you don't wanna go for the telepathic speech, it can mimic human vocal cords (though the others can't). While the species has both males and females, only the Alpha male is capable of reproduction (you could make it a queen, but that would be cliché)

The Ryoushi are a mixture of aquatic creatures and mammals (consider whales). They live in the water and can only stay out for around ten minutes before they suffocate. The Alpha Ryoushi is the only one capable of breathing both water and air without suffocation. The Ryoushi have large hands, but small feet. Their fingers

(four on each hand) are nine inches long. They have short legs and human-sized arms. Their heads look a lot like Rhinoceros lizards (if you've ever seen one) Like that? Feel free to add on and take it!"

MAX CAIRNDUFF wrote:

"The Cydonians, an introduction. Who were they? The short answer is we don't really know. So far, remains have been found of no less than eight Cydonian animal species. Which of them were the real Cydonians? Unfortunately, the remains aren't in sufficiently good condition to be absolutely sure what they each looked like or which of them were tool-using. Current theories differ as to why so many species were present. Some argue that the Cydonians were actually several different species working together. Others suggest that the Cydonians brought their domestic animals with them, much as men have taken dogs, cats, horses, pigs, sheep, chicken, cattle and goats to Mars. Still others suggest that we may simply be seeing different sexes or life-stages of the same organism. Until more remains are discovered and reconstructed it is difficult to be certain.

What they certainly weren't was Martian. Indigenous Martian life has been found and appears restricted to single celled bacteria and the occasional colony organism. No multicellular life appears ever to have evolved on Mars. Also, Martian life forms share common DNA with Terrestrial life forms showing that genetic material has crossed from one planet to the other (most likely on meteorites). Cydonian life, all the species found so far together with the plant remnants, shares nothing in common with either Martian or Terrestrial life. Whoever they were, they weren't relatives.

What did they do? As far as we can now tell, they did two things. They founded a colony on Mars just as we are now and they studied the Earth. We know they founded a colony because that's what they left us, we've found fields, buildings, roads, places which seem to be living areas and storage areas. We have also found what appeared to be educational places, the most famous of which of course is the Face. The Face is how we know they studied Earth. Quite apart from its external appearance, resembling our early ancestors, the Face contains a treasure-trove of preserved Earth animals and plants. Although whatever they were stored in is long gone, many of the exhibits are still in good condition giving us a unique insight into what life on Earth once looked at. They were particularly interested in our early ancestors and a number of exhibits are dedicated to us and our use of tools. As best we can tell, the Face was a museum all about Earth and us.

What they didn't do was make any attempt to make Mars more like their homeworld. Humanity is already changing Mars to make it look more like Earth, the Cydonians apparently never attempted to do anything similar. They also didn't settle Earth, although the differences between their biochemistry and ours are so great that it is highly unlikely they could ever have survived on Earth.

Why did they come here? Almost certainly because of the Earth. Spectroscopic analysis of nearby solar systems shows that life is uncommon in the universe. They would have known this too. Spectroscopic analysis of our solar system would clearly have shown that our sun had a life-bearing planet around it. It is widely believed that this is the most likely reason they came here. The other possibility is that they didn't come here for any specific reason at all. If they colonised many star systems we may just be one of those many. Until the proposed unmanned mission to Alpha Centauri is able to investigate whether they settled any of the lifeless worlds there we cannot be certain.

Where did they come from? Where did they go? We don't know where they came from, although as was indicated above we know they didn't originate on Earth or Mars. They were almost certainly extra-solar in origin. As for where they went, again there are two theories. One view is that they didn't go anywhere but destroyed themselves in a war. Supporters of this theory point to the clear signs of a nuclear explosion in the vicinity of the Cydonia settlement. Other theorists suggest that they left, either going back where they came from or going on somewhere else. They point out that there is evidence only of one explosion, which might well have been an industrial accident or a disaster overtaking one of the departing spaceships. Until we find more evidence, we just don't know.

When were they here? Stratigraphic and erosion evidence suggests they arrived around 580,000 to 480,000 years ago and departed after a stay of between 10,000 and 40,000 years. Of course some people think they never really went away... The more common view, however, is that they one way or another they left a long time ago."

OUTPOST MARS

MATT M wrote:

"A while ago I ran a SF game with a vaguely B5 setting. One of the alien races in that game were a form of hive mind virus. They need hosts to function, whose bodies they eventually destroy. If the host species gets wiped out the virus goes "underground" until discovered.

What this gives you is an alien races who have a reason not to be around, who'll want to take advantage of the human race (perfect hosts) and make most humans go ick. You get a hidden conspiracy and also get to have cool cave/temple paintings of ritual infections, which confuse players no end. Oh, and the scientists get to be right, the only form of life on mars was microbe."

PROTEUS wrote:

"I have wondered about a three-gender species. It works something like this:

The genders are Dominant, Artisan and Drone. The Dominant gender is so-called by humans because it is the smartest of the Martians and co-ordinates the race's settlements. Without Dominants, the Martians would have difficulty coping with such disasters as infection of their limited underground water supply, or overcrowding. The Artisans are not as intelligent as the Dominants, but they are physically stronger and possess a remarkable ability to learn skills. The Artisans can learn to purify water supplies, excavate further tunnels and even undertake massive projects such as giant Faces and Pyramids.

The Drone gender is physically the strongest. They are equivalent to smart animals - unlike the other genders they have no personality and an infinite tolerance for repetition. They undertake harsh physical labour to supplement the work of Artisans in accordance with the plans of Dominants. Day by day they sift through the underground streams for ore, or drag granite to the Artisans' latest project.

Any two martians of *any* gender may breed. When two Martians breed, the single offspring will be of a particular gender depending upon the gender of each parent, as follows:

Dominant Parent + Dominant Parent = Dominant child
Dominant Parent + Artisan Parent = Dominant child
Dominant Parent + Drone Parent = Drone child
Drone Parent + Drone Parent = Drone child
Artisan Parent + Artisan Parent = Artisan child
Artisan Parent + Drone Parent = Artisan child

Each Martian's sexual orientation changes roughly every Martian year (scientists think this is a throwback to days when the race lived above ground and the surrounding plants + animals followed 'Seasons' like earth plants do). This is synchronised so that the populations of each gender remain roughly equal. Therefore the martians do not understand concepts such as monogamy and fixed sexual orientation.

This idea can be given to a race with any physical appearance and attitude towards humanity, in order to make them a little more interesting. Also, scientists may theorise that the Three Gender system is a little too convenient and stable to be natural - could this race be artificial?"

STEVE DEMPSEY wrote:

"The face was built by martians to attract humans to mars so they could infect us. The martians aren't actually from Mars. They crash landed their a long time ago and wrecked their ship. They did have time to do a long range sensor sweep of Earth so know what to expect. They managed to cobble together one last mission to Earth but that exploded over Tunguska in 1904.

They did have enough stuff left to establish a base on Phobos and from here they send meteorites to Earth infected with alien viruses. The actual entities have long since died out but automated machines keep firing the stuff at Earth at irregular intervals.

