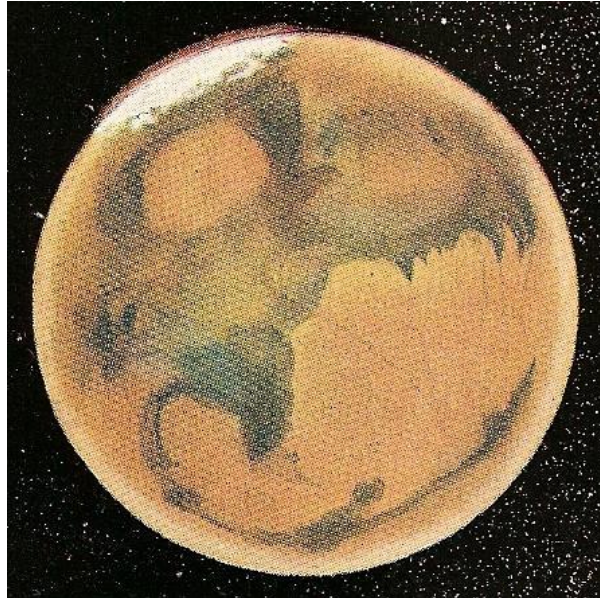


BEAM'S MARS REVEALED



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1. Introduction

In his Introduction to *Paratime*, John F. Carr states that “Like many other writers of the late forties and early fifties, [H. Beam] Piper seemed fascinated by the red world and its Lost Civilizations.”¹ Piper himself states that these lost civilizations include “the Late Upland Culture, and the Canal Builders, and all civilizations and races and empires before them, clear back to the Martian Stone Age.”² Unfortunately, he refers to few specific locations; thus, Beam’s version of the Red Planet has remained largely a mystery for fifty years. In 2002, however, after a couple of years researching his historical models, I realized that one can uncover some of it by following the clues he left behind.

One clue is his story “Genesis”, the title and plot of which suggests that the ancient Martio-Human colonization of Terra parallels the Biblical expulsion of Adam and Eve from the Garden of Eden. “All that they remembered, in the misty, confused, way that one remembers a dream, was that there had once been a time of happiness and plenty, and that there was a goal to which they would some day attain.”³

Another clue from that story is “The detectors are deadlier than the Fourth Dynasty”.⁴ The only country with numbered dynasties that I know of is ancient Egypt. “Scholars organize the kings of ancient Egypt into thirty dynasties, and then into three “kingdoms””; the Old, Middle, and New.⁵

And in Piper’s story “Omnilingual” are several more clues. In 1996, when the first Terran expedition to Mars begins excavating the Old Martian city of Kukan, the spaceship bringing the advance group is named the *Cyrano*,⁶ but the “main expedition” will arrive in the *Schiaparelli*.⁷

Since by reading “Omnilingual” we mentally voyage with these fellow Terro-Humans to the Red Planet, I believe that Beam is saying, ‘If you’re going to my Mars, go first with Cyrano (de Bergerac), but mainly with (Giovanni) Schiaparelli.’ Because as we will see, looking into the works of Cyrano and Schiaparelli enables us to pinpoint these locations on Beam’s Mars.

Nor is that all. In his story “When in the Course”, the so-called aliens on the planet Freya are found to be just as human as the Terrans who discover them. In my paper “When in the Course—Piper’s *Gods of Mars?*”, I show that this means the Freyans, like the Terrans, came from ancient Mars. And by examining the maps of Schiaparelli and his areographic⁸ successors, I was able to discover the location of their original Martian homeland(s).

From “Omnilingual”, we know a good deal about the *Cyrano* expedition, so we will return to that a little later. It contains a connection with Piper’s mysterious ‘main expedition’ anyway, so let’s follow that clue, and take a look at

2. The Mars of Schiaparelli

a) Early Martian Charts

“The first telescopic observations of Mars were made by Galileo in 1610.”⁹ That was the year he “published his *Sidereus Nuncius (Messenger of the Stars)* which reported on the first telescopic observations.”¹⁰ Soon thereafter, early modern astronomers began drawing their own observations of Mars. These include Francesco Fontana in the 1630s, and Christiaan Huyghens in the 1650s through 1680s.¹¹ “The first drawing of Mars of real value was made by Christiaan Huyghens in 1659. It shows a triangular patch which, though exaggerated in size, certainly corresponds to the dark feature now known as Syrtis Major.”¹² “Most of the early observers assumed that the dark patches on the Martian surface were seas, while the bright orange areas were continental.”¹³

But it wasn’t until the Nineteenth Century that telescopes became good enough to make the first actual maps. One of these was by Wilhelm Beer and J. H. Madler, in 1830-32.¹⁴ Unlike earlier drawings, it displayed a sharp distinction between the dark areas and the light ones, making them look in fact like seas and continents. However, no features were given names, no canals were yet seen, and “Though Beer and Madler were famous as lunar observers, their map [of Mars] bears little resemblance to those drawn by other astronomers.”¹⁵

Thirty-five years later, in 1867, Richard A. Proctor finally drew “the first map to contain names for the various surface features.”¹⁶ “Following the usage generally adopted for the features of the moon, Proctor named the Martian features after astronomers, especially astronomers who had observed Mars.”¹⁷

These features included Herschel Continent, Kepler Land, Tycho Sea and Newton Strait.¹⁸ (Figure 1.) Also of interest is that some of the hydrologic features were seen as long and narrow, and were therefore called 'inlets'; the Behssol Inlet, Nasmyth Inlet, and Huggins Inlet.

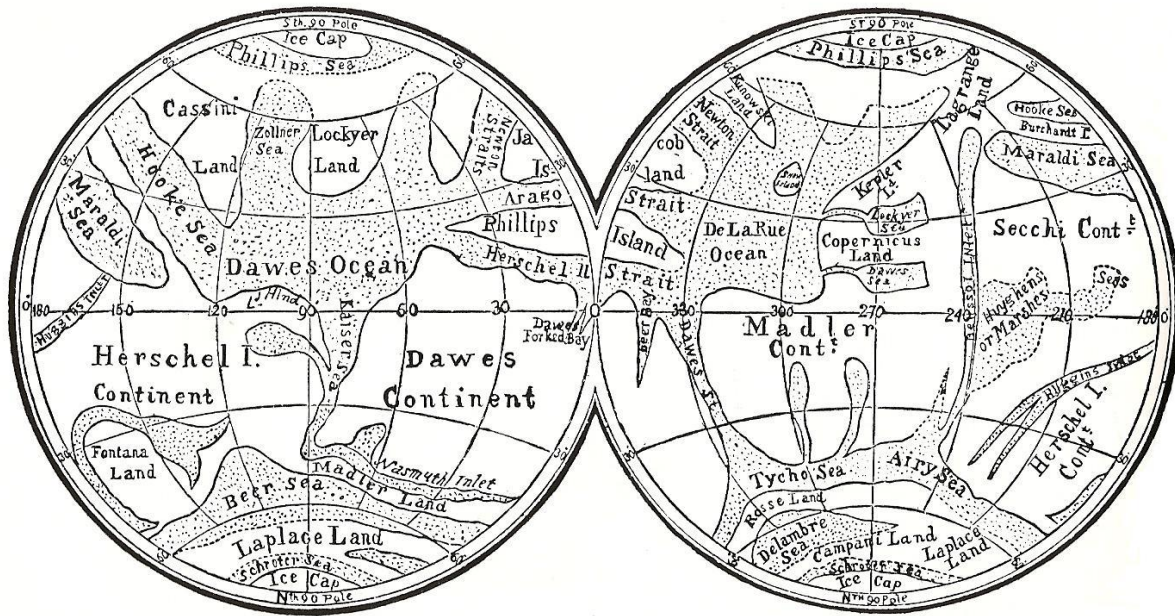


Figure 1. Map of Mars by Proctor, 1867.¹⁹

b) The Map of Schiaparelli

However, "At the time of the publication of Proctor's map the positions of earth and of Mars along their orbits had become such that no close opposition was to be expected for some time."²⁰ Not until 1877 was there a good opposition, which occurred "just after Martian perihelion."²¹ Enter Giovanni Schiaparelli. "1877 marks the modern phase of telescopic observations of Mars. In that year G. V. Schiaparelli at Milan drew a much improved new chart of Mars, and reported that crossing the deserts there were a number of fine, straight, artificial-looking lines. He called them *canali*; the word was inevitably translated into English as "canals", and the suggestion was made that they were genuinely artificial, built by the inhabitants of the planet as part of a global irrigation system."²²

This is certainly the inspiration for Piper's aqueduct system on Mars. He mentions "the ancient Canal Builders" who constructed "the underground aqueducts everybody called canals in mistranslation of Schiaparelli's Italian word".²³ It is a global system, as the history mural in Kukan depicts "A richly fertile landscape, gradually merging into barren deserts and bushlands—the time of the great planet-wide drought. The Canal Builders—men with machines recognizable as steam-shovels and derricks, digging and quarrying and driving across the empty plains with aquaducts [sic]."²⁴

This quote reveals two connections between the stories "Omnilingual" and "Genesis". The "bushlands" in the former correspond to the "brush thickets" in the latter.²⁵ And the depiction in Kukan of the Martians' aqueduct construction ties in Kalvar Dard's ancient observation that no Martian rescue mission will follow them to Terra. "The answer to that one is, never...now, they'll try to keep Doorsha habitable for a few more thousand years *by irrigation*, and forget about immigrating to Tareesh."²⁶ (See **Connecting "Genesis" and "Omnilingual"** below for more examples.)

On his map, "Rather than follow Proctor and use the names of past, and in some cases still living, observers of the planet, Schiaparelli drew his appellations from his intimate knowledge of classical literature and the Bible."²⁷ This nomenclature became the astronomical standard, and included place

names such as Argyre, Chryse, Syrtis Major, and Arcadia, all of which are still in use. The *canali*, or channels, he named for actual and mythical rivers.²⁸ (Figure 2. For a larger version, see **Appendix 1.**)

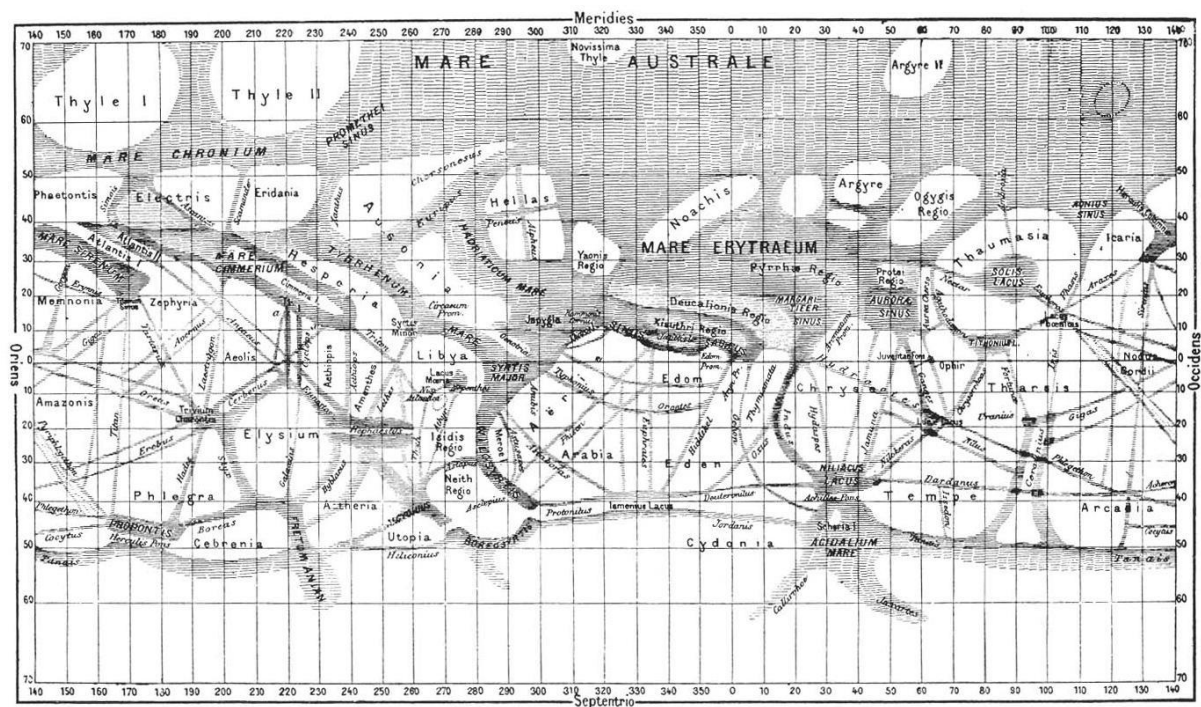


Figure 2. Map of Mars by Schiaparelli, 1877.²⁹

Incidentally, Schiaparelli's names like Solis Lacus, Deucalionis Regio, and Tyrrhenum Mare seem to be what Piper's character Tony Lattimer was referring to. "[I]f we're ever able to attribute any [actual Martian] place names, they'll sound a lot better than this horse-doctors' Latin the old astronomers splashed all over the map of Mars."³⁰ The veterinary reference escapes me, but the statement is clearly derogatory. Schiaparelli's knowledge of classical literature and the Bible may have been intimate, but—rather shockingly for an Italian—Giovanni seems to have played loose with his Latin. Although I do not know that classical tongue (appropriately 'dead' like the Mars he inscribed it with), Romance languages usually begin with the noun, and follow with the adjective. So I believe Schiaparelli should have properly named these regions Lacus Solis, Regio Deucalionis, and Mare Tyrrhenum.³¹

In fact, all the land areas with descriptors appear to be in error. The names that stand alone are perfectly fine, such as Arcadia and Cydonia. But every 'regio' follows the name, as in Ogygis Regio and Yaonis Regio. The correct form would presumably be 'Regio Ogygis' and 'Regio Yaonis'. Moreover, in the Mare Australe or Southern Sea, there are Thyle I, Thyle II, and Novissima Thyle. Having a degree in geography myself, I've never heard of someone using numbers like that; it would be as if medieval cartographers had called the New World 'America I' and 'America II'. I believe these regions should properly be called Thyle Orientalis, Thyle Occidentalis, and Thyle Novissima or Nova.³² The same goes for Argyre (I) and Argyre II, and Atlantis I and II.³³ Features like Cimmeria I. (Isle) and Scheria I. (Isle) should presumably be I.(nsula) Cimmeria and I.(nsula) Scheria.

Schiaparelli does get the order right for some of the hydrologic features, such as Lacus Phoenicis, Mare Australe, Mare Chronium and Mare Erytraeum. But his incorrect Latin for the majority of them—which also includes Hadriaticum Mare, Acidalium Mare, Promethei Sinus, Aurorae Sinus, Niliacus Lacus, and a few others—actually has an upside. It provides an explanation for Beam's use of the word "splashed", which otherwise makes no sense when referring to desert Mars.³⁴

Giovanni's observations of Mars greatly inspired other astronomers, so now let's take a look at

3. Schiaparelli's Followers

a) *Percival Lowell's Description*

In the wake of Schiaparelli came men like Percival Lowell and Camille Flammarion. "With all [the] major facts [of Mars] established, there remained the task of finding an explanation, of constructing an over-all picture of planetary conditions which accounted for all the observed facts, or at least contradicted none of them. The picture with the largest emotional appeal, and therefore the most popular, was the one defended by Percival Lowell in the United States and Camille Flammarion in Europe."³⁵

Lowell's maps of Mars followed Schiaparelli's nomenclature, so there is no need to reproduce them here. But his description of the Red Planet seems to have been a major influence on Piper, because Lowell was the main American suggesting that the Martian canals were built by intelligent beings. Roy Gallant says that

According to Lowell, Mars was once the proud possessor of a great civilization, perhaps even surpassing our own. There were cities like New York, London, and Paris; and there were lush, rambling areas of vegetation that colored the Martian countryside. Over the years, however, a great tragedy was in the making. The planet's water supply was beginning to fail. At first the Martians found an easy solution to the problem. As we are doing in many of our big cities on Earth, they piped water in from distant areas. Gradually, over hundreds of years perhaps, they were forced to reach still farther and farther into the wilderness for their precious water. Finally, the problem became so serious that the planet's nations forgot their political differences and joined forces to achieve one thing only—self preservation.

Realizing that the only source of water left to them was to be found in the melting polar caps, they began the mammoth task of digging a planet-wide irrigation system. By comparison, the construction of Egypt's pyramids was child's play. Possibly the Martians worked several hundred years to complete their giant system of waterways. But even when it was finished the planet was still doomed to destruction. For Mars was in its old age. Not only was the water supply nearly gone, but it was dying in other ways. Its free oxygen was also failing, so life on the planet was rapidly nearing its end.

Lowell's writings tell us that even today we can see the Martians' canal system in action. In the spring, as the polar cap melts, water fills the canals and flows toward the equator, bringing life to the few hardy plants and shrubs that managed to survive.³⁶

In this description we recognize Beam's Mars; a civilization that was comparable to ours or slightly more advanced, the ancient construction of a planetary irrigation system, which is still operational, and the sparse remaining vegetation it supports.