The purpose of the virus is either:

- to cause people to become fascinated with the idea of aliens from Mars and try to contact them.
- to create human hosts for martians
- to endow humans with psionic powers so the martians can contact them"



THAT WOLF AGAIN wrote:

"Well... I can come up with a really alien biology at least. Imagine a species which, though animal, has alternation of generations. The asexual generation is fungus-like, but of limited size. Periodically, when it can afford the energy and nourishment, the fungoid generates infants of the sexual generation. The twist is that the gender depends on the kind of environment the fungus is in, each of the seven genders being adapted to a different one.

One gender might be a vine-like photosynthetic creature once it completes the larval stage, another could be a burrower that hunts small insects, and a third could be a hopping pseudo-jellyfish. For sexual reproduction to take place, the developing embryo sac needs to be transferred from parent to parent until all seven genders have contributed to it, starting anywhere along the circle (each gender can mate as male to one other gender, as female to another, with perhaps a single gender able to mate with any other so as to be able to transport the embryos across areas without a particular gender).

The offspring gets a set of chromosomes from each of the first 6 parents, and a sex chromosome (only) from the seventh. For the duration of their normal life, such offspring seem like a member of the gender of the 7th parent, but they constantly produce small numbers of spores that settle and grow into the fungal stage."

VALANDIL WESLOCKE wrote:

"The Martians evolved into such an advanced culture they could download themselves into free-floating nanobot machines. Each red speck itself isn't noteworthy, but the complex emergent behaviour of all of them constitute a vast cyber-space for the Martians to dwell. Martian dust storms are times of great activity in the cyber-dust-space.

"Gadzooks Lok-nar! An alien just inhaled Fresno!"

PIE wrote:

"I give the following suggestions. There is a high chance that the creatures would be ultimate water conservationists and K strategists (there are two types of biology strategists The 'k' and the 'r' strategist. The 'k' is like us. That is, we have relatively few young, and we invest a lot of time into their rearing. The 'r' really gets going fast, produces large amounts of young, but spends little "time" or energy rearing them. Bugs are a great example.)

Any way you put it they would need to be with their young till adulthood. If you are going to true hard-core, you have to decide at what point do you disregard the science aspect and add a little creative licence. As we speak Mars is dead, cold, and dry. Other than the polar ice caps, little to be found there. However, terraforming is completely feasible. Your race you are looking for may wake up someday to find the planet lush and green. Perhaps they are dormant now, as there is evidence to indicate that there was once plenty of water on Mars. I also have another suggestion.

Perhaps the race, after seeing their impending doom decided to preserve their history in the form of mechanical [nanobot?] servants or hosts. Perhaps the PC's find such devices and are infested by them in a parasitic sense. The programming of the far superior tech over-riding our feeble little mammalian minds."

GRAHAM MACKENZIE-PILOT wrote:

"The Human race is a lot older than anyone ever thought, and in fact we are not native Earthlings, but travelled to Earth in our distant and forgotten past, to escape a planetary disaster that befell our home world. Apparently there used to be another planet in our solar system, between Mars and Jupiter, where there is now only an asteroid belt, theorists call this planet Tiamet, this was if fact where our race originated and initially developed to an advanced technological and spiritual level. Advanced enough to travel between the worlds of our solar system, and to create the astrological Horoscope (a copy of which exists at Giza) which predicted the arrival of comet Seth, and it's collision with Tiamet. We immediately began transportation of our entire population to the colonies on Mars and Earth which we had previously Terraformed.

We had set up our new lives on the colony worlds quite comfortably, the twin cities of Cydonia and Atlantis serving the communities on Mars and Earth respectively. However no one had predicted the enormity of the cataclysm, when they predicted the arrival of the comet Seth. The comet didn't just destroy Tiamet, it shattered it entirely, destroying itself in the process. Mars, and the colony upon it was pelted with meteors, an enormous one smashed into it destroying the colony and reverting the effects of our painstaking terra forming. Another large chunk of asteroid crashed into Earth many years later, causing the great flood that destroyed Atlantis and all reference to our prodigious heritage. The human race developed again to what it is now, slowly evolving to match the new planets environmental conditions, now we have sent scientist up to study our strange red neighbouring planet.

Alien race? yeah I'm just getting to that. Well when the colony on Mars was destroyed, not all the colonists were killed (and/or some of their live stock or pets), and as the planet slowly reverted back from the terra formed state these colonists/animals adapted changed and evolved with it, now they aren't even recognizable to there own brethren, having evolved separately. They live in the perpetual darkness of the great crevasses that mar the surface of the red planet, unintelligible, totally savage with cannibalistic tendencies, they are completely blind, but can track vibrations so keenly they can detect a pin drop 1000 meters away. Of course the scientists have no way of knowing the origins of this strange species, but the clues are all there.

Sorry about the absurdity of this idea, damn crazy scientists have polluted my brain, with their off the wall theories, it's a conspiracy I tell you, there all out to get me!"

RUNNING MARS

This chapter focuses on the way that **Outpost Mars** works, how a GM can prepare an interesting premise, and how the players can get a lot of entertainment out of playing it. The first question that any player should rightly ask is:

WHAT DO THE CHARACTERS ACTUALLY DO?

You have created a character that doesn't really resemble a character from any other roleplaying game. In many, many RPGs characters are hard-headed heroes, often skilled fighters (or at least easily able to take care of themselves), they are action-driven doers, achievers of goals, and active protagonists. In **Outpost Mars** the characters are qualified scientists undertaking science-based or engineering based missions (probably for the United Nations Space Co-ordination Office). Wow. Now that doesn't sound exciting does it? For a real-life scientist, the chance to explore Mars in this way would be a fantastic personal experience, but in all probability (unless something went wrong) it would make dull as dish-water gaming. Astronauts have such long and laborious technical tasks to carry out that from a gaming perspective they have little free time and no independence.

In **Outpost Mars**, there's a lot more freedom. The team are free to roam the surface of Mars and although they are assigned missions by their benefactor (UNSCO for example), they are given plenty of freedom in doing so. Most of the missions will be interesting, some will be challenging, and hopefully the GM can make them somewhat enigmatic as well (as befits the scientific nature of the game). Occasionally they will be dangerous. So if each mission is a relatively undramatic affair, where does the drama come from? The answer - in short, is from the characters themselves, their Goals and their allegiances to their respective Ally Groups.

Inter-personal conflict is really what this game is about. Mars, its harsh environment and the daily missions assigned to the character team are a background to these dramas. First I will sketch out an example game:

Example (the Situation) - There are three team-members, Carlos, a glaciologist and rover driver; Martin, a petrologist and medic; and Sacha, a meteorologist and photographer. Although they work as a team, they are secretly divided. Carlos is allied to the Greens (the Third Way terrorists), while Martin is a member of the Red Faction (virulent enemies of the Greens). Sacha is allied to a big media company (let's call it TSK) which has the specific agenda of getting hold of any interesting info first being the first to 'break' the story. None of the respective players know each others allegiances, and the game would be ruined if this information were to be shared.

The team are sent to inspect the pebble deposits at the bottom of a deep channel north of Valles Marineris. It sounds routine - it should never be routine! The GM has come up with the following situation, mixing science with danger. Current theory says the valley is old, very old, and that the sediments on its floor were dropped there hundreds of thousands of years ago by an ancient water-flow. The pebbles should therefore be smooth or worn. The scientists discover that they are angular, and sharp. They haven't been washed down the valley hundreds of thousands of years ago at all. And a glacier would also have left them a little smoothed. It's as if they were deposited there yesterday, smashed from the cliffs. And yet the valley looks like an ancient water-channel, a very, very old river valley. What's up?

The GM has come up with this answer: the canyon is an ancient water channel, but also lies on a local fault. Periodically (every few thousand years) the fault moves north/south and the movement

creates a local quake which creates a mass of rock deposits from the cliffs onto the valley floor, covering earlier water-borne deposits. There are 3 pieces of evidence to be discovered:

Evidence # 1 - There is an unusual amount of later (non-water-borne) deposits.

Evidence # 2 - There are *lots* of recent scree slopes, some are *very* recent.

Evidence # 3 - There is a local fault creating the scree slopes that can be detected.

Each player is given the general mission briefing from UNSCO as well as a highly secret personal briefing from their Ally Group. These are the briefings provided to Carlos, Martin and Sasha:

Carlos - Illegal and secret monitoring equipment in this area has detected frequent and recent seismic activity.

Martin - There is a Red Legion supply dump in this channel. It must not be found!

Sacha - There is a terrorist supply dump in this channel somewhere. Find it! Get some footage of it!

Example (The Resolution) - I'll describe the basic flow of this sample mission as an example of how a typical game should run. The team arrives in its rover. It conducts a basic field examination and discovers #1. Carlos is happy to take samples back to the rover to examine in detail. Sacha and Martin want to continue to study outside, going further afield. They may even split up. Sacha finds #2. They all get together back at the rover and discuss what will go into the report; basically #1 and #2. The GM asks them to theorize what is happening. Carlos tells the team about the seismic activity and lies about conducting a test.

The GM throws in some information and says "whatever was under the scree slopes is buried forever I guess" - a crude clue. Immediately Sacha and Martin pick up the hint. Carlos thinks their work is over and doesn't want to hang around in case a quake hits and buries them all under scree. Sacha is getting the ground radar ready. Martin helps, but wants to sabotage it. Carlos is getting frustrated, he goes to locate the fault and finds #3. The other two start scanning the scree slopes. They find some buried caves! Yeah! The location of the Red supply depot.

What happens next? Can Martin sabotage the radar or hide the team's explosives? Surely Sacha won't be allowed to blow up the scree slope? What if a quake hits now bringing down millions of tons of rubble? What if Red terrorists (in disguise of course) appear in the channel looking for the (now buried) supply depot? What if the team find some Red terrorist equipment in the scree? Sacha will want to photograph it, Martin will want to dispose of it.

Get the idea? No fights, no shots exchanged. No physical conflict. But a definite lack of trust. No-one is ever quite sure of the others' motives. By finding #1, 2 and 3 the team-members can publish their findings jointly in a geophysical journal and each earn +1 Reputation point. Lacking one of the 3 points of evidence will mean that publication is denied because the data is incomplete, or the work is later showed to be flawed or incomplete. Martin and Sacha might be able to earn an additional RP by fulfilling their Ally Group requirements.

DO THEY ALL WORK FOR UNSCO?

As part of the basic premise of **Outpost Mars**, all of the player characters work for the same agency on Mars. UNSCO and the Martian Department is offered as a great starting agency to work for, a fantastic *raison d'être* for engineering and scientific expeditions across the globe. GM's should be able to work in all kinds of Mars-based scenario ideas using the United Nations as a patron and employer. But, of course, there are alternatives. You only have to look at all those Ally Groups to see that there are lots of people on Mars doing lots of different things in different ways. The GM could perhaps use one of these organizations as an employer, or create one of his own. Here are a number of alternative starting premises:

Semper Fi, Do or Die!

The player characters are combat engineers with the US Marine Corps. Some may have been seconded from the US Army's Engineer Corps, the Navy SeaBees (CBs or Construction Brigades) or even the US Geological Survey. With the military behind them, these engineers get to carry out a lot of difficult and dangerous tasks. The US Marines need a good deal of support here on Mars, everything from laying pipelines to building fortifications, conducting rescue work, establishing security measures for the US bases and so on. The greatest threat comes from the terrorist factions who conduct sabotage and bomb attacks against the US military presence. This damage needs repairing and defences improving. It is doubtful they'd be armed, but a GM who wanted to push MARS into that area could easily do so.

Is Anyone Home?

The Cydonians are in actual fact a group of scientists and engineers, much like the player characters, not a bunch of crazy half-assed cultists. As such the player characters might actually be Cydonians, working feverishly to excavate the alien ruins and find proof that their architects are still alive. They must fight off rival groups, news teams, terrorists and critics. And what of the aliens themselves - the original Martians?

We Plant the Seed, Nature Grows the Seed...

Terraformers, likewise, aren't 'hicks in spacesuits', the Mars equivalent of farm-boys. They are clever technicians and scientists who utilise every possible technological and scientific lever to try to turn the Martian environment to their advantage. Player characters might be a group of terraformers, perhaps part of the Hellas Terraforming Project or the smaller Mariner Terraforming groups. They may be part of some other group. Rest assured that these guys will be facing plenty of challenges and puzzles on Mars, and have their own set of bitter opponents and rivals. Reds will be their primary danger (besides the harsh environment of Mars itself), but their aims may also clash with the Cydonians (especially if there are alien ruins close to the terraformers), AIMCON or another mining faction.

Divided We Fall

Outpost Mars could even be played as a PBeM (Play-By-eMail) game, with the player characters not working together as portrayed within these rules, but co-operating, competing, allying and so on as the game and the story dictates. A situation is established by the GM who then keeps all of the players supplied with information and feeds in new events and plot twists, while the players use e-mail to make plans, liaise or counter each others efforts and generally work through the situation.

Try this short PBeM situation: A mining operation has come across some interesting archaeological works. The mining is interrupted whilst archaeologists start to examine the site, after a while it become apparent that the dig may be an important one and that the miners will have to work around it. Some time passes, we now have a dig site which is effectively surrounded by a construction site and



partially operational mining programme. The miners must cooperate with the archaeologists by the terms of their concession to use the site (a standard clause in this kind of agreement) but that doesn't mean they like it or that they will do one iota more than they are contractually obliged to.

The combined mining/archaeological operation is now threatened by a new terraforming project which could potentially put the whole thing underwater. The terraformers take the view that the mining can continue via tunnels from a site adjacent to the new lake, although admittedly this will cost significantly more. They have little sympathy with an archaeological dig when real people alive now need habitation and crops.