As stated, "Genesis" and "Omnilingual" mention bush lands and brush thickets.³⁷ Evidence that Martian civilization was a bit superior to ours is found in both stories. In "Genesis", the giant interplanetary ship carries a "thousand-odd colonists" from Mars to Terra,³⁸ which is twice as many people as "the five hundred members of the main expedition" that is traveling from Terra to Mars in "Omnilingual".³⁹ The latter story takes place in 1996,⁴⁰ forty years after the time Beam wrote it, and yet the ancient Martians are still more advanced than us. The Terran archaeologists discover murals showing the Canal-Builders at work on their mammoth irrigation project. The "steam-shovels and derricks" depicted there certainly sound comparable to our technology, but the planetary irrigation system is still functioning after about 50,000 years of neglect. "There was the work of getting the city's ancient reservoirs cleared of silt before the next spring thaw brought more water down the underground aqueducts [sic]...though this was proving considerably easier than anticipated. The ancient Canal-Builders must have anticipated a time when their descendants would no longer be capable of maintenance work, and had prepared against it."⁴¹

In addition, the Terrans discover that the Old Martians had very durable silicone-based paper, advanced bullet-proof glass, and "radically different" refrigeration units.⁴² So Piper's Martians were more advanced, but not much more, than the modern Terrans in "Omnilingual", who themselves are a century more advanced than the time of Percival Lowell's description of the planet, in *Mars* (1895).⁴³

Gallant also says that, “During their latter days the Martians, according to Lowell, lived along the banks of the canals, where water would be nearby.”⁴⁴ This is certainly consistent with Piper’s description of Kukan, the only Martian city he names. “This is only one city, of the last Martian civilization. Behind this, you have the Late Upland Culture, and the Canal Builders, and all civilizations and races and empires before them, clear back to the Martian Stone Age.”⁴⁵ Putting them in proper chronological order, the efforts of the Canal Builders made the Late Upland Culture possible. When that was no longer sustainable some hundreds or thousands of years later, due to lack of water (and probably air), the remaining people moved to the ‘lowlands’, the canals. The last living Martians, who in Piper’s terminology could be called the ‘Final Lowland Culture’, huddled in canal-cities like Kukan. (See **Kukan** below for its specific location.)

Figure 3. General Map of Mars, by Flammarion and Antoniadi (after Schiaparelli), 1901.⁴⁶

We already mentioned Lowell's colleague, the French astronomer Camille Flammarion. In his 1892 Mars map, Flammarion temporarily retrogressed, following Richard Proctor's nomenclature. But he soon corrected this. Teaming up with Eugenio Michael Antoniadi, their 'General map of Mars', published in 1901, followed Schiaparelli's usage, apparently with a few additions of their own.

As evidenced by the Mare Australe or 'Southern Sea' at the top, keep in mind that the directions on this chart—and Schiaparelli's—are reversed; north is down.⁴⁷ In the early period of my research (2000-2001), I had made some deductions on the historical models Piper used for Mars. An examination of the General Map, probably in 2002, revealed support for these deductions, including Biblical (Kalvar Dard's interplanetary voyage as a parallel of the expulsion from Eden), Greek (Doorsha partly derived from Doria), Egyptian (the 'Fourth Dynasty' reference), and Viking (the Freyans as Nordic Martians).

With Piper's "Genesis" in mind, let's start with the Bible.

4. The Expulsion from 'Eden'

a) *Launched out of Paradise*

The 1901 map includes several regions synonymous with paradise; 'Elysium', 'Utopia', and more significantly, 'Eden'. These locations connect with the Terro-Human remembrance of Old Mars as a utopian Golden Age, and "Genesis" as the expulsion from Eden.⁴⁸ On the reversely-oriented 1901 map, Martian Eden is below and to the left of center. It spans from just under the equator to about 38 degrees north latitude, but the word 'Eden' is inscribed between 20 and 30 degrees north. (Figure 4.)



Figure 4. Martian Eden, the Extra-Terrestrial Paradise.

On Terra, this range of latitude crosses central Florida, and includes Cape Canaveral at about 28 degrees north.

The well-read Piper undoubtedly knew that Jules Verne fired his fictional moon shot from central Florida. Moreover, Cape Canaveral was established by President Harry Truman in 1949 as the Joint Long Range Proving Ground, a facility for the testing of long-range rockets and missiles.⁴⁹ Beam may have been aware of this as well, and "Genesis" was published just two years later, in 1951.

Thus, the 'expulsion from Eden' of the Biblical Genesis is probably the model for "the blastoff from Doorsha"⁵⁰ of Beam's "Genesis"; an 'expulsion' or launch which occurs from the Red Planet's Eden.⁵¹

b) *"From the Red Earth"*

Support for this deduction is found in the Bible. That Piper's story "Genesis" refers to the Biblical expulsion from Eden means that the Martio-Humans are 'Adam', the 'first' men. And this is true, for Beam's *homo sapiens* evolve on Mars, then colonize Terra. In the Book of Genesis, God created Adam from the clay of the Earthly Paradise, so that the name 'Adam' literally means "the red earth", because "he was the first man created from the red earth of Eden." Moreover, Adam is used as a synonym for 'man' or 'mankind'; humanity as a whole.⁵² In full, Adam can therefore be defined as 'the first man

created (later expelled) from the red earth of Eden', or in its larger sense, 'mankind from the red earth'.

In Beam's universe, Mars is Terro-Humanity's original 'earth', so this becomes the Martio-Human Adams, who are 'Mankind from the Red Planet', or 'the First Men, evolved in (later expelled or launched from) the Red Planet's Eden'. Though the rational and agnostic Piper undoubtedly rejected humanity's religious creation in a Terran Eden, this line of reasoning suggests that his wry and subtle scientific twist actually has humanity evolve to sapience in the Eden region of Mars.

The Biblical Eden is also referred to as the Earthly or Terrestrial Paradise. So in Piper, Schiaparelli's Eden becomes the 'Marsly', or better, the '*Extra-Terrestrial Paradise*'.

And this connects Schiaparelli with

c) *The Extra-Terrestrial Paradise of Cyrano*

When I first read "Omnilingual" in 1981, the only 'Cyrano' I had ever heard of was Cyrano de Bergerac. Having seen the 1950 movie many years earlier, I was vaguely familiar with the romantic-yet-tragic tale by Edmond Rostand. A story about a French cavalier with a grotesquely large nose who loves a beautiful girl (actually his distant cousin, Roxanne), but she loves another (Baron Christian de Neuville), so to secure her happiness he helps his handsome but unlettered rival win her heart with wit and poetry.

After a bit of research, however, I realized that Piper was referring to the man himself; the real Cyrano de Bergerac, who was a "Seventeenth Century wit, soldier, libertine, and scientist."⁵³ It turns out that de Bergerac was also an early science fiction author, who wrote several (ostensibly autobiographical) tales of interplanetary voyages. Cyrano died in 1655, so these were published posthumously.

In the first, *Voyage to the Moon* (published 1657), de Bergerac narrates his fictional attempts to fly to our satellite. A follower of Kepler and Copernicus, he scientifically believes that it is a spherical celestial body like the Earth, but Cyrano's friends in the story derisively dismiss the idea. "I think that the Moon is a world like this and that our world is their Moon. The company gratified me with a great shout of mirth."

⁵⁴ To prove himself right and his friends wrong, de Bergerac takes up the challenge. The method he initially employs to reach the Moon is to attach bottles of dew to his person, because the morning sun causes dew to rise. This attempt is partially successful, as the bottled dew carries Cyrano aloft over France. Floating for many hours above the clouds, he cannot rise any higher, so he begins breaking the bottles to descend. But the earth turned under him during his flight, so that when he lands, de Bergerac finds himself in Quebec. In what was then still French Canada, he has several lively conversations on the nature of the universe with the Viceroy of New France.⁵⁵

But the Viceroy is a busy man, and Cyrano decides to continue his Lunar quest. He builds a cage-like contraption with movable wings that are operated by a spring, but it crashes on his first attempt to fly it. Leaving it there, the slightly injured Cyrano returns to his room in the Viceroy's house, and treats his bruises with beef marrow. Meanwhile, the contraption is discovered by some French Canadian soldiers; part of the garrison of Quebec, then still a fort. They attach to Cyrano's flying machine many rockets, hoping to launch it themselves, and thereby make the local people think it is a flaming dragon.⁵⁶

Just as they are lighting the fuses, Cyrano returns to the scene. He attempts to stop them, but during the struggle ends up inside the cage, and is blasted off. De Bergerac again rises high into the air; indeed, a great deal higher. When the rockets expend their gunpowder, the contraption falls away, but Cyrano continues rising. This is due to the beef marrow he rubbed on his bruises, for he "knew that at the time the Moon was waning and that during this quarter she is wont to suck up the marrow of animals."⁵⁷ De Bergerac is therefore drawn up toward the Moon, and when its gravity becomes stronger than that of Earth, he spontaneously turns a somersault and then falls more quickly toward it.⁵⁸

His lunar landing is fortunately broken by a tree, thus preventing a calamitous end to his trip, and he soon meets the prophet Elijah. From Elijah, Cyrano learns that he has landed in the Garden of Eden; the tree that broke his fall is the Tree of Life. Adam and Eve were not created on Earth, they were created on the Moon, and were not expelled, but fled to the Earth when they sinned against God, to avoid his wrath. In fleeing, the still semi-holy pair actually levitated and *flew* to Earth, a superior method to how (the far less holy) de Bergerac flew to the Moon.⁵⁹

Cyrano is therefore not the first man on the Moon, merely the first to return to the Lunar Garden since Biblical times;⁶⁰ the first to return to what is after all not a Terrestrial, but an *Extra-Terrestrial Paradise*.

De Bergerac soon leaves the Garden to explore the Moon. He meets other inhabitants who speak several unknown languages. Of one such culture, he says “I did not know their language, they did not know mine! Judge then what relation there was between us.”⁶¹ But before he leaves the Moon for Earth, he “learned to understand their language and to use it a little.”⁶²

He departs via a great Devil, who grabs an acquaintance of Cyrano’s for making blasphemous remarks. Attempting to save his friend, de Bergerac grabs him also, but this Devil’s strength is such that both men are carried into the Lunar sky. As they approach the Earth, Cyrano fears that the Devil is taking them to Hell, which lies in the fires at the center of our world. He cries out in terror “Jesus Maria!”, and finds himself on the surface, unharmed.⁶³

Disoriented by his fright, he thinks he is still on the Moon. “I found myself lying upon the grass at the top of a little hill, with two or three shepherds around me reciting litanies and speaking to me in Italian. “Oh!” cried I. “praised be God! At last I have found Christians in the world of the Moon.”⁶⁴ Tell me, my friends, in what province of your world am I now?” “In Italy”, they replied. “What”, I interrupted, “is there an Italy in the world of the Moon also?” I had still reflected so little on this accident that I had not yet perceived they were speaking to me in Italian and that I was replying in the same tongue.”⁶⁵

Cyrano soon takes ship for France, ending this story, but heading toward the beginning of his *Voyage to the Sun* (published in 1660).

d) From Cyrano to the Cyrano

While reading the story by de Bergerac, some things in Piper’s story “Omnilingual” gained meaning, simply by changing the destination from Moon to Mars.

First, the spaceship made sense. After his rocket-propelled contraption falls away in the upper atmosphere, Cyrano becomes in effect his own spaceship to the Moon. And in Piper, the spaceship to Mars *is* the *Cyrano*. (Figure 5.)

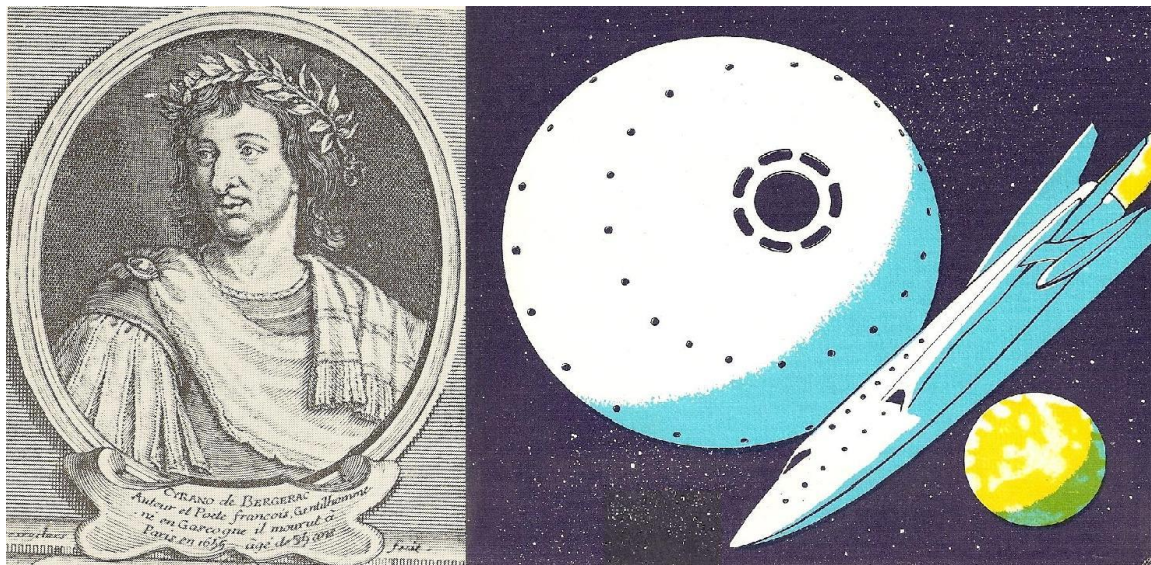


Figure 5. Cyrano de Bergerac, man and spaceship.⁶⁶

Second, Cyrano’s experiences in Quebec and with French Canadian soldiers explained Beam’s inclusion of a “French Canadian engineer” in the crew of the *Cyrano*.⁶⁷ He is actually a soldier, and in fact, a TF Space Force officer; “Captain Gicquel”.⁶⁸ Gicquel’s expertise is in “air-sealing”, which in the story involves pressurizing surface buildings on Mars.⁶⁹ But it is also an important consideration in getting vehicles ready for—and maintaining them during—space travel, a critical element not considered by de Bergerac (whose fictional self flies without protection through cislunar space) or his French

Canadian soldiers (who leave the cage-like contraption without outer plating, though admittedly they did not intend it to fly very high). H. Beam Piper therefore appeared to be improving on Cyrano de Bergerac's story, by taking into account its errors or omissions. Moreover, Captain Gicquel's first name, "Laurent", ⁷⁰ is similar to the St. Lawrence River, which was the heart of New France.

Third, that Cyrano lands in the Lunar Eden parallels the flight of the *Cyrano* in "Omnilingual", which upon landing completes the return trip to the Martian Eden foreseen by the Doorshans in "Genesis". "Well, maybe, in a hundred thousand years, our descendants will build a ship and go to Doorsha, then." ⁷¹ The modern Terrans have finally recreated the "time of happiness and plenty" their Martian ancestors enjoyed, and achieved the "goal to which they would someday attain." This new golden age of happiness and plenty includes the very things Varnis says the Old Martians had in theirs; "machines [and] ground-cars [and] aircraft [and] houses", ⁷² "all sorts of lovely things to eat and wear", ⁷³ "gardens and lights", ⁷⁴ and of course, firearms and atomic power. ⁷⁵ And as for the goal they've attained, just as Cyrano is not the first man on the Moon but merely the first to return since Biblical times, the crew of the *Cyrano* are not really the first humans on Mars, merely the first to return since "Genesis". With both authors, mankind comes into being on a planet other than Earth; created on the Moon in de Bergerac, evolved on Mars in Piper. Thus, the Terrestrial Paradise is really an Extra-Terrestrial one. That Adam and Eve voluntarily left the Lunar Garden, in order to avoid God's vengeance, and indeed flew to the Earth, paralleled the Martio-Humans in "Genesis", who voluntarily left the Martian Eden (in order to avoid the dying planet's 'vengeance', or inevitable doom), and flew to Terra. When Beam says that "the 'men from Mars'—[are] ourselves", ⁷⁶ he parallels Cyrano, for whom 'the Man in the Moon' is in fact one of us. ⁷⁷

Fourth, the fictional de Bergerac does indeed find proof for his assertion that the Moon is a world like ours. It is habitable and inhabited, and its people speak languages other than our own. Likewise, the crew of the *Cyrano* find that Mars is a world like ours. It was formerly inhabited, contains ruined cities, tremendously long aqueducts, at least one unknown language, and is in fact habitable. "The high point came when one party, at thirty thousand feet below the level of Kukan, found breathable air... The daily newscasts from Terra showed a corresponding shift in interest at home. The discovery of the University had focused attention on the dead past of Mars; now the public was interested in Mars as a possible home for humanity." ⁷⁸

Fifth, that Cyrano lands in Italy upon his return to Earth connected him to Giovanni Schiaparelli, paralleled by the *Cyrano* and *Schiaparelli* in Piper. This connection is further seen in de Bergerac's erroneous question as to whether there is an Italy on the Moon. There isn't on Luna, but there is on Mars. Because although Giovanni Schiaparelli did not write 'Italy' (Italia) on his map of Mars, his 'Tyrrhenum Mare' is borrowed straight from the Tyrrhenian Sea west of Italy. And if we turn Schiaparelli's map over so that north is at the top, we see that Tyrrhenum Mare is west of 'Hesperia', a peninsula very much resembling the Italian peninsula. (Figure 6.)

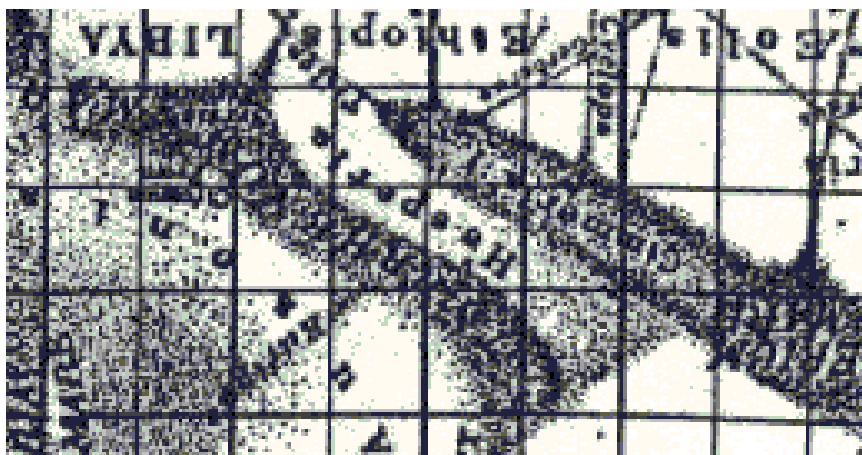


Figure 6. Hesperia, the Martian Italy.