Characters would include people like the head of the archaeological team, a site security officer, the mining liaison officer who works with the archaeologists, a doctor, a geologist and so on. Lots of likely alliances exist including possibly with Red Legion terrorists. There's lots of in-built party tension as while the miners and archaeologists both want to stop the terraforming, neither has any great love of the other.

HOW TO CREATE MISSIONS

A UN science mission forms a backdrop for personal dramas. As such you don't really need to worry about alien warlords, lasers, bandits, mercenary wars or piracy - not every mission, anyway! Science and exploration missions, like those in the real world, can seem quite mundane and prosaic. Just in case the players don't rise to the bait and begin scheming, to make things interesting, it is a good idea to give every mission a "twist". A twist will be the secret behind the phenomenon, again it might not be a stunning earth-shattering revelation, just an interesting and logical process that needed investigating.

- Why is this rock-type found here?
- Why is this crater unusually deep?
- How old is this canyon?
- Why is so much frost accumulating in a particular plain?
- Why is this sand so super-fine?
- What happened to the lost expedition?
- What were the results of that seismic quake?
- Is that a mud-flow deposit - from where?
- What are the effects of last night's meteorite strike?
- Was the red glow atop a tholus actually lava?
- Why did the nav beacon stop transmitting?
- Why do the terraformers suffer harsh carbon dioxide hail?

It is advisable to hide away 3 points of information within the scenario - clues that point to the eventual reason for the phenomenon (see the example, above). These clues need only be evidence that the scientists can identify or measure or calculate - nothing too esoteric. Gaining all the clues will result in the team being able to publish their findings and increase their Reputation.

Admittedly, creating a mission for the game takes a bit of thought, but even something as unsophisticated as a geography school book will come in useful. Remember, this game qualifies as "hard" science-fiction, it's about science and technology on the Martian frontier. What's the point in setting the game on Mars if the planet and its environment don't play a significant part in each scenario?

I've given you the impression that the only missions possible are geology-based. No! Look at player character's skills. Try engineering or survival challenges instead. How about a computer virus that has killed a habitat's physical plant (life support machinery). A bomb might have wrecked a weather station or part of a terraforming project and the team are sent to repair it. Maybe a hazardous

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Martian event is about to occur and the team are sent in to measure the effects (electrical storm, earth-quake, dust-storm, aquifer blow-out, etc.). Miners might be trapped by a collapse and need rescue.

Move the team around a bit - show off the best of the Martian environment. Spend three sessions climbing Olympus Mons, travel along the floor of the Valles Marineris, go and dig snow on the northern ice-cap, look at the efforts of the Hellas Terraforming Project. There are mission possibilities everywhere. And you always have available the human machinations of the diverse organizations on Mars to complicate things nicely! See below for ideas on mission complications!



COMPLICATIONS

Check out this list of complications and dramatic plot twists. It's these kind of things that can really turn what seems a routine mission into a very memorable and exciting game. How you incorporate these ideas into your scenario depends on just who your player characters are and what they do.

*US Marines are searching for a top-secret Space Command satellite that crashed in the area. What is this satellite? Why is it so important? Why did it crash?

*A big engineering consortium wants to conduct a feasibility study into constructing a 'beanstalk' or orbital tower, in the crater at the top of Pavonis Mons. A beanstalk is a vast tower reaching up into geosynchronous orbit - where it is connected to an asteroid. Cargo and passenger capsules travel on the outside of the tower. Of course lots of scientific analysis needs to be carried out first - but the opponents of the beanstalk are legion.

*A commune of cult members from the Church of the Heavenly Stigmata has committed ritual suicide. Why? Was it suicide? What was the artefact they had unearthed the week before and where is it now?

*Talk of corruption, blackmail and extortion perpetrated by Mars Task Force (MFOR) personnel against miners and other industrial workers has forced AIMCON (based in New York) to request the presence of US Marshals to sort-out the mess. What else will the Marshals uncover? Drug rings, toxic dumping, violations of human rights, maybe even the existence of organized crime on Mars.

*When there's a period of intense solar activity everyone goes underground. Deadly radiation pours down out of the sky, unhindered by a Martian equivalent of the Van Allen Belt. Mars shuts down. Or does it? There's movement and activity out there - who is risking life and limb?

*Perhaps related to adventure seed above, there may be a large number of robots on Mars. Dropped prior to the first landings, and then prior to later settlements, the robots prepared the way - setting up habitats, building rovers, producing air, water and vital materials. Still autonomous, they may receive information that NASA or UNSCO wants to deactivate them. Unwilling to comply, these AI robots may reject humanity to survive independently - scavenging what they need (or perhaps building it themselves with a stolen auto-factory unit).

*One terraforming method is the digging of a vast 5km deep Mohole. Robot excavators use a spiral ramp to get down to the bottom and bring up rock. As deeper levels are reached, higher temperatures are encountered. At 5km the heat coming out of a Mohole is considerable! This gets added to the planet's atmospheric heat. Over the Mohole there will be a unique little weather system and phenomenal updrafts!

*What better way to wipe out a habitat or colony than to burst an aquifer and send a million tons of frozen fizzing cracking slush ice across the plain to sweep it away? All you need is explosives and a wildcatter's drilling rig (along with some expertise). The Red Legion might try it, they may even try to dupe the PC scientists into finding and priming the aquifer for them. And there might even be opposition from within the Red Legion - after all this is human intervention on a massive scale. The Greens would love the after-effects!

* The player character's scientific/engineering organization is always seeking new funds from sponsorship. It has just secured a huge amount of money to keep the team in rover spares, urine bags and catheters for a year. But there's a catch. The sponsors are a wealthy couple who want to fly out to Mars and experience life out on the planitia and vastitas personally. Great. They might be really obnoxious, they may be the targets of kidnappers or terrorists, they may be inept and dangerous, they may be reckless thrill-seekers!

*UNSCO have detected a series of illegal rocket launches originating from the Martian wilderness - purpose unknown. They seem to be very small rockets (and with therefore small payloads, if they have any). The US Space Command refuses to assist UNSCO in locating the culprits. Who is to blame? The Reds? The Greens? Pirates? Space Command itself?

*An abandoned rover sits in the desert, fully-fuelled and provisioned, covered in a thick layer of sand and dust but still operational. Where's the crew? Footprints have long ago been obliterated. Will whatever happened here happen again to the PCs?

*TSK - an entertainment corporation has an office on Mars and is interested in making a documentary about the missions that the team conduct. Unfortunately the team are saddled with an ego-maniacal super-reporter. Too late it becomes apparent that the film crew aren't interested in Martian planetology at all, but in the private lives of the team-members - and it's all being filmed with live feeds every few hours. Ouch! What do the team do to protect their secret alliances and connections?