Hesperia is therefore the Martian Italy, and Schiaparelli's knowledge of classical literature means that he got this particular name from the *Aeneid*. "Aeneas was warned in a dream to leave the country [Greece] and seek a western land, called Hesperia, whence Dardanus, the true founder of the Trojan race, had originally migrated. To Hesperia, now called Italy, therefore, they directed their future course".⁷⁹

Sixth, that Cyrano gained some understanding of the Lunar languages outside the Garden of Eden paralleled Martha Dane's breakthrough in deciphering Old Martian. Her accomplishment also occurs outside the Eden region of Mars, as will be shown below.

And seventh, "I did not know their language, they did not know mine! Judge then what relation there was between us." Cyrano's linkage of the interplanetary language problem to blood kinship. Mankind originally came from the Moon, but de Bergerac cannot understand the moon-people who live outside the Garden at first.⁸⁰ Similarly in Piper, Mankind originally came from Mars, but the crew of the *Cyrano* do not know Martian, and if the dead Martians they find were still alive, they would not know English. And yet, both groups are related; they are cousins, descended from common Martio-Human ancestors that lived a hundred thousand years ago. Beam's title "Omnilingual" therefore contains a hidden twist; it doesn't just refer to the universal language of science, it also refers to the fact that *both groups of humans originally spoke the same language*, the very language Dr. Dane is trying to decipher. The omnilingual of science is used to translate the ancient omnilingual of Martio-Terro Humanity.

As Ivan Fitzgerald says, "from statues and busts and pictures I've seen, I'd say that their vocal organs were identical with our own."⁸¹ If their vocal chords are identical with ours, so are their throats, so are their tongues—and everything else, since Martha notes that the Martians are "so human in appearance as to seem members of her own race".⁸² Vocalization requires the use of the tongue, and 'tongue' is a synonym for 'language'.

One vocal chord, one tongue. One 'tongue', one language. One vocal chord, tongue, and language, one species.⁸³

Turning now from the Eden and Italy of Mars, let's look at its Greece.

5. The Doorshan Origin of Democracy

a) *Hellas on Mars*

Another Martian region of interest named by Schiaparelli is 'Hellas'. Known today as Hellas Planitia, on the 1901 map it is an island in the Mare Australe between 30 and 55 degrees south latitude. (Figure 7.) This ties in my belief that Piper partly modeled Old Mars on Ancient Greece.

In the summer of 2000, I deduced that, besides the British Empire, the millenium-spanning Terran Federation is also modeled on the thousand-year Roman Empire. Beam was using a *combination* of historical models; supported by his book *Lone Star Planet*, where the combination of the US-Mexican War and the Japanese attack on Pearl Harbor (1840s with 1940s, the same decade in two consecutive centuries) is uncharacteristically obvious. Rome was founded by Trojans, and Terra is founded by Martians. So the historical model for the founding of the New Planet Terra by the Old Planet Mars would be the founding of the Classical Roman World by the Ancient Greek World, of which Troy was part.

Thus, the historical model of Kalvar Dard, the leader of the Martians who settle Tareesh, or Terra, would be Aeneas the Trojan, the leader of the Trojans who found Rome, or *terra Italia*. The Old Martian names for Mars and Terra, Doorsha and Tareesh, might then be partly derived from 'Doria' and 'Etruria'. Etruria is the Roman form; the Greeks called the land Tyrrhenia, as evidenced by the Tyrrhenian Sea west of Etruria. The Martian colonization from Doorsha to Tareesh would then be roughly paralleled by the Trojan colonization 'from Doria to Tyrrhenia'. (See maps in **The Freyan Homeland** below.)

Since its name seems applicable to the entire Red Planet, the Hellas region of Mars (or, the 'Doria of Doorsha') may play an important role in Old Martian civilization, even as the Hellas of Terra has played in Western civilization. Terran democracy was born in Greece, and since the Mars of "Genesis" appears to be a global democratic organization paralleling the Terran Federation of "Omnilingual", Martian Hellas may in fact be the original birthplace of human democracy.

b) *Insula Doorsha*

As stated in my paper “The Ten Gods of Mars”, the word ‘Doorsha’ may originally have been a Martian earth-mother goddess, whose name later became synonymous with the entire planet; similar to the process by which the Roman ‘Terra’ became the name for ours. Assuming that Doorsha is partly derived from ‘Doria’, then this means the mother-goddess actually comes from ‘Helleno-Martian’ mythology, and her name may at first have referred only to the Hellenic Island of Mars.

If so, the Martian Hellenes could have used Doorsha on their maps as medieval cartographers used Terra. For example, the Martian version of ‘terra incognita’ (unknown land) would be ‘doorsha incognita’ (which mixes Martian with Latin, but you get the idea). Britain was called ‘Insula Britannia’, so the Martian island of Hellas could have been called ‘Insula Doorsha’. Medieval maps that did not include an entire country often labeled the part that showed as ‘pars’; hence, ‘terra Italia pars’. An ancient Doorshan map that included only part of the Martian Eden could then have been labeled ‘doorsha Eden pars’.

All this talk of maritime Greeks and mapmaking implies exploration. So now, let us take ship from the shores of ancient Martian Hellas, and voyage north over the lost Southern Sea, through the Gulf of Syrtis, to its apex, where lie the lands ruled by the Fourth Dynasty of Mars.



Figure 8. Isidis Regio and Neith Regio; the Lower and Upper Egypts of Mars.

6. The “Fourth Dynasty” of Mars

a) *Martian Egypt*

In “Genesis”, Beam’s Martians mention that “the detectors are deadlier than the Fourth Dynasty.”⁹¹ As stated in the **Introduction**, the numbered dynastic houses suggests an Ancient Egyptian influence. Egyptian history is divided into thirty dynasties, spread among the Old, Middle, and New Kingdoms. Moreover, Egypt is a desert region bisected by the 4000-mile Nile, which seems an appropriate parallel for the arid Red Planet crisscrossed by extremely long aqueducts.⁹²

We recall that Schiaparelli did not write 'Italy' on the Red Planet, yet Hesperia is its Martian parallel. Likewise, there is no 'Egypt' actually inscribed on the 1901 general map, but between 'Arabia' and 'Libya' (and not far from 'Aethiopia') are two Martian areas called 'Isidis Regio' and 'Neith Regio'. Research reveals that Isidis is the "Region of Isis", ⁹³ and Neith is "a goddess of Lower Egypt specifically associated with Sais". ⁹⁴

Thus, Isidis and Neith appear to be the Upper and Lower Egypts of Mars, and the extinct Fourth Dynasty probably ruled these regions. (Figure 8.) Two other adjacent areas support the identification; 'Meroe I.' (island) to the west of Isidis, and 'Aeria' to the southwest. Meroe was the Nile-island capital of the Nubians who lived south of ancient Egypt, while Aeria is an old Greek name for Egypt, meaning the "far land of mist". ⁹⁵

Isidis Regio is actually located 'down-canal' from Neith Regio, meaning that it should be the Lower rather than Upper Martian Egypt. Due to the dual nature of the realm, ancient Terran Egypt is also called 'the Kingdom of the Two Lands'. However, since Martian Egypt includes a third region (Aeria) and a large island (Meroe), Beam may have envisioned a 'Kingdom of the Three (or even Four) Lands' for his extraterrestrial Egypt. ⁹⁶

b) Egypto-Martian Canals

That these regions constitute the Martian Egypt is also supported by the canals in this part of Mars, all of which have Egyptian-related names.

The canal to the west of Neith and Isidis is a 'Nile'; the Nilosyrtis, presumably meaning the Nile that flows into Syrtis. This ends at the Nili Pons (where the Nilosyrtis joins Syrtis Major), and begins upstream at a large dark area called Coloe Palus. Coloe Palus means "the marsh of Coloe", so this a reference to Lake Tana in Ethiopia, source of the Blue Nile, and called Coloe by the geographer Claudius Ptolemy. ⁹⁷ Farther upstream, we see that Coloe Palus itself is fed by the Protonilus, the "first-Nile". ⁹⁸

Near Coloe Palus is the Asclepius canal, which bisects Neith Regio. This is named for the Greek god of physicians and healing, identified with Imhotep by the Egyptians. ⁹⁹ Separating the two lands of Neith and Isidis is the Astapus canal, Astapus being "a name for the Blue Nile". ¹⁰⁰ Like Neith, Isidis Regio is also bisected by a canal; the Athyr. Athyr is another form of Hathor, the Egyptian goddess the Greeks identified with Aphrodite. ¹⁰¹ Next, the Athyr and Astapus canals nearly connect where they both join a lake, called Nuba. On other maps this is called Nuba Lacus, presumably meaning 'the lake of Nubia'.

East of Astapus and Athyr are two more canals flowing south from Nuba. These are named the Thoth (after the Egyptian god of the moon and wisdom), and the Amenches ("Egyptian name for place where souls of the dead go"). ¹⁰² The Thoth canal flows along the eastern border of Isidis Regio, and on the other side of Triton Lacus it becomes the Nepenthes canal (in the *Odyssey* an Egyptian herbal drug that relieves grief through forgetfulness). ¹⁰³ In its turn, the Nepenthes constitutes the southern border of Isidis Regio, separating it from Libya. But before it reaches Syrtis Major, the Nepenthes flows through Moeris Lacus; named for the lake of Egypt, located west of the Nile and south of Memphis.

And if we needed any further proof, at least two more 'Egyptian' canals are found in neighboring lands. Between Meroe Island and Aeria lies the Astusapes canal ("From a name for the White Nile river"), ¹⁰⁴ and one of the canals in Aeria is the Anubis, named for the Egyptian jackal-god of mortuaries. ¹⁰⁵

Canals were a common feature of Ancient Terran Egypt, and are still so in Modern Egypt. Ancient Egyptian proficiency in irrigation techniques was derived from the necessity of diverting Nile water to sustain their precious farmlands, which except for the Delta region are hemmed into a narrow channel by the neighboring deserts. Leaving out the Delta, the very long and narrow Nile is certainly a good parallel of the slim ribbons of underground aqueducts, probably supporting narrow bands of farmland, seen on Beam's Mars. (Figure 9.)

Measurements by astronomers indicated that the canals of Mars were not just very long, but very wide. Schiaparelli himself noted that "They are subject also to great variations in their breadth, which may reach 200 or even 300 kilometers (120 to 180 miles) for the Nilosyrtis, whilst some are scarcely 30 kilometers (18 miles) broad... These lines are the famous canals of Mars". ¹⁰⁶ Though nowhere near as wide, Earthly canals are similarly not enclosed, being open to the sky and ground. Thus, Beam's changing of the 'canals' to 'aqueducts' is a smart move, as it would minimize seepage losses into the

ground. That he put these aqueducts underground also seems to be good engineering, as it would minimize evaporation losses to the air. And being underground, they would of necessity be enclosed. This would provide a double layer of protection (pipes and soil) from the weather, keeping the water from evaporating or freezing in the wide swings of Martian surface temperature, as it travels from the polar icecaps to the equator during many days and nights.

Piper's underground aqueduct system therefore seems a great improvement over the traditional view of the Martian canals, very long and very wide, and open to the sky and ground for many hundreds or even thousands of miles. Not an efficient system if water is that precious. (However, see **Appendix 3.**)

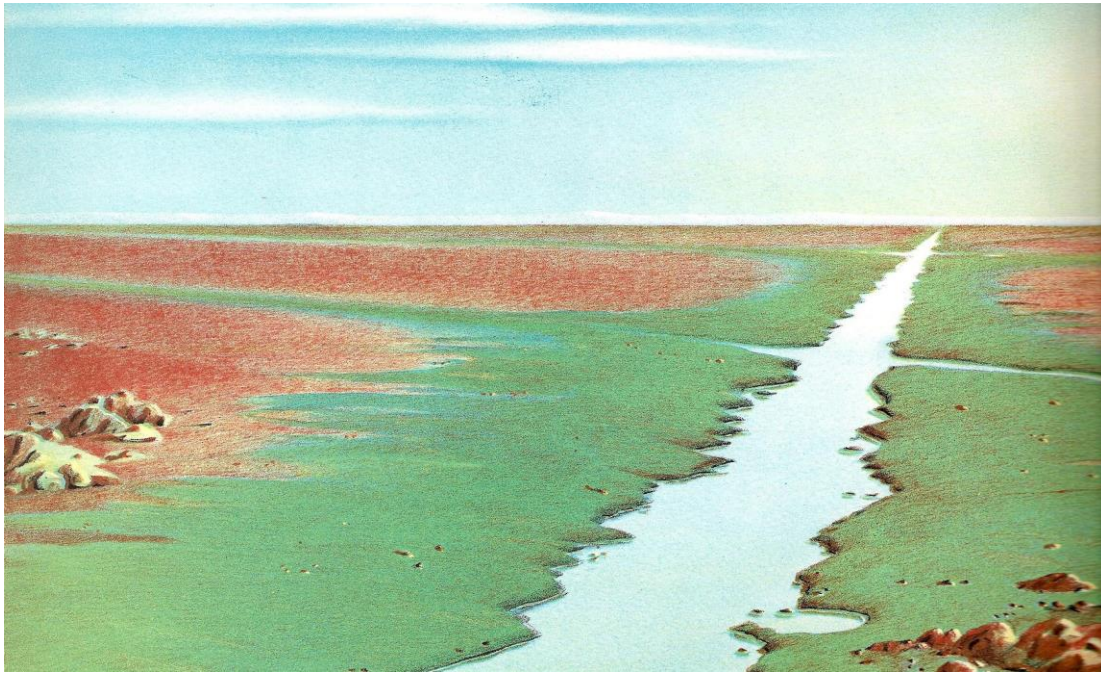


Figure 9. Traditional view of the Martian canals, from a picture by Lowell Hess.¹⁰⁷

c) Pyramid Builders of the Fourth Dynasty

On Terra, Upper and Lower Egypt were united during the Old Kingdom. Encompassing the First through Tenth Dynasties, the Old Kingdom includes the Fourth Dynasty. The Fourth Dynasty is probably the most famous, since its pharaohs built the Great Pyramids. Khufu and Khafre are the two outstanding pharaohs of the time, which is called “the Great Pyramid Age”.¹⁰⁸

This feat of ancient Terran engineering may explain why the technologically modern Martians of “Genesis” remember their own long-extinct Fourth Dynasty. Martian Egypt may have been among the earliest Martio-Human civilizations, just as Egypt is among Terro-Humans. And the Martian Fourth Dynasty may likewise have achieved early engineering wonders, sometime after their ‘First’ Dynasty unified the Neith and Isidis regions (possibly Meroe Island and Aeria as well). If these wonders included pyramids, then in Piper’s terminology, the rulers of that ancient Martian time could be called ‘the Pyramid Builders’, paralleling the much later Canal Builders.¹⁰⁹

“Traditionally, the state of Egypt was created when the legendary king Menes led the armies of Upper Egypt to defeat the kingdom of Lower Egypt, and then founded his new capital at Memphis.”¹¹⁰ A strict parallel would then have the Egypto-Martian First Dynasty arise when Neith Regio conquers Isidis Regio. On Terra, the Old Kingdom is held to have begun about 2900 BC, or around 5,000 years ago. Assuming a parallel history, the unification of Martian Egypt may therefore occur about 5,000 years before “Genesis”, placing this event approximately 105,000 years ago.

7. Kukan

a) In Martian Egypt

This brings us to the Old Martian city of Kukan, which appears to be somewhere in Martian Egypt.

At the beginning of “Omnilingual”, the Terran archaeologist Martha Dane is at “a seaport on the ocean that was now Syrtis Depression”.¹¹¹ Later, “They found a globe of Mars, made when the city had been a seaport. They located the city, and found that its name had been Kukan—or something with a similar vowel-consonant ratio.”¹¹² (For the transliteration of Kukan into its proper name, see **Appendix 4**.)

On the 1901 map, three-quarters of the coast of Syrtis Major belongs to Martian Egypt (Isidis, Meroe, and Aeria), while the final quarter belongs to Libya, a country closely associated with Egypt. (Figure 10.)



Figure 10. Syrtis Major, a dark, roughly triangular gulf, and the coastline of Kukan.

That Kukan is in Martian Egypt gives meaning to the Egyptian archaeological references in the story. In her very first statement on trying to translate Old Martian, Dr. Dane mentions the Rosetta Stone. “Look how long it took to read Egyptian hieroglyphics, even after they had the Rosetta Stone.” Sachiko smiled. “But they did have the Rosetta Stone.” “And we don’t. There is no Rosetta Stone, not anywhere on Mars ...[But] We’ll find one. There must be something, somewhere, that will give us the meaning of a few words, and we’ll use them to pry meaning out of more words, and so on.”¹¹³ Notice that later on, *Martha actually finds her ‘Rosetta Stone’ in Martian Egypt*—the periodic table in Kukan that is “better than a bilingual”; the universal language of the elements.¹¹⁴

As far as a precise location for Kukan, Syrtis Major is open ocean to the south, so Dr. Dane is therefore either west of Syrtis (in Aeria or Meroe Island), east of Syrtis, (Libya or Isidis Regio), or at the northern tip of Syrtis, the Nili Pons (dividing Isidis from Meroe).

Martha observes that “The wind had shifted since noon, while she had been inside, and the dust storm that was sweeping the high deserts to the east was now blowing out over Syrtis...Tonight, some of that dust would come sifting down from the upper atmosphere to add another film to what had been burying the city for the last fifty thousand years.”¹¹⁵ (Figure 11.)