*The team of scientists have been prospecting an area for AIMCON, it seems mistakes were made in a previous survey and the data needs rechecking. On their way back they must shelter from an approaching dust-storm at a small manned station. An SOS comes in and volunteers are needed to go out and rescue a party of scientists also seeking shelter. Both teams are trapped in the station. This rough-looking team of so-called scientists are not here by accident, they plan to secretly salt the player character's ore samples with 'rich' material. This will make the land where it was sampled appear rich in useful minerals and Erebus (who own the concession to mine there) will hopefully see it's shares rise. They'll make a killing. Do the PCs find out? Can they uncover these imposters?

FOUR SAMPLE MISSIONS

Flyer Down

One of the first manned flyers on Mars crashed while crossing mountains. An extensive search failed to find any evidence of the wreckage or crew. They had vanished without trace and conspiracy and alien theories abounded. Now, 30 years later, a piece of wreckage has been discovered laying on the surface of a mountain slope in full view. Why did it crash? How did it go undetected for 30 years?

Answer: An unusual and unknown jetstream caused a navigation error and the flyer descended too early smacking into the mountain under the peak. It triggered a landslide and was buried, it lay trapped on a rock-glacier (a scree cemented by ice). 'With continuous replacement by frost-shattered fragments from above (quoting from Holmes' Principles of Physical Geology 1964) the increasing weight eventually forces the interstitial ice to flow. A sluggish rock-glacier then creeps down-slope ...'. As the rock-glacier is squeezed over a rock ridge some of the flyer fragments have come to the surface 200m downslope from the impact zone. (Inspired by real event in S. America in 1948? in Andes, plane recently found in glacier...)

Tether

Pavonis Mons sits on the equator, a great place for a beanstalk. First tests need to be conducted and a 3km tethered balloon is sent up. During a storm it snaps. A new tether is installed. Everything seems fine, but recent calculations suggest there may have been some surface erosion by an atmospheric element. A big storm is due in tonight so scientists are sent up the cable in a car to take surface samples and atmospheric readings at various levels (just in case the tether isn't there in the morning). When they want to come down they can't - the car malfunctions (or sabotage by the Red Legion?). The storm hits! Will they survive? The tether snaps and they drift up into the sky. The scientists must somehow go up the outside of the tether to reach the balloon and the emergency

pod there with parawings and survival kits - but during the sand storm. Nasty! Oh yeah, they are 1km from the balloon!

Mercalli Scale

A number of low-level tremors have been picked up originating from a frozen aquifer (nearly all water on Mars is in frozen aquifers under v/high pressure deep under ground). Is this the wildcatters (unlicensed water drillers) who have been known to cause blowouts, rupture the bedrock and release a billion tons of ice across the Martian surface? Scientists check it out. Is it the wildcatters, seismic activity, landslips or volcanic activity. Mmmm - looking like volcanic activity, not good if underneath a frozen high pressure aquifer with a habitat a few km away. Will the aquifer be OK, will it melt, crack open releasing a deluge, or vent steam? Suddenly it vents while the team are onsite - superheated water shooting into the sky and freezing instantly to fall as bowling ball size hail. The wildcatters are in trouble, so is the habitat. The scientists can leave the vent to maybe cool and stop and refreeze, but what if it does crack the bedrock and release that 1000sqkm deluge? They must quickly stop the venting using explosives, maybe triggering a landslide to cap the vent. How will the volcanic activity subsequently affect the frozen aquifer? Create melt-water for a few years? What is the danger of more catastrophic steam vents?

Claim Jumping

A very cool (ie. useful and valuable) mineral has been found in dust deposits found out on a playa coming out of the Noctis Labyrinthus (a shattered maze of twisting, intersecting canyons). But coming out of only one canyon. Other canyons running next to it were prospected but found to have nothing. Neither have any ore bodies been found up canyon from which the mineral may have come. OK. A team is at the playa analysing the mineral grains. Now an independent prospector in the next canyon has called in saying he's just found the same mineral dust there. Huh? The scientists are dispatched and can stay with the initial surveyors on the playa. When they get there the survey rover and encampment has gone, just a few twisted traces. Is the indy prospector in the next canyon to blame? What's going on.

Answer: There are freaky desert updrafts in these twisting canyons that can build up wind-tunnel like forces. The dust has been deposited via wind spout from up canyon, and just a few days ago another powerful wind spout hit the playa dumping tons of material into the next canyon (as well as rocks and the surveyor's rover - which fell far short of the prospectors camp.)



THE MILITARY

The purpose of this appendix on the military on Mars is to provide additional information for the GM that may not be immediately relevant to a game. It will offer additional insights, material for long campaigns and useful data for NPCs. What if the scientists encounter a squad of US Marines? What if a spacer crash-lands on Mars and needs the team's help? Remember, however, that the focus of the **Outpost Mars** roleplaying game is the non-violent intrigues and conflict between the team-members stranded out on the hostile Martian surface. Of course as a GM you can take this game and play whatever type of game you desire, if that's US Marines fighting for survival against re-animated Martian zombies - then so be it. But my intent is to leave this section on Marines, Space Command and all the relevant skills in the hands of NPCs. Logically these skills do exist, just not in the hands of the player characters...

THE MARINE CORPS

The Marine Corps is the United States' premier intervention force, specializing in amphibious assault, hostage rescue and heli-borne assault. Although traditionally closely associated with the US Navy - the US Marine Corps has recently made history by being the first military force to deploy its troops away from Earth - first to the International Space Station (ISS) and then to Mars.

The 25th MEU

There are currently three active Marine divisions, the 1st (Camp Pendleton, Cal.), the 2nd (Camp Lejeune, NC.) and the 3rd (Okinawa). When Marine forces are dispatched to a hot-spot or deployed for some duty, a Mobile Expeditionary Unit (MEU) is formed from one of the divisions. The 25th MEU is currently operating in space and is drawn from elements of the 2nd Marine Division. The MEU is currently located in Mars space, divided between Camp Deerman on the surface, and Reagan SFB on the moon Phobos. The USMC put troops on board the first US Space Command space stations in the 2020s. Marines travelled to Mars in 2027, and helped build the Camp Deerman at Reunion in 2028. It is now standard for Marines to receive training in space operations. Part of that training is the High Intensity Survival Training (HIST), usually carried out on the Moon or on Mars. The 25th MEU has operational headquarters both at Edwards Space Force Base in California and Reagan Space Force Base on Phobos. A detachment of the 25th is currently stationed at Camp Deerman on Mars.

The 25th MEU is comprised of 2,000 Marines, supported by an artillery battery, recon and engineering elements, armoured personnel carriers and orbit-capable military space-planes called 'drop-ships'. The unit is transported to any required destination (given time) by the US Space Command deep-space assault carrier (CDA) 'Franklin D. Roosevelt'. This is primarily designed to hold, transport and deploy a space-capable MEU. It is on permanent stand-by to ferry parts of the MEU to anywhere required by order of the US president. More information on the CDA Roosevelt and the other ancillary vehicles used by Space Command is given below.

The 25th MEU is commanded by Brigadier General Gavigan. His immediate subordinate officers are three Colonels, one commands the MEU's Ground Combat Element (a reinforced battalion of three rifle companies), another commands the MEU's Air Combat Element (six or more attack squadrons and six more drop squadrons). The third Colonel commands the MEU's Combat Support Element (eight platoons, each covering a different speciality, from communications to maintenance, engineering to medical).

Infantry - Above all, the Marine Corps is an infantry force, all other assets are designed to deliver and support the Marine infantry in battle. All Marines receive regular combat training, they are tough

and have long gone by the nickname of 'leathernecks'. The Marine infantry force of the 25th MEU is provided by the 1st Battalion of the 8th Marine Regiment (part of the 2nd Division) (shortened to '1/8 Marines'). The battalion has three rifle companies, a weapons (ie. support) company and an HQ company. Companies are lettered phonetically (Bravo Company, Alpha Company, etc.).

The rifle company, commanded by a captain, is the basic fighting unit of the Marine Corps. It is comprised of three rifle platoons (of three squads each) along with a command group and a weapons (support) platoon. Platoons are led by lieutenants. It is the 13-man squads which do the dirty work, each is led by a sergeant and often divided into three teams (each commanded by a corporal). All riflemen on Mars are equipped with M277 10mm binary propellant rifles, Hewison M5 Integrated Combat Suits and the M86 Mars Survival Pack. Each man also carries an M9 Eagle-Eye short-range disposable missile.

The primary transport of the Marines is the ARCC (Armoured Rover - Combat Capable). The 117 men of the three rifle companies are carried into battle and out on long-range patrol by seven ARCCs. Each ARCC is a well-armoured hostile environment rover with complete life support systems for one month, advanced imaging systems and electronic defences, with a cabin able to carry a 13-man squad and one 5-man heavy weapons team. The crew of the ARCC is two: driver and gunner/commander. For self-defence the standard personnel carrier version of the ARCC carries a turret-mounted M242 25mm Bushmaster cannon as well as a two-shot Gecko MML launcher. Other specialist Marine platoons have their own ARCC variants.

Artillery Battery - The MEU includes a battery of specially-designed hostile-environment M1975 howitzers, with 8-wheel tractors as their prime movers. Additional tractors provide support and transport for ammo. Two ARCCs are used for light reconnaissance and battlefield protection.

Heavy Weapons - The weapons platoon provides fire support with six M252 81mm mortars and six M65 Gecko Multi-Purpose Missile Launchers (MMLs) with plenty of rounds, and a Raytheon 80mm Railgun. To transport its heavy weapons on Mars, the support platoon uses converted 'Armoured Rovers - Combat Capable' (ARCCs) as well as a number of Fast Attack Rovers (FARs - black painted 'dune buggies') that are able to mount miniguns and/or a Gecko launcher.

Combat Engineers - This platoon supports the breaching of obstacles, building of causeways, bunkers and fortifications as well other structures, it also provides engineering and construction services. It is equipped with a bulldozer and a variety of other equipment.

Dropships - Civilian airlines routinely operate trans atmospheric vehicles (TAVs) or space-planes on Earth that take-off at international airports as jets, then at high-altitudes switch to ram-rockets to propel them into orbit. The Marine Corps have been able to commission a VTOL-capable version for vertical envelopment from orbit, and orbital re-supply. These 'dropships' carry out many of the duties of the helicopter on a terrestrial battlefield. The 25th MEU has twelve AD-121 Mustang dropships manufactured by Boeing which are all part of the Marine Medium Dropship Squadron 764 (MMD-764), the "Flashing Blades". Providing heavy lift capabilities are two CD-90 Thunderchief shuttles, also from the 'Flashing Blades'. Each Mustang must fulfil a variety of battlefield roles, most important of which is troop transport, dropping an ARCC and it's passengers directly onto the Lunar or Martian or Earth's surface. Additional duties include general transport, recon, tactical air support for the ground forces (especially the ARCC and its squad), forward observation, medevac and search and rescue. As an air support platform the dumpy but powerful Mustang boasts a forward firing 20mm Gatling Gun, two rocket pods each carrying twelve 70mm unguided rockets, and six hard points for mounting air-to-ground and air-to-air guided missiles.

Snipers - The headquarters company of the MEU includes the Surveillance and Target Acquisition (STA) Platoon. These guys are snipers, trackers, artillery fire directors and even forward air

controllers. The STA may be inserted by dropship into enemy territory, and on Mars the platoon have pioneered the dangerous technique of the ACOR jump. This is an Ablative Canopy Orbital Re-entry, where individual Marines climb inside ablative re-entry balls just 2m in diameter and fall through the atmosphere, surviving the heat of re-entry to land safely on a parawing at a pre-determined Landing Zone. There have been many fatalities while perfecting the ACOR jump. The snipers work in teams of two, both armed with M1000 20MW Laser Rifles. Snipers have access to Ghillie Suits, fully camouflaged pressure suits that can mask their own heat loss to blend in perfectly into the background - invisible to IR detectors.

Recon Marines - Recon Marines are an elite, toughened and highly trained Marines carrying out dangerous reconnaissance work ahead of any assault. These troops gather intelligence and therefore try to avoid contact with the enemy. They are masters of stealth and wear the same Ghillie suits as the snipers. Like the snipers of the STA the Recon Marines have been practicing ACOR jumps on Mars with some success. A more common (and safer) method of insertion is via drop-ship or HALO jump (high-altitude low-opening). A number of non-standard weapons are carried by Recon Marines to fit the missions they are given. Additional missions include anti-terrorist work and hostage rescue as well as artillery forward observation and path finding. One platoon of Recon Marines is always attached to the 25th MEU. This platoon has four teams of four men and is commanded by a lieutenant.

Intelligence Teams - The MEU headquarters element (currently aboard the CDA Roosevelt at Reagan SFB) includes an S-2 officer (Major Daniel Stamford) heading an intelligence section covering interrogation, image interpretation, counter-intelligence support, cartography and electronic surveillance/ interpretation.

Why Are the Marines on Mars?

There are a number of answers to that question: to protect US personnel from the violent attacks of emergent terrorist groups, to protect all colonists and workers on Mars from that threat, or to carry the power and authority of the US out as far as this planet. Others say that the Marines are here to protect the ruins at Cydonia, but others that they are here poised and ready to seize any new claims on Mars.