Unfortunately, Beam’s description does not indicate a definitive answer. But let’s look at the options. Since Kukan was a seaport, we can assume it is located where a canal, or aqueduct, connects with Syrtis, and all three directions have such sites.

If Martha is east of Syrtis, Kukan is located where the Nepenthes canal (the border of Libya and Isidis) flows into Syrtis, west of Moeris Lacus. The dust storm to her east would then be blowing over the high deserts of Libya and Isidis. But for it to blow out over Syrtis, it would have to go through Kukan, or be actually to her south, blowing out from Libya. This does not seem like a good option.

If she is west of Syrtis, Kukan is in Aeria. Here, five canals empty into Syrtis, but at three points. Two of these points constitute the outflow of the Typhonius and Anubis canals. The third is a conjunction of three canals; the Astusapes on the border of Meroe Island, and the Astaboras and Anopes canals.



Figure 11. Traditional view of a Martian dust storm, from a picture by Lowell Hess.¹¹⁶

From all three of these coastal locations, the dust storm would be on the far side of Syrtis. It is either approaching Aeria directly, blowing west, in which case the falling dust is its vanguard grains. Or it is blowing southwest, on a tangent to Kukan, and the dust is coming off the storm's flank. These sites all seem to be fairly good options, save for the lack of any mention by Martha that the dust storm is on the far side of Syrtis. The sense I get is that the high deserts to the east are not separated from Kukan by any major geographic feature.

This brings us to the final option. If Martha is to the north of Syrtis, the dust storm to her east is again blowing southwest, with the dust falling on the city from the storm's flank. Kukan would then be at the Nili Pons, which is a junction of two canals, the Nilosyrtis and Astapus. And we notice that on Schiaparelli's original map, Nilosyrtis is huge; a major feature, paralleling the Nile on Terra, which it is named after.

Because of these facts, Nili Pons is the most attractive seaport option for Kukan. (Figure 12.)

b) Delta Metropolis

A pioneering expedition would naturally focus first on the most promising site, and on Mars the Terrans find an 'Ancient Egypt' that is an unplucked archaeological plum. Major cities are usually located on major rivers at or near the coast, which in Terran Egypt would be the more-developed Nile Delta. On Mars, the logical initial choice for exploration would therefore be a place like Kukan; a large city where a major canal joins the old ocean. The Nili Pons would then be the Egyptian Delta of Mars.

Of course, the parallels are not exact. That the Nilosyrtis and Astapus canals join together just north of Nili Pons make them decent parallels with the Blue and White Niles of Earth. But that actually means the Nilosyrtis, rather than the Astapus, parallels the Blue Nile, since the Nilosyrtis's origins in the Coloe

Palus is a parallel of the Blue Nile's headwaters in Lake Tana. In turn, the Astapus canal (rather than the Astusapes between Meroe and Aeria) would seem to be the White Nile of Mars; its origin in Nuba Lacus parallels the White Nile's headwaters in the 'Nubian' lakes of eastern Africa, such as Lake Albert and Lake Victoria.

Also, the relative directions are reversed. On Terra, the White Nile is to the west of the Blue Nile, while the Martian White Nile (Astapus) is east of the Blue (Nilosyrtris). However, since the map of Mars is reversely-oriented, this discrepancy is 'corrected'. On normal maps of Terra and the upside-down ones of Mars, the White Nile is on the left, and the Blue Nile is on the right.



Figure 12. Kukan's possible location at Nili Pons, where the Nilosyrtris flows into Syrtis Major.

The Egyptian influence in "Omnilingual" is also seen in Beam's Martian architecture, in which the buildings are massive, as among ancient empires like Egypt.¹¹⁷ For example, in Kukan there is "a twenty-five story university"; a huge single structure that can accommodate "thirty thousand students."¹¹⁸ The building is also described as "The tall one with the conical thing like a candle extinguisher on top".¹¹⁹

The resulting conical-topped skyscraper sounds to me like an immense obelisk. Obelisks were a characteristic feature of ancient Egypt. This brings the most famous one, Cleopatra's Needle, to mind. Or rather, the most famous three, for there are obelisks of that name in Paris, London and New York. The one in Paris was the first to be relocated from Egypt, and the first to bear the name Cleopatra's Needle. Those in London and New York are a pair. Originally fashioned for Pharaoh Tuthmose III around 1450 BC, they were relocated to Alexandria in 12 BC (allegedly by Cleopatra), and then to Britain and America in the later Nineteenth Century.¹²⁰

Speaking of Alexandria, if the city visited by the Terrans is indeed on the Nili Pons at the Delta of the Martian Nile, then Kukan is

c) The Alexandria of Mars

Kukan as the 'Martian Alexandria' means it must have been a major metropolis, and Piper says that "This was a big city, in its prime."¹²¹ Terran Alexandria was the greatest city of the hybrid Hellenistic world; a great commercial center, and the center of learning and culture for centuries; yet it was founded by—and named after—the greatest conqueror of the age. "Interwoven with the sorry political tale of division and decline following Alexander's death, is a real success story: the economic and cultural triumph of Hellenism. Ionia was rejuvenated while the welding of Egypt and Syria onto the Greek world

created an economic unit of far greater size and resilience than any that existed before. The metropoli of the new unit correspondingly overshadowed their predecessors, reaching the population range 90-150,000. This order of magnitude...was first attained by Alexandria—the ostentatiously regal, unremittingly commercial paradigm of the Hellenistic capital city. Alexandria grew rapidly because within its perimeter was concentrated all the Hellenising energy of the Ptolemies.”¹²²

Alexandria was the location of one of the Seven Wonders of the Ancient World, the Pharos Lighthouse, and was also the site of the Great Library, arguably another wonder. The Great Library of Alexandria may therefore be paralleled by the ‘Great University’ of Kukan, which could have been a Wonder of Old Mars.

That it is an extraordinary structure is seen in the reaction of the Terrans, for whom universities are multiple buildings spread out over a large area. “A twenty-five story university?” Lattimer scoffed. “Why, a building like this would handle thirty thousand students...think of the snafu in the halls, every time they changed classes. It’d take half an hour to get everybody back and forth from one floor to another.”¹²³

Every university includes a library as a matter of course, and the Great University of Kukan contains “a half-million-volume library”.¹²⁴ It is probably not coincidental that Piper uses the same number as the Great Library of Alexandria, where “half-a-million scrolls were gathered.”¹²⁵ (Figure 13.)

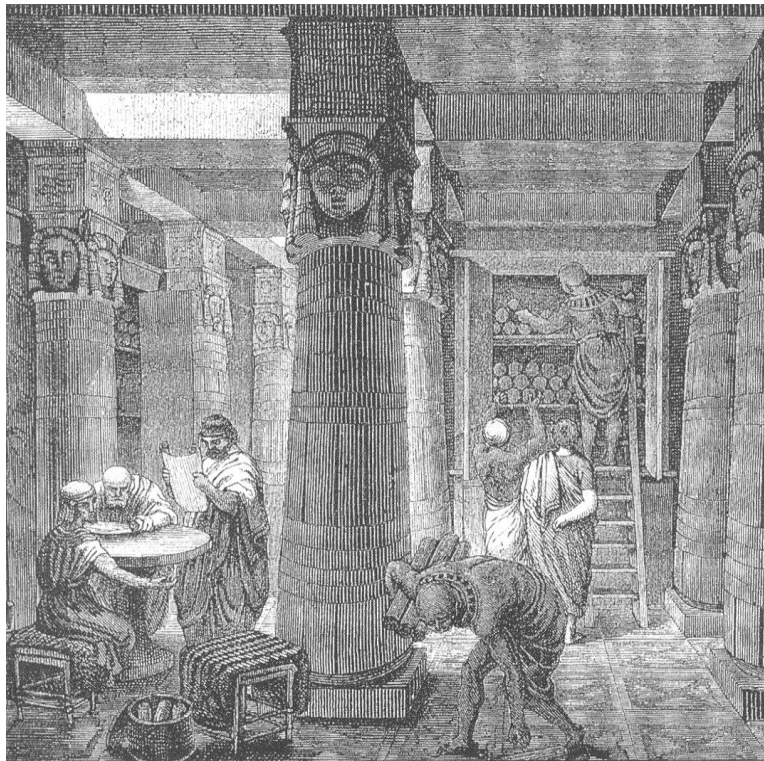


Figure 13. The Great Library of Alexandria.¹²⁶

Moreover, the Great Library can be considered the precursor to today’s universities. Although “the exact layout is not known”, the Great Library “comprised a Peripatos walk, gardens, a room for shared dining, a reading room, lecture halls and meeting rooms...This model’s influence may still be seen today in the layout of university campuses.”¹²⁷

Structurally, then, the Great University of Kukan appears to represent a combination of the Great Library and what can be called the ‘great obelisk’, Cleopatra’s Needle.

Or is it a combination of the Great Library and something else? In “Omnilingual”, the conical top of the University is “a wind-rotor, and under it there’s an electric generator.”¹²⁸ But that was probably not its

original function, since the power it supplied sustained the last surviving Martians, not the 30,000 college students of an earlier age. Moreover, I've never heard of a *conical* wind-rotor; it doesn't sound very efficient, compared with the propellor-shaped ones usual on Terra. Since Old Mars had interplanetary travel and atomic power, the Great University in its prime was most likely powered by a municipal reactor. As Mars' biosphere declined and with it Martian civilization, atomic power would have been lost, and the necessity for securing an independent power-source seems to have induced converting the conical top from a previous use. Kukan is a seaport city, so the Great University's pinnacle could have served the technological Martians better as a navigational aid for air-transport as well as maritime vessels.

The later wind-rotor may therefore have replaced a large beacon, and the Great University of Kukan would then have combined the Great Library with the Pharos Lighthouse.

The height of the famous Lighthouse of Alexandria is "variously estimated at between 115 and 135 m (380 and 440 feet)".¹²⁹ That would easily seem high enough to fit Piper's "twenty-five story university" description. Pictures of the Lighthouse show a three-tiered structure, with lines of windows on each floor, somewhat resembling a modern skyscraper. Including the base, the first two tiers look to be about 25 stories, and the renderings even include a conical top.

I may not be the first person to notice the parallels between the Great University of Kukan and the Pharos Lighthouse. In 2010, I came across the original illustrations for "Omnilingual", published in the February 1957 issue of *Astounding Science Fiction*. Kelly Freas' depiction of 'Blasting into the University' shows the Martian skyscraper as having four tiers, very similar to the Pharos Lighthouse. (Figure 14.)

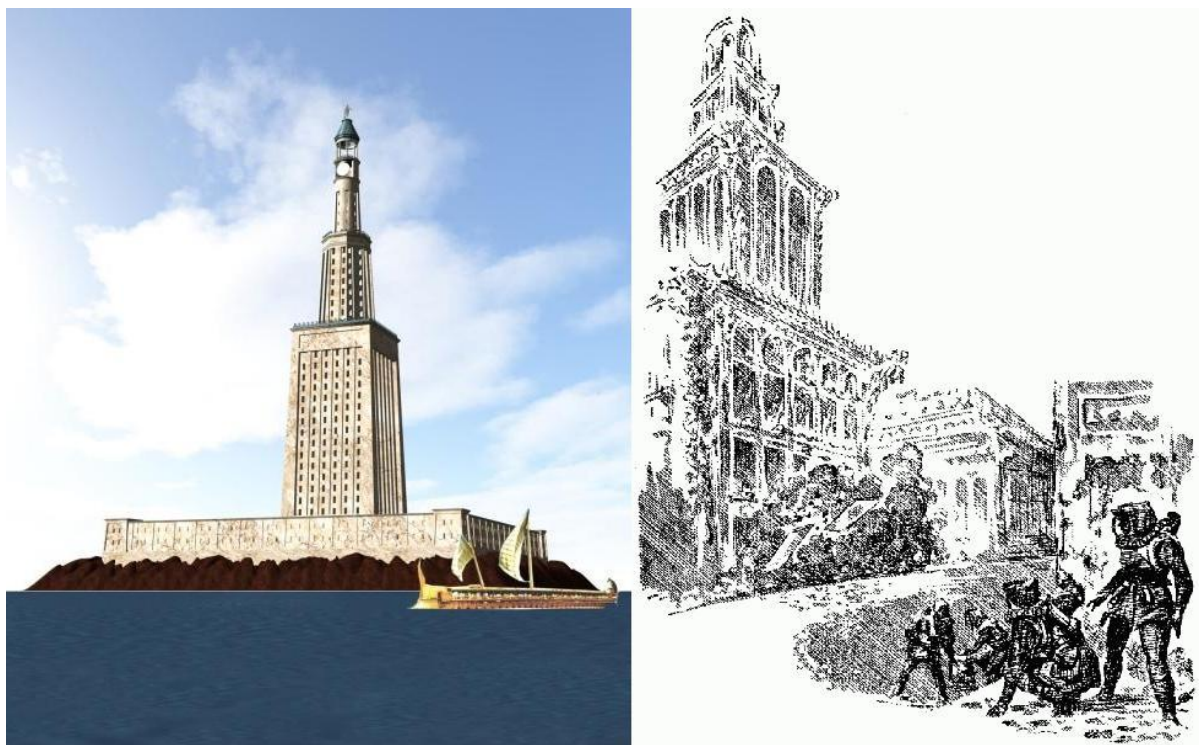


Figure 14. A reconstruction of the Pharos Lighthouse, and 'Blasting into the University', by Kelly Freas.¹³⁰

Assuming that the university of Kukan was partly modeled on the Pharos Lighthouse, then Piper's "candle extinguisher" reference gains meaning. The light formerly atop the Great University has been put out. Possibly a poetic metaphor for Martian civilization, and its formerly high state of learning.¹³¹

The death of Martian civilization includes the dead inhabitants of Mars, which brings us to

d) Mummified Martians

Archaeologists have of course found many mummies in Egypt, and the dead Martians the Terrans find are reminiscent of them. "Skeletons covered with leather...Faces like skulls, arms and legs like sticks, the flesh shrunken onto the bones under it." ¹³² Good states of preservation are typical in areas of dry air, like Egypt (whose wrapped mummies are thousands of years old) and even dryer Martian Egypt (whose unwrapped yet 'mummified' dead are about fifty thousand years old).

Ivan Fitzgerald says "I haven't seen any actual Martian skulls—these people seem to have been very tidy about disposing of their dead". ¹³³ The ancient Egyptians were fastidious in this regard as well, at least for their rulers. The mummification process involved removing the internal organs and sealing them in canopic jars, and anointing and wrapping the bodies in linen. ¹³⁴ They were then sealed in richly decorated tombs, usually filled with treasure. This is not paralleled in Piper, save for "the emerald set of a ring twinkling dully on one finger" of one of the last Martians. ¹³⁵ To me, this is suggestive of a scarab.

Speaking of tombs, it is interesting that just after Tony Lattimer finds the remains of the last Martians in Kukan—actually the very next page—he refers to Tutankhamen. "Not that I'm interested in all this, for myself," he disclaimed, after listening to the telecast from Terra two days after his discovery. "But this is going to be a big thing for Martian archaeology. Bring it to the public attention, dramatize it. Selim, can you remember when Lord Carnarvon and Howard Carter found the tomb of Tutankhamen?" ¹³⁶

King Tut belongs to the Eighteenth Dynasty, during the New Kingdom. The Eighteenth was actually the first to entomb its monarchs in the Valley of the Kings, located along the upper Nile near Thebes, at Deir el-Bahri. ¹³⁷ "Tutankhamun, was...interred in a small tomb originally intended for a favored courtier rather than a king; ironically, this untypical tomb has become the most famous of all since it was discovered largely undisturbed in 1922, together with his breathtaking gold funerary equipment." ¹³⁸

So the 'room' where Lattimer finds the last dead Martians parallels the 'tomb' of Tutankhamen. The historical model is supported by the press coverage of Tony Lattimer's discovery of dead Martians, which is through only two people; "Sid Chamberlain, the Trans-Space News Service man," and "Gloria Standish...the Pan-Federation Telecast System commentator with the expedition." ¹³⁹ Similarly, Howard Carter's expedition to King Tut's tomb had extensive press coverage, but only one person was allowed at the actual site. "All these discoveries [at the Tomb] were eagerly covered by the world's press, but most of their representatives were kept in their hotels; only H. V. Morton was allowed on the scene, and his vivid descriptions helped to cement Carter's reputation with the British public." ¹⁴⁰ Lattimer's statement about 'dramatizing' Mars and bringing it to the Terran public's attention parallels Morton's "vivid descriptions" of the tomb that captured the imagination of people the world over.

Thus, Howard Carter received great acclaim for his discovery in Egypt, and so does Tony Lattimer for his discovery in Martian Egypt. Indeed, Piper's statement about the extent of Lattimer's fame could be applied to Carter. "Without question, he had become, overnight, the most widely-known archaeologist in history." ¹⁴¹ After their famous discoveries, both men stop doing field work, and go on similar travel and lecture tours. "Following his extensive finds, Howard Carter retired from archaeology and became a collector. He visited the United States in 1924, and gave a series of illustrated lectures in New York City which were attended by very large and enthusiastic audiences, sparking egyptomania in the United States." ¹⁴² And on Mars, "Tony Lattimer wanted to get away from the detail-work and the drudgery. Let the infantry do the slogging through the mud; the brass-hats got the medals." So he returns to Terra to give "Lectures. The organization of a Society of Martian Archaeology, with Anthony Lattimer, Ph. D., the logical candidate for the chair. Degrees, honors; the deference of the learned, and the adulation of the lay public. Positions, with impressive titles and salaries. Sweet are the uses of publicity." ¹⁴³

The 'egyptomania' of the early Twentieth Century should then be paralleled in Piper by the beginnings of a 'Martiomania' in the late Twentieth Century. This is actually suggested by Sid Chamberlain. When they finally make the big breakthrough and start translating Old Martian, Sid erupts into "an excited jabber." "This is really it! *The* it, not just it-of-the-week, like finding the reservoirs or those statues or this building, or even the animals and the dead Martians! Wait till Selim and Tony see this! Wait till Tony sees it; I want to see his face! And when I get this on telecast, *all Terra's going to go nuts about it!*" ¹⁴⁴

Is there a final parallel—or parallel of finality—between Carter and Lattimer? In "Omnilingual", Tony Lattimer is not a very sympathetic character. And we note that Howard Carter's death became part of the

legend of “a ‘Curse of the Pharaohs’ plaguing the party that violated Tutankhamen’s tomb.”¹⁴⁵ Carter died in 1939, seventeen years after opening the site. It is therefore possible that Lattimer’s eventual death on Terra is connected with some controversy. Journalists with a penchant for the sensational could attribute this to his historic discovery on Mars, hinting darkly at a ‘curse of the ancient Martians.’ In support of this idea, it is also notable that none of Piper’s sympathetic characters—Martha Dane, Selim von Ohlmhorst, Sachiko Koremitsu, Hubert Penrose, or any others—are with Lattimer when he finds the dead Martians. He is accompanied only by “a couple of Space Force officers”.¹⁴⁶ If the parallel holds, Piper may have intended these unnamed men to have somewhat mysterious or tragic fates as well.

As far as the overall archaeological picture on Mars, the parallel with Egypt suggests that there should be many promising sites along the Nilosyrtis. The investigation of these may well begin when the main expedition aboard the *Schiaparelli* arrives, and Tony Lattimer leaves the Red Planet in the *Cyrano*, probably never to return.

8. Connecting “Genesis” and “Omnilingual”

a) *Egyptian Linchpin*

The above research reveals a new connection between “Genesis” and “Omnilingual”.

In the first Old Martian expedition to Terra, Seldar Glav mentions the Fourth Dynasty, which we deduced ruled Martian Egypt. In the first modern Terran expedition back to Mars, Martha Dane lands in Martian Egypt, and makes reference to the Rosetta Stone, by which Egyptian hieroglyphs like those of the Terran Fourth Dynasty were deciphered. Then, she actually finds its equivalent in Martian Egypt, enabling her to begin reading Old Martian. This in turn will allow the Terrans to learn everything about Martian history, *including the ancient Fourth Dynasty mentioned by Seldar Glav*, which is probably one of the civilizations depicted on the History Department murals. “Wonderful!... The entire history of this race... [now] we can break the history of this planet into eras and periods and civilizations.”¹⁴⁷

We can add this to the connections already implicit in the two tales.

In “Genesis”, Olva says that “maybe, in a hundred thousand years, our descendants will build a ship and go to Doorsha”.¹⁴⁸ About 100,000 years later, the Terrans in “Omnilingual” do just that. Martha Dane, the main character, is among them, and her name seems very similar to that of Kalvar Dard, the main character in “Genesis”. Moreover, her first name is practically ‘Mars’. (See **Mirror-Image Martians**, below.)

Another connection between the two stories is Kalvar Dard’s foresight that “Long after man had died out on Doorsha and the dying planet itself had become an arid waste, the progeny of this little band would continue to grow and to dominate the younger planet, nearer the sun. Some day, an even mightier civilization than the one he had left would rise here...”¹⁴⁹ This is true as well, for with the return trip to Mars in “Omnilingual”, Terro-Humanity roughly equals the level of its ancestors’ civilization, and soon far surpasses it. Over the next few centuries, the Terran Federation develops hyperdrive, and grows from a single-system state to one that encompass five hundred planets¹⁵⁰ across “a space-volume of two hundred billion cubic lightyears.”¹⁵¹ Moreover, as large as it is, the TF itself is merely the forerunner of the First through Fifth Galactic Empires, an ever-larger sequence of universal states in which the (originally Martio-) Human race spreads throughout the Galaxy.

A third connection, already mentioned, is vegetation. Kalvar Dard also says, “And since Tareesh is richer in water than Doorsha, you mustn’t think of grassland in terms of our *brush thickets*. The vegetation should be much more luxuriant.”¹⁵² One hundred thousand years later, Martian flora still clings to life. Martha “could look down on the cluster of prefabricated huts and sheds, on *the brush-grown* flat that had been the waterfront when this place had been a seaport on the ocean”.¹⁵³ And on the next page, “She started walking down the road, over hillocks of buried rubble... and across the *brushgrown* flat to the huts.”¹⁵⁴ Piper even repeats the brush-point two more times, on the History Department murals in Kukan University. “A richly fertile landscape, gradually merging into barren deserts and bushlands—the time of the great planet-wide drought... More cities—seaports on the shrinking oceans; dwindling, half-deserted cities; an abandoned city, with four tiny humanoid figures and a thing like a combat-car in the middle of a

brush-grown plaza".¹⁵⁵

A possible fourth connection is game. Dard additionally mentions "the game herds on the wastelands of Doorsha", and compares them to the "game" on Tareesh.¹⁵⁶ On Tareesh, or Terra, 'game' includes birds, such as ducks or pheasants. And on their first trip back to Mars, the Terrans actually shoot what may be a game bird. "Bill chandler [sic], the zoologist, had been going deeper and deeper into the old sea bottom of Syrtis. Four hundred miles from Kukan, and at fifteen thousand feet lower altitude, he shot a bird. At least, it was something with wings and what were almost but not quite feathers, though it was more reptilian than avian in general characteristics."¹⁵⁷

b) Mirror-Image Martians

Now, let's take a closer look at the main characters; Kalvar Dard and Martha Dane. Just as "Genesis" and "Omnilingual" are mirror image stories, each describing the first interplanetary flight from Mars to Terra and back, Kalvar and Martha appear to mirror each other.

First, their last names are very similar. Dane and Dard have the same number of letters, with the first two, 'Da', identical. Their first names, Martha and Kalvar, also have the same number of letters, with three identical ones (two 'a's and one 'r'). Thus, exactly 50% of Martha's first name, and 50% of her last name, are identical to Kalvar Dard. This makes perfect biological sense, as she is half the descendant of Dard, and half the descendant of one of the Martian women in "Genesis". Possibly Analea, who Dard has his arm around while en route to Tareesh,¹⁵⁸ who later walks with him at the front of the now-stranded band of eight Martians, and who finally bears two of his children.¹⁵⁹ This brings in the Extra-Terrestrial Paradise mentioned above. As her first ancestors living on Terra, Kalvar Dard and Analea are therefore the Martian 'Adam and Eve' from whom Martha is descended.¹⁶⁰

Second, to reiterate, Dr. Dane's first name is practically 'Mars'. Naming his main character Martha would be like Piper writing a story about the first Venus landing, and naming its main character something like Veena. (Parenthetically, it is interesting that one of the Martians in "Genesis" is actually named "Varnis", very similar to Venus—but in truth is apparently a veiled reference to Barsoom.¹⁶¹) Moreover, that 'Martha' is a deliberate echo of Mars is supported by several of Beam's main characters in other stories, whose names seem to have deliberately hidden meaning. Such as *The Cosmic Computer*, where 'Conn' Maxwell appears to be so named because he puts over the biggest 'con' job in the history of Poictesme. Or *Four-Day Planet*, where Walter's last name, 'Boyd', seems to hint at his role as a 'boy' reporter. Or "When in the Course", where Roger's last name is "Barron" (and he is a minor political official, or 'baron', from Venus), but he will end up a 'prince' (by marrying Princess Rylla).¹⁶²

Third, also notice that only a few changes are required to give Dr. Dane a Martian version of her name. Transposing the 'r' and 'n' in her first and last names results in Mantha Dare—which becomes Mantha Dard by altering the final 'e' to a 'd', the previous letter in the alphabet. Or, changing the 'r' in Martha to the 'l' in Kalvar would make it Maltha Dane; the last name again easily changed to Dard.

Fourth, that Dr. Dane is essentially a Martian is supported by the implication that she will stay on Mars for a long time; certainly the rest of her professional career, and probably the rest of her life. Determined to translate Old Martian, she says "We've only been here six months. *I can wait the rest of my life if I have to*, but I'll do it sometime."¹⁶³ Selim confirms the time-frame. "Mars is for young people... You'll have time to learn about Mars. I won't."¹⁶⁴ Assuming that Martha remains on Mars permanently, she parallels Kalvar Dard, who remains on Terra for the rest of his life, which is "twenty years".¹⁶⁵ Even though the colony ship blew up, as one of the colonists Dard intended to stay on Terra anyway.

Fifth, her decision to remain therefore makes Martha one of the first 'new' Martians, the first Martio-Humans in 50,000 years, replacing the ones who died out. Although referring to archaeology, Dr. Dane says that "This is a whole new world...Literally."¹⁶⁶ Von Ohlmhorst echoes her. "You said it yourself; you have a whole new world."¹⁶⁷ New Mars, new Martians. This again parallels Kalvar Dard, whose group of exiles are the first 'new' Terrans, the first Terro-Humans, who supplant the native humanoids, the Terro-Neanderthals, "brutish sub-humans" whom they exterminate.¹⁶⁸ For Kalvar and the Martians, Terra is literally a whole new world.

Sixth, both characters are leaders of their respective first expeditions. Kalvar Dard is "the army officer who would lead them in their new home" on Terra.¹⁶⁹ Martha Dane is not the military leader of the First

Mars Expedition (that's Hubert Penrose, who also parallels Dard ¹⁷⁰), but she will become one of its *scientific* leaders. Selim von Olmhorst says that "This expedition *is a cadre of leadership*—not only the Space Force people, who'll be the commanders of the main expedition, but *us scientists, too*...All I came for was to get the work started...now; you and Tony and whoever come out on the *Schiaparelli* must carry it on." ¹⁷¹ Thus, when the renowned von Olmhorst fulfills his intention to return to Terra—"there are a dozen universities that'd sooner have you than a winning football team" ¹⁷²—the implication is that Dr. Dane and Dr. Lattimer will become the scientific leaders on Mars. But the Hittitologist ultimately decides to stay, and since "Martiology was a new field", the change of plan means that Selim is "automatically stepping into the leading role that Lattimer had coveted for himself", making von Olmhorst "the top man in Martiology, too." ¹⁷³ So it is Tony Lattimer who leaves, becoming the leading Martiologist on Terra. As we've seen, however, this is hardly an onerous trip for Tony, since it entails "The organization of a Society of Martian Archaeology, with Anthony Lattimer, Ph. D., the logical candidate for the chair. Degrees, honors; the deference of the learned, and the adulation of the lay public. Positions, with impressive titles and salaries."

However, Martha's success in reading Old Martian, plus her close association with von Olmhorst, undoubtedly makes her the number two Martiologist on Mars. Her career was already off to a great start, even before traveling to the Red Planet. Selim tells her, "You have an excellent standing; much better than my own, at your age." ¹⁷⁴ Eventually, Dr. Dane will become the top Martiologist. Ivan Fitzgerald says that "whoever makes a start on reading this language will be the biggest big shot archaeology ever saw." ¹⁷⁵ And Martha is the one who makes that start, receiving "full credit", even though her work was done "in spite of the doubts and discouragements of her colleagues." ¹⁷⁶ Moreover, since von Olmhorst says that "The rest of my life will only be a few years", ¹⁷⁷ his successor will certainly be Dr. Dane, who will then be the leading scientist on Mars, as well as the biggest big shot archaeology ever saw. Thereby eclipsing her old rival, Dr. Lattimer, who as we've seen may come to a mysterious or tragic end on Terra.

Reading the language brings us back to personal names. Martha's work in translating Old Martian will undoubtedly uncover many personal names, beginning with the "the names of Martian notables whose statues we find" in Kukan University. ¹⁷⁸ Among these "statues and busts and pictures"—or possibly even depicted in the History Department murals—could be an image of Kalvar Dard himself, who was 'notable' for being the military leader of Old Mars' only known attempt at interplanetary space travel. Its greatest accomplishment and greatest disaster, since the expedition's failure prevented Martian civilization from surviving by successfully colonizing Terra. Assuming that Martha's transliteration scheme renders his name close enough to the original 'Kalvar Dard', its similarity to 'Martha Dane', his great-to-the-nth descendant, could be noticed. Although it is highly improbable that Dr. Dane ever actually changes her name, as a 'new Martian', we've shown that her true name could be Mantha or Maltha Dard.

c) *Shifting Names in Reverse*

It must be admitted, however, that Martian names really are mirror images of ours. They actually begin with the surname, and follow with the first. Kalvar is what we would call Dard's last name. As a soldier, he is formally addressed as "Colonel Kalvar", not Colonel Dard. ¹⁷⁹ And he is called familiarly by his personal name, "Dard", not his family name, Kalvar. ¹⁸⁰

This name-order is consistent with the Martians of Home Time Line in the Paratime series. There, the Martian colonization of Terra went without a hitch. "We're on the First Level—complete success, and colony fully established." ¹⁸¹ That means the language and culture have not changed much in a hundred thousand years; the Paratimers are essentially the same as the Martians in "Genesis". The main character in Paratime, Verkan Vall, is formally addressed as Chief's Assistant Verkan, ¹⁸² and familiarly addressed as "Vall". ¹⁸³ Likewise, his lady-love, Hadron Dalla, is referred to as "Dalla", not Hadron. ¹⁸⁴

Thus, if Piper used a real name as the model for his main Paratime character, he could have started with something like 'Bill Buchan'. Reversed, that becomes Buchan Bill, which with some modifications would then result in Verkan Vall.

That muddies the water a bit, because the true comparison of first names has Martha parallel Dard, while for last names Dane parallels Kalvar. However, this does not change my belief that Piper purposely echoed Kalvar Dard with Martha Dane, for all the reasons given.

d) *The End Meets the Beginning?*

Kalvar Dard may be said to represent the end of Martian civilization. No more colonists follow him, and his Terran descendants lose their extraterrestrial culture; while back on Mars, the Martians themselves eventually die out. As his mirror-image, Martha Dane represents the beginning of the new Martian civilization. More ships and colonists from Terra will come, and eventually the "First Terraforming" will make Mars fully (or at least largely) habitable again.¹⁸⁵

As previously shown, the two characters are connected through Martian Egypt. And Selim von Ohlmhorst tells Martha Dane that Kukan "is one of the places where the Martian race perished, and there were no barbarians to come later and destroy what they had left...Some of these days...we are going to break into one of these buildings and find that it was one in which the last of these people died. Then we will learn the story of the end of this civilization."¹⁸⁶ The dead Martians Tony Lattimer finds are the last ones in Kukan, and since Kukan is a city "of the last Martian civilization", they may have been the very last living civilized Martians. "They must have been all that were left, here. Their power was gone, and they were old and tired, and all around them their world was dying. So they just came in here and lit the charcoal, and sat drinking together till they all fell asleep. Well, we know what became of them, now, anyhow."¹⁸⁷

Since Kukan is in Martian Egypt, then the end may meet the beginning. Egypt is one of the cradles of Terran civilization; possibly our oldest one. And we've seen that Mars may have a parallel history. Assuming so, then Old Martian civilization began in Martian Egypt about 105,000 years ago, and ended in Martian Egypt, around 55,000 years later.¹⁸⁸

That would make this another Piper historical cycle.¹⁸⁹

But before the end of Old Mars, another group of people left the Red Planet. Hopefully the above revelations have been interesting enough, but I've actually saved the best for last. It's time to locate

9. The Freyan Homeland on Mars

a) *A Martian Iliad and Odyssey*

As stated in the section **Hellas on Mars**, I deduced in the summer of 2000 that the Terran Federation is partly modeled on the Roman Empire. But this was just part of Piper's system of historical models, whose Terro-Human Future History appeared to be modeled on Western history.

Western history began with Rome, though its origins were in ancient Greece, and before that in the civilizations of the Near East, including Egypt. Similarly, Beam's Future History begins with Terra, though Terra's origins are on Old Mars, which thanks to Giovanni Schiaparelli contains a Greece (Hellas), plus some Near Eastern-parallel regions, such as Arabia, Edom, and Egypt (Isidis and Neith).

But then how do we explain the humans of Freya? They couldn't have come from Terra, for the last page of "Genesis" suggests that Terro-Humanity undergoes a long slow rise from barbarism to the recovery of their Martian ancestors' spacefaring capability.¹⁹⁰ So the Freyans most likely came from Old Mars, before its civilization declined to a non-spacefaring level. Initial support for this deduction is found in the Freyan words from "When in the Course" (*tsan vovaru* and *doru vovaron*),¹⁹¹ which seem similar to the Martian words in "Omnilingual" (*Mastharnorvod Tadavas Sornhulva*, for example).¹⁹²

According to tradition, Rome was founded by emigrant Trojans, led by Aeneas, Ilium's greatest warrior after Prince Hector. Since Terra is founded by emigrant Martians, that would make Colonel Kalvar Dard of the Frontier Guards the 'Martian Aeneas'. So now, if Freya was also settled from Old Mars, then one must ask a question: did the Trojans settle in any other country after Troy fell?

The answer is yes.

According to Geoffrey of Monmouth, Brutus, the great-grandson of Aeneas, also left the Ancient Greek World, with some Greco-Trojan followers. Passing through the mainly familiar Mediterranean and the Pillars of Hercules into the vast and unknown Atlantic, they braved the perils of the world-encircling Ocean to eventually settle in Britain.¹⁹³ Many centuries later, the expanding Trojans of Rome (the elder exiles) conquered the insular Trojans of Britain (the younger exiles), adding them to the Roman Empire.