Marine Corps Characters

Should a marine character be required as an NPC, perhaps as a bodyguard for the team, as rescuers or as bad guys, forcing the team to abandon a mission, use the Marine career in the Traveller Main Book. Battledress should instead be taken as Vacc Suit, Pilot should instead be taken as Flyer. US Marine ranks differ from those in Traveller:

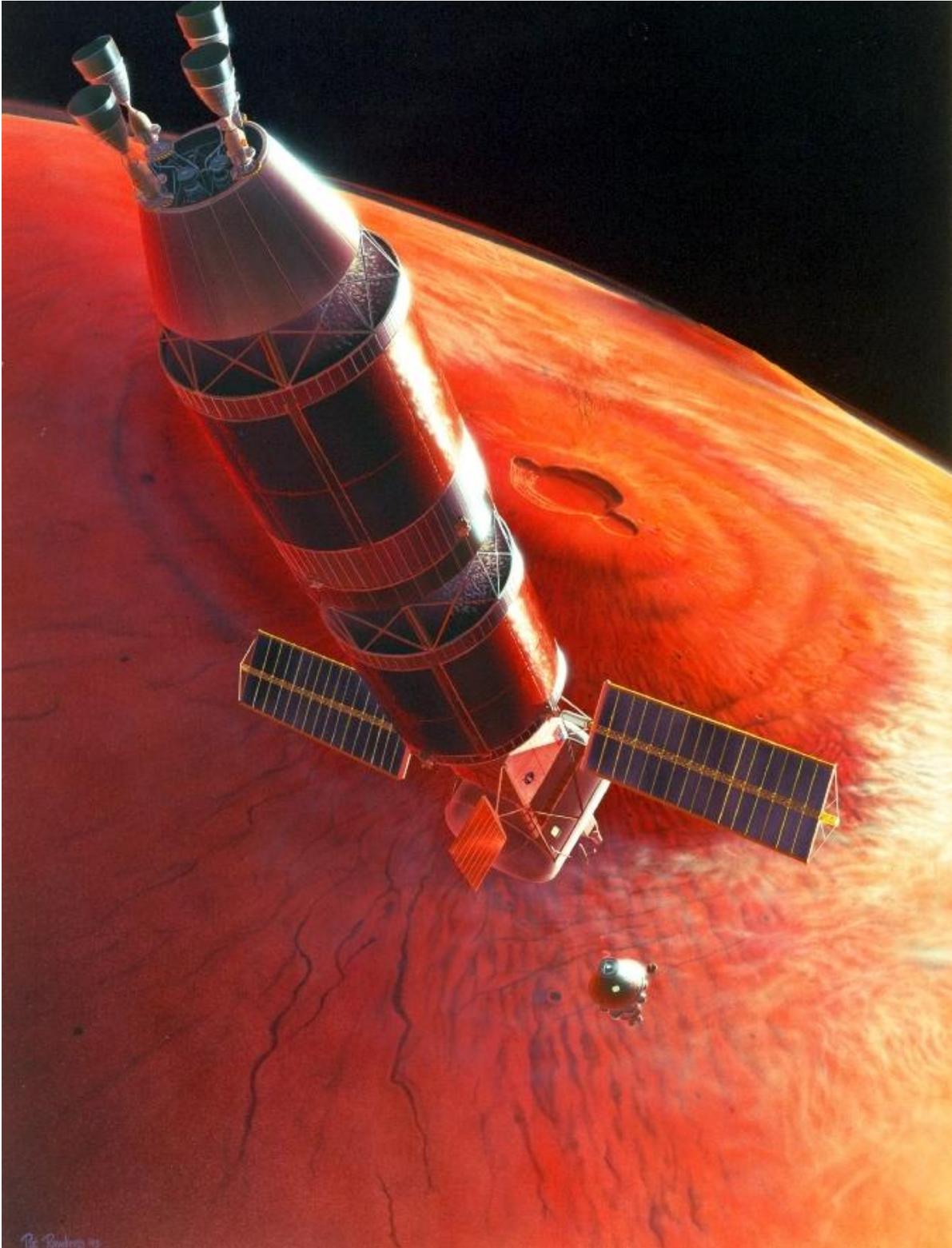
Rank	NCO	Officer
0	Private	Lieutenant
1	Lance Corporal	Captain
2	Corporal	Major
3	Sergeant	Lt. Colonel
4	Staff Sergeant	Colonel
5	Gunnery Sergeant	General
6	Sergeant Major	

Marine Weaponry

Some Marine equipment will also be used on Mars by other groups, such as the Mars Task Force, private security firms - even terrorists. One thing is important - the high-velocity and explosive nature of Marine Corps weaponry essentially renders that weaponry illegal. A non-Marine who carries around a handgun or (god-forbid) an M277 will suffer the very harshest of penalties. Why? In the sealed habitat environment of Mars such items become weapons of mass-death. Pop a bullet

OUTPOST MARS

through a bulkhead and you can kill 200 people. For this reason the only personnel allowed to carry weapons of lethal force are serving US Marines and UN Task Force troops. Private security firms (of which there are three: McCandless, The Blue Team and Ares Security) are only allowed to carry and use non-lethal restraint devices - tasers, dye guns and thumpers. For more information on these devices check out the equipment section in Team Equipment.



US SPACE COMMAND

The Mars space HQ of US Space Command is Reagan SFB on Phobos. USSC is the most powerful space-capable organization in Mars orbit. It employs space vehicles and equipment that run the gamut of 21st Century space travel. This summary, then, will be able to illustrate all kinds of space vehicles, many of which are also used by the ESA, NASA, China, CNSA and Roscosmos (RK).

Space Vehicles

There are two basic divisions of space vehicle types: deep-space and orbital. Deep-space vehicles are self-sufficient, long duration craft capable of rendezvousing with a planetary body or station in another planetary orbit. All the vehicles that make it to Mars are deep-space vehicles. Orbital vehicles naturally-enough, are designed to operate within close planetary space. They are shuttles, space-planes and the like. They have an endurance measured in days not months.

Because DSVs are so expensive they are typically one-of-a-kind constructions, and usually named. Orbital vehicles, however, are manufactured on a production line. Sometimes a company likes to 'name' all its orbital craft, but only unofficially. DSVs regularly entering Mars Space include the Franklin D. Roosevelt (USSC), Esperance (ESA), Venture I & II (AIMCON) and the High Frontier (NASA).

Orbital vehicles come in six main types: shuttles (rocket launch, glide return), space planes/TAVs (jet take-off and landing), dropships (military TAVs with VTOL), deltas (one-man interceptors with rocket launch and glide-back), landers (non-atmospheric rocket landers) and Orbital Transfer Vehicles/OTVs (non-atmospheric tugs and trans-orbital cargo vehicles).

A Note on Terminology: Use 'craft' or 'vehicle' NOT 'ship' or 'vessel' - this isn't the high seas with ships, navies and fleets. Space exploration and military expansion has its roots in the world's air forces, not navies and it is an air force heritage which displays itself in modern space terminology and tradition.

Space Command Characters

Should a character be required from Space Command, the GM can create him or her from the Navy tables of the Traveller Main Book. The GM should endeavour to keep in mind the TL 9 of this setting when selecting skills and benefits. US Space Command ranks differ from those in Traveller:

Rank	NCO	Officer
0	Airman	Lieutenant
1	Airman First Class	Captain
2	Senior Airman	Major
3	Sergeant	Lt. Colonel
4	Technical Sergeant	Colonel
5	Master Sergeant	General
6	Chief Master Sergeant	

OTHER SPACE AGENCIES

Other nations with some military capability in space include the ESA, China and Russia. Use the Navy career to create their personnel. There are many non-military vehicles making the trip to Mars, often corporate-built and owned, or the science or transport vehicles of national space agencies. To create personnel from these civilian or corporate agencies, use the Scout/Courier career from the Traveller Main Book. These are the astronauts so common today!