In Piper, this is therefore paralleled by a second flight of humans from the Old Planet Mars several generations after Dard. Passing through the mainly known inner Solar System, they then brave the perils of unknown interstellar space, eventually (crash) landing on Freya. Many thousands of years later, the expanding Martians of Terra (the elder exiles) annex the isolated Martians of Freya (the younger exiles), adding them to the Terran Federation, which is in the process of becoming a great interstellar empire.

This Greco-Trojan connection explains why the Freyans have Greek-sounding names (Ptosphes, Chartiphon, Harmakros), and why, when Roger Barron first attempts to talk to them, he “replied from the *Iliad* in the original.”¹⁹⁴

The *Iliad* recounts a great war in the dim early period of Western history, a legendary conflict which heralded the end of ancient Hellenic (Danaan) civilization. The epic events in the *Iliad* were followed by those of the *Odyssey*, and soon thereafter came the Dorian invasions and the Dark Age of Greece. Since Piper’s Old Planet Mars is partly modeled on the Ancient Greek World, this seems to be paralleled by a ‘Martian Iliad’, or great war, several generations after Dard.¹⁹⁵ Occurring in the dim early period of Terran history (only recently settled by Martio-Humans), this forgotten conflict heralds the end of ancient Martian (Doorshan) civilization. When excavating Kukan, a city of “the last Martian civilization”, Colonel Penrose says “I think that this place must have been something like a monastery in the Dark Ages in Europe, or what such a monastery would have been like if the Dark Ages had followed the fall of a highly developed scientific civilization.”¹⁹⁶ So sometime after the deduced Martian Iliad, what can be called ‘the Dark Age of Mars’ follows;¹⁹⁷ the collapse of civilization, and ultimately, the extinction of the native Martians. That would make the flight of the Freyans a kind of ‘Martian Odyssey’; the last epic adventure of the ancient Red Planet.¹⁹⁸ The Homeric Cycle of Ancient Greece (*Iliad* and *Odyssey*) would then be the model for an epic ‘Piper Cycle’ on Old Mars (Martian Iliad and Freyan Odyssey).

Two more maps may make the historical or legendary models clearer. (Figures 15 and 16.)

The first thing we notice from these maps is that the Mediterranean Sea parallels the inner Solar System, and peninsulas parallel planets. Iberia, Italy, Greece, and Asia Minor (separated from Greece by islands) parallel Venus, Terra, Mars, and Jupiter (separated from Mars by the Asteroid Belt).¹⁹⁹

If correct, the Mediterranean model enables us to learn more about the voyage of the Freyans. After three days of sailing, Brutus and his followers stopped at “a certain island”; this means that the Freyans initially leave the surface of Mars for Phobos or Deimos, a short rocket flight away. The Greco-Trojans then went to Italy, so from the moons of Mars, the Freyans journey to Terra. In Italy, some descendants of Aeneas and the earlier Trojan exiles joined Brutus’ expedition; thus, the Freyans recruit a few of Kalvar Dard’s descendants on Terra. The Greco-Trojans then sailed around Iberia into the Atlantic Ocean, so the Freyans fly by Venus before departing the Solar System into interstellar space. Brutus and his followers landed at the Loire River in France, intending to settle there, but were forcefully repulsed by the warlike inhabitants. This means that the Freyans land on an Earthlike (or at least Marslike) world whose inhabitants are fierce (possibly “Mimir, swarming with a race of semi-intelligent quasi-rodents, murderous, treacherous, utterly vicious”),²⁰⁰ so they are forced to leave and find another planet. The Trojan exiles finally arrived in Britain, and the Martian exiles of course finally discover Freya.

The Trojans used ships typical of their time, so the Martians may employ normal-space craft in their journey to Freya. But from the maps we also notice that Freya is literally at an astronomically greater distance from Mars than Britain is from Greece; in order for Mimir and Freya to fit, I had to greatly truncate their interstellar journey. Such an incredibly vast voyage would certainly take an enormous amount of time, even at speeds approaching that of light. Thus, the final epic achievement of the ancient Red Planet may include the development of a prototype hyperdrive just prior to the loss of their spacefaring capability. Too late to save Martian civilization, but just in time to allow another small group to emigrate. The depicted interruptions in their voyage would then represent these first-ever hyperspatial jaunts.

The timing of the Terran development of hyperdrive supports this deduction. As stated, Kalvar Dard’s ancient expedition to Tareesh is paralleled by Martha Dane’s modern one to Mars, in AE 54. Terro-Humanity develops hyperdrive less than 150 years later, in AE 183, and the first flight to Alpha Centauri occurs nine years after that. So a prototype Martian hyperdrive could be developed about a century and a half after Dard’s voyage, with the Martian Brutus and his followers departing Mars about a decade later.

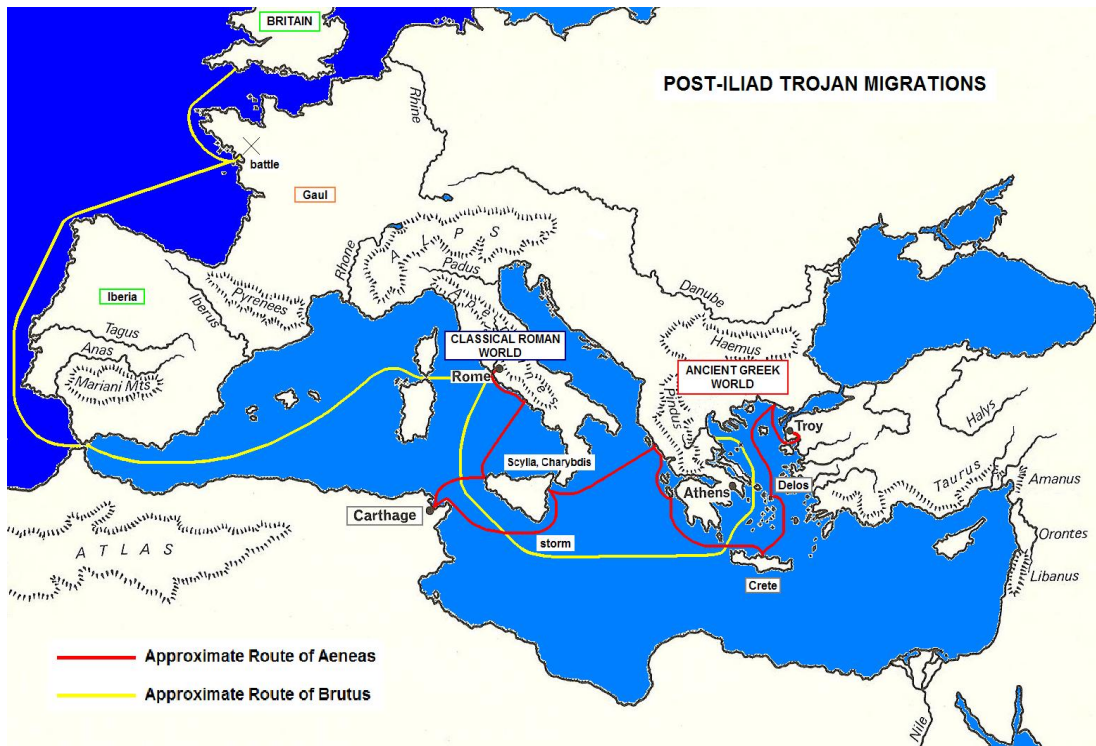


Figure 15. The ancient sea voyages of Aeneas and Brutus.²⁰¹

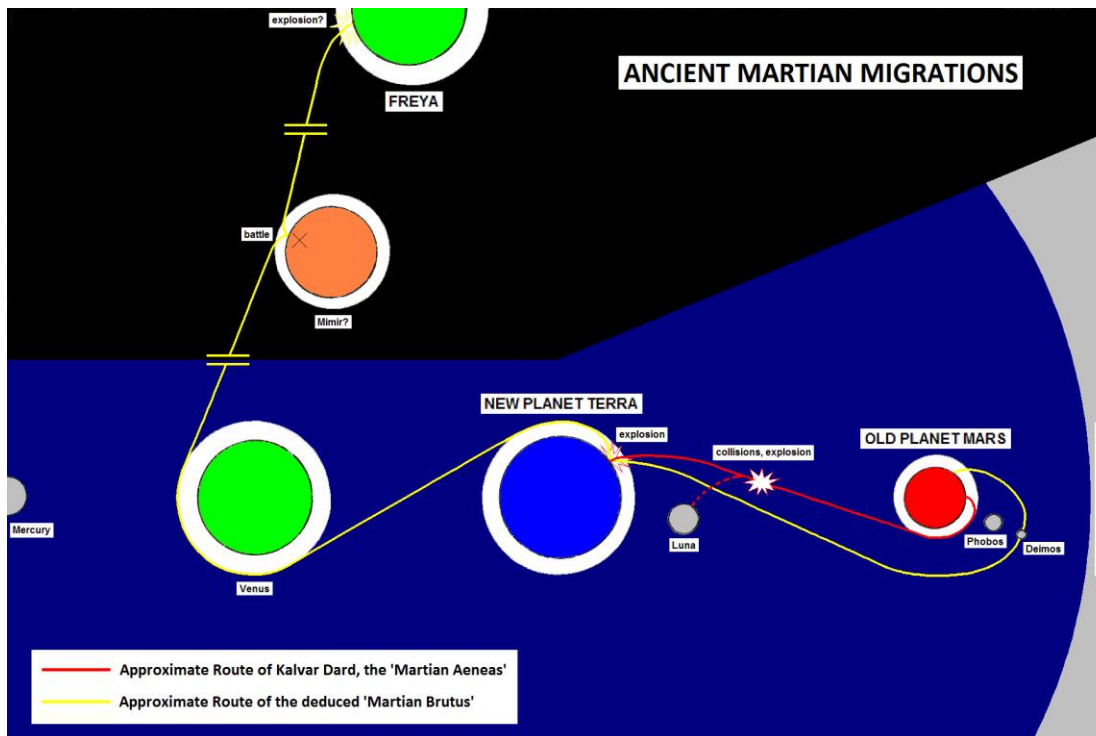


Figure 16. The ancient space voyages of Kalvar Dard and the deduced 'Martian Brutus'.

A hundred and sixty years would be about five generations after the voyage of Kalvar Dard, roughly paralleling the time between the voyages of Aeneas and his great-grandson Brutus.²⁰²

b) A Scandinavian Goddess

So the Freyans are 'Greco-Trojan' Martians, at least in name. This may mean that they came from the Hellas of Mars, or one of the other regions with Greek names. (See below.) But Piper describes them as Nordic in appearance. "They were light-skinned and fair; most of them had blond or reddish beards."²⁰³ As I show in "When in the Course"—Piper's *Gods of Mars?*, there is a strong Edgar Rice Burroughs influence on that story. The Freyans are essentially Orovars; a remnant of the Nordic Martians who ruled Barsoom/Doorsha in the distant past. Beam's description of the Freyans is similar to Edgar's description of the Orovars, who "were of people like myself, and of a much lighter color than Dejah Thoris...their luxuriant hair was of a beautiful golden and reddish bronze...a fair-skinned, fair-haired people".²⁰⁴

On modern Barsoom, the 'Earthman' John Carter (who is really a Martian; see **Appendix 3**) discovers a large group of Orovar descendants at the Martian South Pole; the Therns, part of the ruling Cult of Issus. While in Piper, modern Terrans like Roger Barron (who is really a Venusian, or 'Freyan') discover a large group of Nordic Martian descendants on Freya, ruled by the religious dictatorship of Styphon.

We may now be able to locate the Freyans' original homeland on the 1901 general map of Mars. Since the Freyans are Nordic, and they parallel the South Polar Therns of Barsoom, this probably means their ancestors originally lived in the higher Martian latitudes. That would put them near the polar ice caps, and above 65 degrees north on Mars is a region actually called 'Scandia'. (Figure 17.)

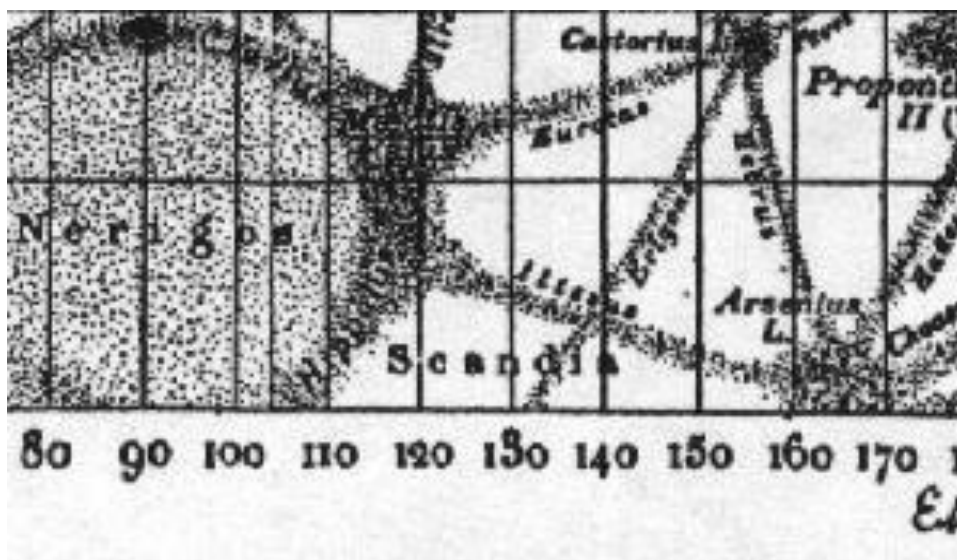


Figure 17. Martian Scandia, the possible ancient Freyan homeland.

Scandia may therefore be the ancient homeland of the Freyans, and the historical cycle Beam intended seems to be 'from Scandia on Mars came the "Scandinavians" of Freya'. Martian Scandia can explain why Piper named their destination planet after a Scandinavian goddess; it was an internal clue. In connection with Burroughs' South Polar Therns, we also note that on the reversed-orientation 1901 map Scandia looks to be near the Martian South Pole, but is actually near the northern one.²⁰⁵

The literary model for the extraordinary beauty of Freyan women seems to be the extraordinary beauty of Martian women; in Burroughs especially among princesses like Dejah Thoris, and in Piper especially among princesses like Rylla. But Beam always employed historical models, and as I show in my early study "Old Mars and Freya", the historical model for Freyan beauty seems to come from Scandinavia, specifically Iceland.

In general, Icelandic women are held to be extraordinarily good-looking. These include observations such as “Icelandic women are famed for their beauty”, “Iceland...has a remarkably high percentage of beautiful women”, and “The women of Iceland are complete knockouts”.²⁰⁶ “An example of the famed Icelandic fact that its women are stunningly beautiful [is] Anita Briem”, the actress who played opposite Brendan Fraser in the remake of *A Journey to the Center of the Earth*.²⁰⁷ But looks aren’t all of it; in an interview, Briem herself states that “Icelandic women tend to be very strong and very independent”,²⁰⁸ characteristics which would certainly also apply to the Freyan Princess Rylla.

The reason for their beauty originated in the colonization of Iceland. Harald Fairhair was the King of Vestfold, and later the first recognized king of all Norway. However, “His brutal new order drove many of Norway’s finest men into exile, including those who fled west over sea and settled Iceland.”²⁰⁹ These ‘finest men’ were said to have taken only the most beautiful women with them—a practice they continued, for from their Icelandic bases they “would gather the most beautiful women from the villages they raided and then take them back to Iceland.”²¹⁰ Thus, Icelandic women ever since have been exceptionally pretty on average.

Iceland was colonized from Scandinavia, and Freya may therefore be colonized from the ‘Martian Scandinavia’, or Scandia. Assuming so, then the men who depart the Red Planet for Freya are some of Mars’ finest, and take only the most beautiful Martian women with them.

c) Helleno-Thylian Martians?

Though my initial impression was that the Freyans came from Martian Scandia, the Greek angle continued to bother me. Hellas is not too far from the Martian South Pole, and Thyle I, II, and Novissima Thyle are even closer. As stated in endnote 32, Novissima Thyle apparently means “Newest Thule”, and Schiaparelli therefore got the name from a classical Greek source. This was the ancient but historical voyage of Pytheas.

Pytheas was a Greek of Massalia (now Marseilles), who apparently lived around 240 BC. At that time, Massalia was dependent on tin and amber brought by Celtic merchants down the Rhone River from northern Europe. But when demand began to outstrip supply, the Massalians decided to seek a sea route to these riches, located in what was then the far north. In an epic voyage not unlike the legendary one of Brutus the Trojan many centuries earlier, Pytheas sailed around Iberia, then landed in France before proceeding on to southwestern Britain. There he found the source of tin, in the mines of Cornwall.

But before returning home, he continued sailing north, spurred on by tales of another island at the edge of the Frozen Sea. Its name, according to the Shetland Islanders, was Thule.

Pytheas of Massalia then went on to make his greatest—and most mysterious—discovery. To this day scholars argue over whether Thule was Iceland, one of the Faeroes, or even part of Norway. All that is certain is that the Greek explorer reached it, after sailing northward for six days, and that he stayed there a considerable time. While exploring this place, the “ultimate” as he called it, the man of the Mediterranean observed a phenomenon that must have filled him with awe, the midnight sun.

References by others to this “ever-shining fire” and the island’s “immense summit” seem to indicate that Thule was indeed the volcanic outcrop of Iceland.²¹¹

Thus, the Scandinavian or ‘Icelandic’ Freyans could have also come from the ‘Thules’ of southern Mars. (Figure 18.) This means that Piper could indeed have followed Burroughs, by having some of his ‘lost white race’ of Freyans come from the Martian South Pole. In fact, it would be an improvement, for Burroughs’ remnant Nordic Martians are only found at one pole (his North Pole being inhabited by the Yellow Men of Okar), while Piper’s remnant Nordic Martians may come from both.

In support of this idea, it would be logical that, besides the canal-cities, Old Martian civilization would last longest near the icecaps, the main source of fresh water. And the ice-caps would be the connecting link between the northern region of Scandia and the southern Thyles. Especially the island of Thyle I, almost directly south from Scandia, in the Martian Western Hemisphere.

Moreover, since the Thyles are named from a Greek source, these large islands of southern Mars may have been colonized from Martian Hellas. And historians have long maintained that many ancient Greeks

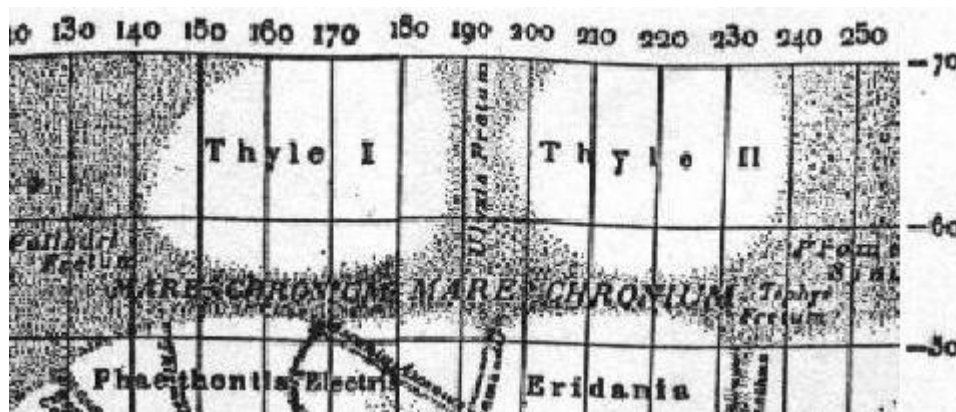


Figure 18. Thyle I and Thyle II; possible island homelands of the Freyans, if they are also South Polar Martians.

were fair-haired, relating them to the Scandinavians. We recall that Doorsha may be partly derived from 'Doria', and the Dorians of history were said to be Nordic. The greatest hero of ancient Greece, Achilles, is believed to have been blond, as is Helen of Troy (*nee* Sparta). Despite the recent attempts of historical revisionists to reclassify the ancient Greeks as a darker people—in some cases, even black—this is still the case. In the 2004 movie *Troy*, Helen (Diane Kruger) and Achilles (Brad Pitt) are blond.²¹²

And that may provide another connecting link. Helen of Troy was the most beautiful woman of the ancient world; the prize resulting from the Judgment of Paris, and 'the face that launched a thousand ships'; the pursuit by the enraged Greeks after Sparta's lost queen. As we've seen, the Freyans' origin may include an ancient Martian war, or *Iliad*, followed by a Martian *Odyssey*. The *Odyssey* recounts the return voyage of Odysseus from Troy, to his wife, Penelope, another beautiful daughter of Sparta. So the postulated Martian *Iliad* and Freyan *Odyssey* may likewise be closely related events.

My research indicates that Piper usually employed a *creative combination* of historical and literary models. So if we combine the legendary Greco-Trojan element (Brutus and Britain) with the historical Scandinavian elements (Harald Fairhair and Iceland/Thule), the tale we get is roughly this. On Old Mars, the planetary irrigation system is dependent on meltwater from the polar ice caps. But access to the ice is in the hands of the Nordic Martians (Scandians and Thylians) who live in those regions. After the disaster in "Genesis", the hopeful promise of expanding to another world is replaced with retrenchment and resignation. Limited to a single world of finite and dwindling resources, the Martians soon begin disputing over control of them, especially the all-important water. This puts the polar Martians at odds with the rest of the planet, eventually causing the global Martian state to adopt a more authoritarian form of government, to enforce the 'equal' sharing of resources. The new order is resented, especially among the polar nations, who resist at first, and finally cease cooperating. The global state then fractures, and wars begin. The planetary leader attacks the polar Martians to seize control of the ice-caps. The Nordic Martians are defeated in a global war, probably atomic. On a world of declining resources there is nowhere to go but off-planet, so a Scando-Thylian leader and his followers, among the finest men on Mars, take the most beautiful women with them. They depart the Red Planet in several rockets, on an odyssey to find a new home. Their first stop is a base on Deimos, where they board a normal-space ship that has secretly been fitted with a prototype hyperdrive. They then voyage to Tareesh, discovering to their surprise that some Martians did survive the explosion of the colony ship over a century ago. Although communication with the survivors' descendants is possible, these have decivilized into hunter-gatherers, at unremitting war with the savage native humanoids. That's one reason the exiles decide not to stay on Tareesh; the other is the fear of pursuit by armed enemy "rocket-boats" from Mars.²¹³ Deciding on more distance to put them out of range, and fortifying their numbers with some Tareeshan humans (including the most attractive females), the Nordic Martians fly to Venus next. But rocket-reconnaissance beneath the cloud layer reveals that the planet is a swampy hothouse, with little to

recommend it for starting a new civilization. This brings the exiles to a crossroad of destiny. Returning to Mars is out of the question, and Terra is too savage and too close to risk. Venus is habitable, but life there would probably be marginal and primitive. Settle here and play it safe, or try for something better, something totally new? A vote is taken; they activate the untested hyperdrive, and shoot for the stars.

As a possible composite of North Polar and South Polar Martians, the Scando-Thylian Freyans may have therefore been an international crew, like that of the Terrans in “Omnilingual”. If so, then this would also parallel the *Iliad*, where the Trojans and their allies, such as the Phrygians and Amazons, were defeated by a coalition of Greek states. Given Princess Rylla’s warlike nature, that parallel raises the interesting possibility that some of the Freyans could have come from Greek-named regions of Mars such as Amazonis. In addition, the deduction that the exiles take the most beautiful women with them implies that the declining Martian resources being fought over includes females, to continue the race.

Although the lack of an explicit statement by Piper on the matter means the question must remain open, the historical and literary models suggest that the leading contenders for the Freyan homeland on Mars are Scandia and the southern Thyles, the latter possibly settled by Martian Hellas.²¹⁴

If the above scenario of the Freyan migration is essentially correct, it reveals an aspect of “When in the Course” that Beam kept hidden. Some of the Terrans aboard the *Stellex* are fugitives; Julio Almagro says that if they return to Terra, “Most of us—I’m not speaking for myself or Roger [Barron]—could stay out of jail.”²¹⁵ In addition, Freya wasn’t their only stop. “We came out to find a Terra-type planet. We spent four years and visited six systems; now we’ve found one. We won’t get another chance.”²¹⁶ They won’t get another chance because their space ship is on its last legs. “Margaret Hale...told him just how many more jumps her Dillinghams were good for. Charlie Clifford and Sylvia Davock were silent; both of them knew that the law of diminishing returns was rapidly overtaking both the carniculture vats and the hydroponic gardens, and Sylvia knew how much oxygen and water was escaping irrecoverably from the recycling systems. And they all knew how long the *Stellex* herself would last.”²¹⁷

Thus, the troubled voyage of these expatriate Terrans and Venusians to Freya may closely parallel the original voyage of the fugitive Freyans, who ‘passed by’ (couldn’t stay on) Terra and Venus themselves.

10. “A Globe of Mars”

Ever since 1981, when I first read how the characters in “Omnilingual” had “found a globe of Mars, made when the city [of Kukan] had been a seaport”, I’ve wished that Beam would have had them give more areographic details. So skillfully was the story told, that his version of Mars became a fascinating world I wanted to explore further. One would expect that the expeditions following the *Cyrano*—probably starting with the *Schiaparelli*—begin excavating other abandoned cities and interesting sites in different regions of Mars, during which Piper’s characters would reveal more information and names.

Unfortunately, Beam never wrote any more stories about the exploration and colonization of Mars. There seem to be several reasons for this. First, he was planning on writing one story for each century of his Future History, so he didn’t want to get bogged down on any one planet or century (as happened on Zarathustra with the Fuzzy novels). Second, he said that the launch of “Sputnik I invalidated a lot of my near-future stuff, and made me swear off” writing any more stories set in that time.²¹⁷ Third, any later Martian tales would run the risk of being repetitive, being essentially a series of archaeological stories as Terro-Humanity rediscovers its lost Martian heritage. And fourth, revealing too much information might take the aura of mystery out of Mars, which is perhaps its greatest attraction.

Nevertheless, with the above research as a guide, we can now make a few extrapolations. This section is therefore my attempt to fill in a little more of that globe of Mars, revealing a possible few of the other interesting places the Terrans will soon discover. For instance, that Kukan is in Martian Egypt explained the Egyptian archaeological references in “Omnilingual”, so Piper could have used more of these hints or inside references in stories about other regions of Mars. Also, since the Great University of Kukan appears to be a combination of Egyptian architectural styles, the same may hold true for these

other sites. And to ensure that the new discoveries are not too similar to Beam's tale, the following scenarios are accompanied by parallel offworld story ideas. These ideas are based on his post-"Omnilingual" statement about "Further explorations of Mars, Venus, Asteroid Belt and Moons of Jupiter. First Federation begins to crack under strains of colonial claims and counter-claims of member states."²¹⁸

a) *The Great Temple of Doorsha*

Extrapolation. About six months after arriving, some of the 500 crewmembers of the *Schiaparelli* are detached to continue the *Cyrano's* exploration of the Syrtis Depression, and the old sea bottom beyond. Eventually, they reach a large upland area that used to be an island, and follow the valley of an aqueduct inland. At the island's center, where four aqueducts converge, they discover the ruins of a city. The architecture here largely consists of columns, made of Martian marble, though of a more slender appearance, and much taller, than those of Terra. In what appears to have been the most important building, and now standing open to the Martian air, a truly colossal feminine statue is found, largely intact. The city therefore appears to have been a religious center, and the archaeological references Piper's characters make are mainly Greek. Having been slowly eroded away by the Martian winds and sandstorms for many millenia, the Terrans debate whether to remove some of the still-existing artifacts, especially the giant statue. During these discussions, the historical persons mentioned by the explorers include Lord Elgin and Lord Byron.

Explanation. In this postulated story, Beam would not come right out and say that the ruined city is the Athens of Mars, located at the center of Hellas Island. As we saw back in Figure 7, this is at the meeting of the Alpheus and Peneus canals. If my deduction in *Insula Doorsha* was right, the Terrans may learn from the globe of Mars that the island was once named 'Doorsha'. And the colossal but partially broken female statue would be of Doorsha herself, possibly the Martian earth-mother goddess, and one of the Ten Gods of Mars. (See my paper on that subject.) The reference to Lord Elgin would tie in the Elgin Marbles; the question of removing Martian artifacts would be compared to Lord Elgin's "pillaging" of the Parthenon and the Acropolis of Athens, beginning in 1801.²¹⁹ The contrary view, of leaving the Martian artifacts intact, and trying to preserve them there, would tie in Lord Byron. "The detractor who dealt a fatal blow to Elgin's reputation was Lord Byron, the English Romantic poet. In 1812, when Byron's *Childe Harold's Pilgrimage* and *The Curse of Minerva* appeared, Lord Elgin became "the spoiler", "the sacrilegious man" who carried off "the last poor plunder from a bleeding land." From then on, the right of the powerful to strip the weak of their artistic heritage came into question."²²⁰

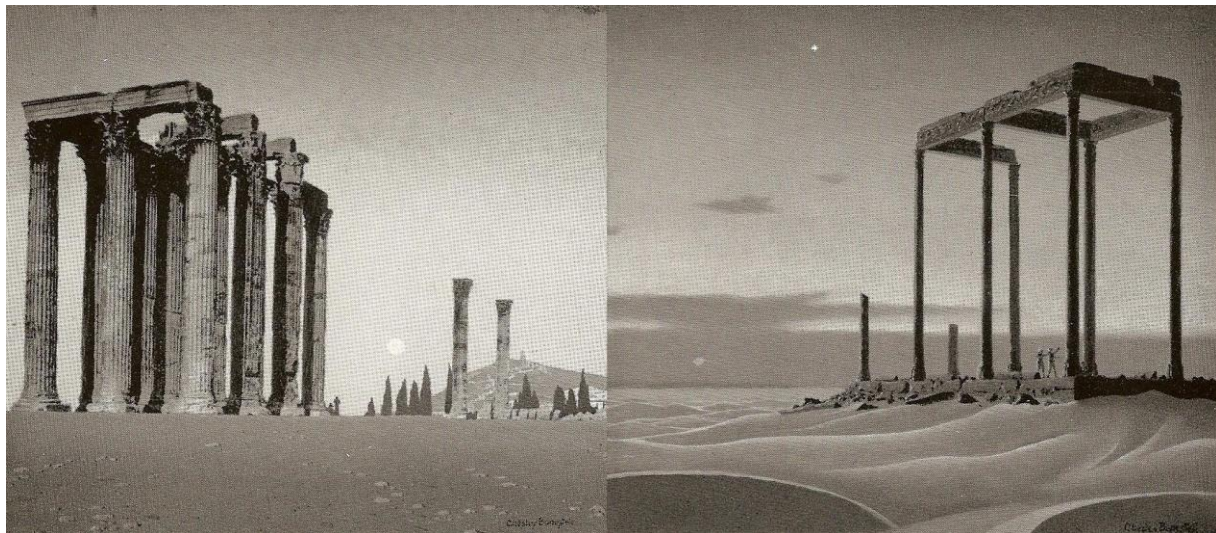


Figure 19. The Temple of Zeus near Athens, and its postulated Martian parallel. Pictures by Chesley Bonestell.²²¹

And such a story could have found its inspiration from Willy Ley and Wernher von Braun, whose 1956 book *The Exploration of Mars* used Greek architecture to illustrate the difference of gravity between Earth and Mars. (Figure 19.) Indeed, since “Omnilingual” was published just one year later, in 1957, it may well be that Beam’s own story was partly inspired by Ley and von Braun—and Chesley Bonestell, who did the book’s illustrations.

The Temple contained the Statue of Zeus, which was one of the Seven Wonders of the Ancient World, and we have seen that the Great University of Kukan may have been a Wonder of Old Mars. If the Terrans discover a ‘Great Temple’ in the Martian Athens, it might then have been another planetary wonder. The architectural combinations here would include the Temple of Zeus, the Temple of Artemis at Ephesus (another Wonder), and the Parthenon of Athens. The gigantic female Martian statue would combine the Statue of Zeus, the Statue of Athena in the Parthenon, and especially the Colossus of Rhodes. Thus, the postulated Statue of Doorsha could also be called ‘the Colossa of Mars’.

Parallel Story. From Terra via the Lunar relay station comes a news report that the *Cyrano* has arrived safely in Earth orbit. The great success of her crew on Mars has prompted the Federation Government to begin assembling a new crew of fifty for her next mission; the first expedition to Venus. In addition, upon its eventual return to Terra, the much larger *Schiaparelli* has now been scheduled to take on another crew, with the supplies needed to return to Mars and begin laying the groundwork for the First Terraforming. This mission will render her unavailable to follow the *Cyrano* to Venus, so the Government orders the construction of a sister ship to the *Schiaparelli*. She is named the *Schroeter*, after the late Eighteenth Century astronomer who observed Venus (and invented the term ‘areography’; see endnote 8); other proposed names included the *Herschel* and *Lowell* (also Venus observers). If the *Cyrano* finds Venus to be habitable, as is believed, the *Schroeter* will carry the first 500 colonists to that planet.

Connections. In **From Cyrano to the Cyrano**, we showed that the *Cyrano*’s trip to Mars paralleled Cyrano de Bergerac’s *Voyage to the Moon*. Thus, the postulated second trip of the *Cyrano* to Venus would parallel de Bergerac’s second interplanetary tale, *Voyage to the Sun*. The references to Lord Elgin and Lord Byron would give the story a ‘British’ element, which are appropriate since Piper also modeled the Terran Federation on the British Empire. And the reference to the planet Venus, in Greek Aphrodite, would tie the parallel story to the Athens of Mars, dedicated to the Martian Demeter or Athena.

b) The Ancient Spaceport of Dherga

Extrapolation. Flying over the high deserts far to the west of Kukan, airdyne pilots on a survey flight²²² see the remains of a very large paved area, apparently destroyed in war, and mostly covered by the shifting sands of Mars. From what they can observe, it vaguely resembles the spaceports of Terra. Scientists and archaeologists arriving later on the scene dispute or dismiss that interpretation, offering several other theories, including that it was the massive tomb of an important Martian leader.

The pilots subsequently revisit the site, bringing supplies and equipment which are much more quickly transported by air. Upon landing, they hear some of the theories being floated about by the scientists excavating this huge area. These don’t sound right to the pilots, who counter them by saying that the Martians could certainly have achieved air travel and space flight before their civilization collapsed. And why not, since the initial Terran expedition in Kukan discovered that the Martians employed derricks and steam shovels in building the planetary aqueduct system, and that they “did know about atomic energy”.²²³ That at least put them at a Twentieth Century-equivalent level of technology. And the Terrans themselves developed all three in that very century; air travel in 1903, atomic energy in 1942, and space travel in 1957.

At least some of the scientists are not convinced; perhaps stubbornly keeping their minds a bit too open to other possibilities, and further disinclined to listen to non-scientists, despite where the evidence is leading. And anyway, since the site is so big, and in such bad shape, a definitive answer may be years away, assuming one is possible at all. But at least one of these airdyne pilots is also a rocket pilot, and would know a spaceport when he sees one. So though the question remains open, it is hinted that the Terran pilots’ first impression is correct.