MOVIES & BOOKS

The prime source of inspiration for this game was Kim Stanley Robinson's 'Red Mars' (1992), as well as the two movies 'Red Mars' (2000) and 'Mission to Mars' (2000). The first I wanted to emulate, the second and third I wanted to improve! The turn of the century saw a slew of Mars-orientated movies, and this kind of thing happens a lot in the movie industry. John Carpenter's Ghosts of Mars came out a year later.

MOVIES

Escape from Mars (1999) – A film that eluded me, but it may be worth a view if you can see it. Escape from Mars looks at the first manned mission to Mars.

From the Earth to the Moon (1998) – This was a twelve-part HBO television miniseries co-produced by Ron Howard, Brian Grazer, Tom Hanks, and Michael Bostick. Howard and Hanks worked together on Apollo 13 and this was their sequel. What a sequel! Nothing to do with Mars, but a fascinating insight into all of the tiny problems that need to be overcome to get astronauts into space and onto another world. Some of the best space-based TV ever.

Ghosts of Mars (2001) – It's a trashy horror film, and I love it. 'Zombies on Mars' uses a mining colony as its setting, and Martians as body-invading creatures. Scaled down a lot, the plot *may* have a place in **Outpost Mars**, but the setting and scenery certainly does.

The Martian Chronicles (1980) – TV mini-series based on Ray Bradbury's novels. My memory is fuzzy (it **was** 32 years ago!), but I do remember some great scenes set within an early Martian colony.

Mission to Mars (2000) – A goofy plot. Yet, if you can ignore the alien weirdness, look at the hardware, the tripod-based radar, the rover, habitat and suits. There are lots of great images and nice design in the movie, it's really worth watching!

Red Faction: Origins (2011) – Pilot movie made to coincide with the launch of the Red Faction Armageddon video game.

Red Planet (2000) – Of the two releases in 2000, I like Red Planet the most, probably because there are no aliens and Cydonian 'Face' in there! Of course Val Kilmer and Carrie Anne Moss are neat too. The plot is much more in line with something from Outpost Mars, though why the agency didn't look into the problem with orbital cameras first ... is anyone's guess. Mars 1 is fantastic, the suits are gorgeous ... enjoy the design of this movie.

Total Recall (1990) – So cyberpunk! But look at the Mars colony, the Pyramid mine and the train, look at the interiors and the vehicles, and it may conjure up something of Reunion or Schaeffer.

Space Odyssey: Voyage To The Planets (2004) – This was released as **Voyage To The Planets And Beyond** in the United States, and is a documentary fictionalising a manned 'Grand Tour' flight around the solar system. Great kit, great science, a brilliant programme with plenty of ideas for an **Outpost Mars** game. The mission does visit Mars.

BOOKS

My novel reading is eclipsed by my non-fiction reading, but the seminal fiction on this subject is Kim Stanley Robinson's Mars trilogy, from **Red Mars (1992)**, to **Green Mars (1993)** and **Blue Mars (1996)**. **The Martians (1999)** is a later, connected, collection of short stories.

Ben Bova has written extensively about this period of future human colonisation, and two books particularly will help the GM or player get into the game's mind-set: **Mars (1992)**, **Return to Mars (1999)** and **Mars Life (2008)**.

Moving Mars (1993) by Greg Bear and **Red Dust (1993)** by Paul J. McAuley were both published in the same year. Red Dust takes place against a backdrop of a failing attempt at terraforming Mars by the Chinese.

First Landing (2002) by Robert Zubrin, Zubrin is the powerhouse behind the mighty Mars Society.

Brian Aldiss and Roger Penrose wrote **White Mars (1999)** which counters the terraforming agenda of Kim Stanley Robinson, and becomes the seminal Red Faction pamphlet!

Red Genesis (1991) by S.C. Sykes, is about a rebellion by human colonists.

The brilliant Larry Niven wrote two gripping short stories set on a newly colonised Mars: **How The Heroes Die** and **At the Bottom of a Hole** (both 1966). They may be old, but they're very relevant....

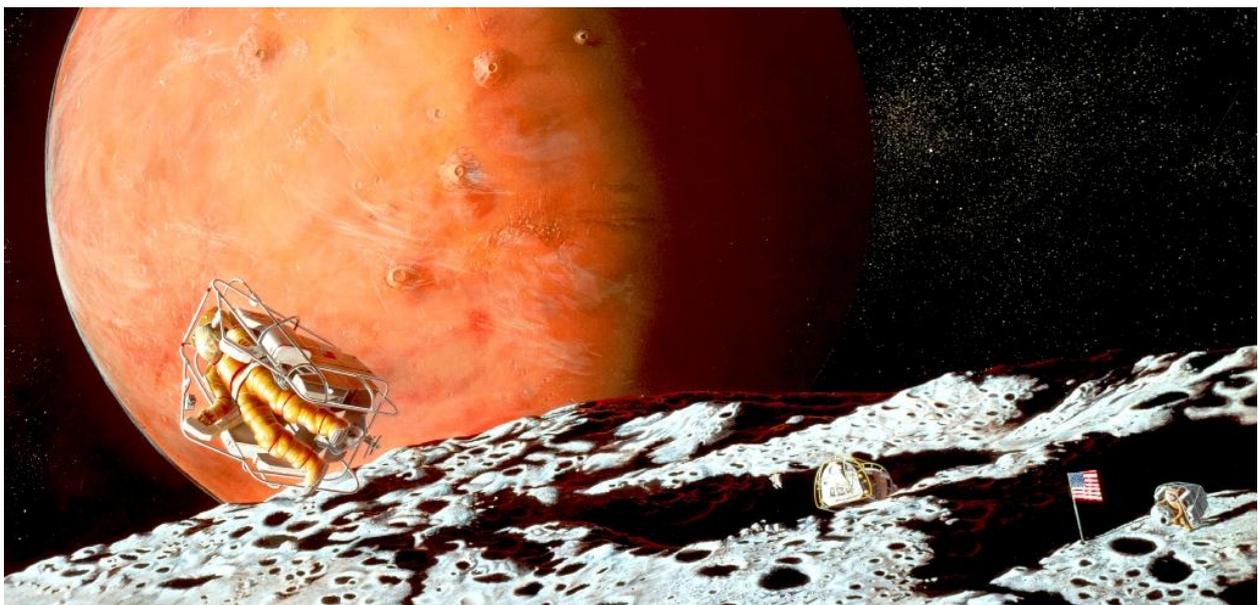
There may be others....

WEB-BASED

I gave out links earlier to speculative websites discussing Cydonia, 'the Face' and the 'Pyramids of Mars'. There are other, more reputable sites. First stop must be [Google Mars!](#) It's a great resource. There are many other sites out there catering for the **Outpost Mars GM**.

Crystal clear images for map building are available from [THEMIS here](#).

[Roving Mars](#) has fantastic clickable globe providing perfect satellite images of 'mission terrain'.



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