Explanation. This tale would occur in the Eden region of Mars. As stated in **The Expulsion from Eden**, the Martian colonization flight to Tareesh was undoubtedly preceded by rocket launches to Phobos and Deimos. The Terrans have therefore discovered the remains of the ancient Eden Spaceport, possibly the very first spaceport in human history. As John Carr says, "*Piper, throughout his body of work, created a number of lasting images...One of the most distinctive images is The Ancient Spaceport ...in 'Flight from Tomorrow'.*"²²⁴ "*The Ancient Spaceport!...It's stood for nobody knows how many millenia, and nobody's ever decided what it was, to begin with, except that somebody, once, filled a valley with concrete, level from mountain-top to mountain-top. The accepted theory is that it was done for a firing-stand for the first Moon-rocket.*"²²⁵

In that story, it wasn't really a spaceport, but the tomb of the time-traveling tyrant Hradzka, "and it has been the tomb of Hradzka for ten thousand years before Hradzka was born!"²²⁶ But the postulated site on Mars would reverse this, being not a tomb, but in fact an ancient spaceport. Indeed, since it is discovered 100,000 years after "Genesis", the launch facilities of Eden would be ten times as old as the tomb of Hradzka. And though probably not a mountain-valley filled with concrete, as in "Flight from Tomorrow", the Martian spaceport's current state of destruction and partial burial would render its original purpose uncertain.

The Terrans may learn from the globe of Mars that this region was originally named 'Dherga'. Assuming that Kalvar Dard's flight was launched from the Martian Eden, then so was the flight that established the First Level of the Paratime series. In stark contrast to Dard's expedition, this was a complete success, and the capital of the First Level is Dhergabar, founded in the same area of alpine southern France where Dard and the other survivors appear to have crash landed.²²⁷ When Terra is first colonized, the Mars they left is a dying planet, but the Terra they migrate to is a pristine world. It is much larger, with correspondingly greater amounts of water, air and untapped resources. An 'Eden', in other words. Thus, 'Dhergabar', founded from the Eden region of Mars on this Eden-like Earth, may mean 'New Eden' or 'Eden City'. Dhergabar is a major city, like New York, so in reverse Martian order, Dhergabar could translate as Eden-new or Eden-city. Assuming so, then Dherga and Doorsha were originally similar-sounding names of Old Martian regions.

Parallel Story. Pan-Federation broadcasts from Terra report the death of former President Blake Hartley, at the ripe age of 104. The Hartley Administration is credited with the Philadelphia Project, that gave America control of Luna; with Operation Triple Cross, that saved the United States in WWII; and with the Terran Federation itself, that brought the entire world into a peaceful union under American leadership. Indeed, as the second President of the Federation (1975-1985), Blake Hartley, together with his influential son Allan, became the architects of the current interplanetary order. Full State funerals and processions will be held in St. Louis (the capital of the Federation) and Washington DC (the rebuilt American capital), after which he will be interred in his native Pennsylvania, where he served as Governor before becoming President. Massive monuments to the great leader are planned at all three locations.

There are also reports that the opening of the new planetary frontier on Mars, and the hoped-for one on Venus, has spurred member nations of the Federation to begin building their own interplanetary spaceships and spaceports. Their aim is to secure some of these vast new territories, and their resources, for themselves. Among these countries are Great Britain, France, Germany, Japan, China, and India. The latter two have joined the spacefaring nations as a result of WWII. The destruction of the USSR back in 1974 was followed by the emigration of many Russian scientists and military leaders to China and India, its allies in that war. Now, twenty-five years after surrendering to an American Lunar ultimatum and joining the Federation, China and India have developed their own space programs.

Connections. The death and interment of President Hartley would tie the parallel story to the theory that the Ancient Spaceport on Mars was the tomb of a great Martian leader. The building of national spaceports on Terra would of course connect them to the truth; that the site on Mars really was a spaceport. And that the Martian spaceport was destroyed in an ancient nuclear war would tie it back to Terra, being a foreshadowing of the Fourth World War. The Terran Federation has not eliminated nation-states, and in the race for these new off-planet resources, their petty squabbles will resume, and then get

much worse. In just a few decades, this will lead to the Fourth World War, beginning in AE 106 (2049), the result of "Too many thermonuclear weapons and too many competing national sovereignties." ²²⁸

Although they are in the initial stages of recovering their extraterrestrial heritage, the Terrans do not remember their Martian past; therefore, they are condemned to repeat it.

c) *The Spires of Mars*

Extrapolation. In another region not far from Kukan, and along an aqueduct at the equator, the Terrans discover a small walled city. Surrounded by a wide circular depression that looks like a dry moat, the city contains the remains of what were once extremely tall and slender skyscrapers, of varying heights. Some of the skyscrapers are still intact, especially the ones that were not quite so high, but most of the tallest have broken tops; probably the result of structural failures over vast stretches of time, combined with the effects of high wind and Martian sandstorms. The very tallest skyscraper appears to have fallen over completely, leaving an incredibly long rubble pile. Several buildings were crushed in this ancient collapse, as was a section of the city wall. Indeed, the rubble extends through the wide depression, and even for some distance into the open desert beyond.

Due to their extreme age, the spires may be structurally fragile, and due to their immense height, they certainly appear so. Thus, the Terrans make no attempt to ascend the spires' interiors just yet, and conduct their initial investigations from the outside. Estimated measurements are made of the structures' heights, and actual measurements are made of their shattered tops lying on the ground, as well as of the rubble pile. These indicate that the Martian skyscrapers were anything from one to two miles high. Certainly far taller than any building currently on Terra. The scientists found this ruined city using the globe in Kukan, which showed it to be located at the ancient Martian Prime Meridian. It seems to have been a scientific or astronomical center. The latter is suggested by the surviving skyscrapers' ornamental tops, which are facsimiles of heavenly bodies, such as planets and stars.

Though it is difficult to be certain, the tallest intact edifice was apparently the third-highest overall. This is crowned with a ringed planet, undoubtedly a replica of Saturn. On lesser spires, several other ornamental tops also survive, and appear to represent planets such as Neptune and Venus; those with stars are assumed to represent Polaris and Sirius, or perhaps the far-distant Pluto and the long-fabled Tenth Planet. From these indications, a Terran astronomer in the group extrapolates that the very tallest structure, which collapsed, may have been topped by an image of the Sun, the most important object in the Martian sky. However, the collapse of this spire means that its crest fell for two whole miles, leaving the rubble impossible to reconstruct. Until other evidence is discovered, his extrapolation cannot be confirmed. Nor can his supposition that the apparently next-tallest structure, whose top is sheared off, originally possessed a replica of Jupiter. These interpretations, however, are disputed by another member of the party, who thinks that the 'Saturn Spire' was not the third, but the fourth highest. She believes the tallest spire may have been crowned with an image of the entire Galaxy, the largest 'heavenly structure' the Martians could have known about.

Most of the scientists, however, tend to agree with the tentative deduction that each Martian skyscraper specialized in the study of particular heavenly bodies, though this is a bit different from standard Terran practice. Telescopic observations made from the ground detect deep grooves in the surviving ornamental tops; for instance, those on the image of Saturn appear to conform to its atmospheric bands. An art expert among the team suggests that this means the tops may have originally been painted in the actual colors of the bodies they represent. If so, then even apart from their extreme height, the spires would have been visually striking for a great distance. However, any colors they may have borne would have been blasted off by the sands of Mars long ago.

As they continue their ground survey, the Terrans discover a spire that is 'missing'. The foundations are still there, which leads one scientist to suggest that perhaps construction of the spire was begun, but never completed. But another notes that the breadth of the foundation, and its location near the cluster of taller towers, indicates it would have been one of the 'planetary' spires, and should have been built around the same time. That may mean the spire was built, but later dismantled, probably for its materials, as Martian resources dwindled. A third member of the team, a historian, adds another possibility; that the spire was actually stolen. Over the centuries, cultural icons were often stolen on Terra, why not on Mars?

In fact, there was talk of relocating the so-called Colossa of Mars to Terra, before the idea was firmly scotched. The others can scarcely credit this theory, preposterous as it sounds. Icons like an obelisk or a statue, maybe, but a mile high spire? That would be like stealing the Pyramids, or the Taj Mahal! Not very likely. In the face of this vehement opposition, the third team member is silent. However, he thinks to himself that Mars is still mostly unknown; their explorations have a long way to go, and many more amazing discoveries are sure to be made. As for the missing spire, well, we'll see about that.

The Terrans also believe that the site was culturally related to Kukan, since the architectural style contains similar elements. Much the same way that, say, ancient Ethiopia was influenced by Egypt. So during their exploration of what they begin calling 'Spire City', the members of the investigating team make references to the Ethiopian book of kings, the *Kebra Nagast*, and the legend of King Solomon and the Queen of Sheba.

Explanation. Piper again would not reveal where his characters are; in this scenario, the Aethiops region east of Martian Egypt, where the Aethiops canal crosses the equator. The site they call Spire City is in reality the 'Axum' of Mars. Ancient Nubia and Ethiopia were heavily influenced by Egyptian culture. The very tall and slender skyscrapers are modeled on the famous *stelae* of Ethiopia; tall and slender carved stones which resemble ancient obelisks. In fact, the main stele itself, with its carved simulated windows and front door, looks much like the façade of a modern skyscraper or apartment building. The walled Martian city is therefore an exaggerated parallel of the 'Park of the Stelae' in Axum, which is a small walled enclosure. (Figure 20.)

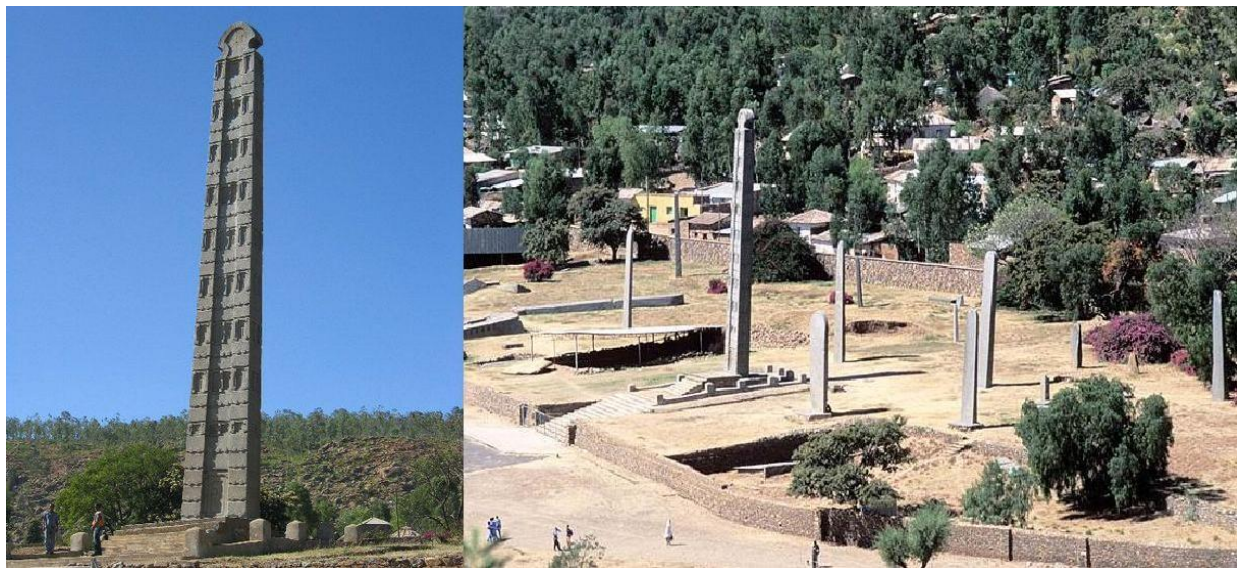


Figure 20. Main stele, and Park of the Stelae; Axum, Ethiopia. ²²⁹

The tallest Martian skyscraper, which collapsed, and is dubbed the 'Solar Spire' by the Terrans (or the 'Galactic Spire' by the dissenting scientist), is modeled on the tallest stele of Axum, which fell over a millenium ago. "The most massive of these, a tumbled fractured ruin, was believed to have fallen to the ground more than a thousand years previously. In its heydey, though, it had stood one hundred and ten feet tall and must have dominated the entire area." ²³⁰

The idea for crowning the Martian spires with images of heavenly bodies comes from the fact that the main stele is "topped with a carved headpiece shaped like a half-moon." ²³¹ That's the left image in Figure 20, which resembles a ten-story building. By extension, if the ancient Ethiopians had put the same artistic effort into the other stelae (which appear to be completely unadorned), they would have resembled smaller skyscrapers, and their tops could have been carved to represent other celestial objects like the

Sun, planets and stars.

That the rubble pile of the Solar or Galactic Spire would extend beyond the city limits is also an extrapolation from Axum. As one can visually judge from the picture, if the main stele fell forward, it would destroy the gate to the park, and its rubble would extend beyond the park itself. That would not hold true if it fell backward or sideways; however, we recall that the tallest stele, which did fall, was 110 feet high. When it stood, it would therefore have approximated an 11-story building; a bit taller than the 10-story main stele. And if the 11-story stele was located at the exact center of the park, then falling forward or backward (though again not sideways) would cause its rubble pile to extend beyond the park limits.

I surrounded the city with a moat as a tribute to Meroe, which according to Herodotus was the Nile-island capital of the Abyssinians, as stated in **Martian Egypt**. As we will see below, what the Terrans think is a 'moat' may have been an old section of river, once used as a defensive measure. And the 'missing' Martian spire is indeed missing, being modeled on a stele that is missing from Axum. "Another fallen—but much smaller and unbroken—obelisk...had been stolen during the Italian occupation of 1939-1941, transported with extreme difficulty to Rome by Mussolini, and re-erected near the Arch of Constantine."²³² Just as the third team member believes, the Terrans will therefore find the missing spire elsewhere on Mars.

If the extrapolated Spires of Mars had a place on Beam's Mars, then the Martian Axum would also be a hidden tribute to the 'Exum' of Edgar Rice Burroughs, which was the 'Greenwich' of Barsoom.²³³ The very tall skyscrapers would also have a Barsoomian parallel, in the nearly mile-high towers of Helium.²³⁴

Parallel Story. Looking skyward at the ancient and partially broken spires of Mars, the Terrans cast their gaze a bit higher, where the moons of Mars are passing overhead. Terran shuttle rockets have landed there, and have found the remains of several bases; a couple destroyed, one stripped of all equipment and abandoned. It has therefore been proven that the Old Martians had at least the beginnings of space travel. One of the Terran scientists, a biologist, inspired by the historian's speculations, takes the scanty surviving evidence to another level. She dares to suggest that the Martians could have colonized Terra itself. That would explain why all the pictures and statues (plus the few remains) that have been found seem to show that the Martians were the same race as Terro-Humanity. Parallel evolution of such a close order is believed to be extremely unlikely, even given the similar evolutionary paths of neighboring planets like Terra and Mars. (And she wouldn't know it, but she's right; five centuries later, the twin planets Hetaira and Thalassa are discovered to possess sapient, yet very different, races of humanoids.)

Her theory is supported by the astrophysics of the situation. With its weaker gravity and closer moons, it would have been much easier for the Martians to colonize Phobos and Deimos than it was for the Terrans to colonize Luna. Likewise, it would have also been easier for the Martians to break orbit and head for Terra, than for the Terrans to break orbit and head for Mars. The inbound Martians would have been aided by Solar, and then Terran, gravity, while the outbound Terrans have to fight against both.

Sidestepping the biology issue, another scientist impatiently counters this argument, saying that Mars was a dying world, and the existence of the planetary aqueduct system strongly suggests their entire civilization was geared toward keeping Mars habitable for as long as possible. The abandoned lunar base is evidence that they gave up space travel; they didn't have the resources to spare for offworld adventures. The biologist counters the counter-argument, saying that's precisely the point. They were preoccupied with self-preservation, and Mars was finished whether or not they built the aqueducts. So to save their race, they should have at least tried to colonize Terra. And maybe a few of them actually made it. The second man retorts with "Well, why were our ancestors cavemen, then? Why didn't we have a scientific civilization right from the start, more than fifty thousand years ago, as you say?" She is forced to admit she doesn't know.

But coming to his friend's defense, the historian replies, "Maybe some disaster occurred; maybe they crashed on Terra, or a war over resources broke out on Mars, and no more ships followed them." The biologist jumps back in, with "Yes! The planet's continuous decline would certainly have resulted in the Martians fighting each other for survival. War would explain the destroyed lunar bases, not to mention

some of the ruins on Mars, including that site which may be a spaceport. And since the Martians knew about atomic energy, it could have been an atomic war. Atomic wars would have a much greater impact on the biosphere of Mars than they would on Terra, because it is so much smaller.” The historian again takes over. “Right. The radioactivity released by such an event would have declined to safe levels many thousands of years ago, and be undetectable today. And if it were severe enough, a Martian atomic war would have caused a steep decline in their civilization, including the loss of spaceflight. The lunar base we found intact could have been abandoned around that time. If so, the Martians who made it to Terra would have been cut off from their home planet. When their supplies ran out, they would have decivilized to a hunter-gatherer society; forced to start all over again, from stone knives and spears.”

The other scientist scoffs—that’s a lot of ifs—and even the historian and biologist must admit the evidence to support their theory is mainly circumstantial. The thin winds and drifting sands of Mars continue to keep their secrets. The conversation then turns to scientific advances on Terra. Contra-gravity is in development, which almost certainly the Martians never had. And rising birth rates on Terra are fueling greater international tensions, since the excess population is putting a strain on Terran resources. Though a few Martian colonies have been founded, these can neither absorb that many people, nor supply enough resources to meet Terran demands. In turn, the international tensions are fueling the development of more destructive nuclear weapons, like the nega-matter bomb (developed in 1984 in “The Answer”, and presumably sometime after 1996 in the THFH).

The Sun is descending; evening is coming on. So the group packs up their equipment, and they begin heading back to the low building by the city wall that they’ve appropriated as a temporary headquarters. As they walk, the historian and biologist fall behind, continuing their discussion of the possible Martian origin of Terro-Humanity. But recent weapons development on Terra, plus the idea that the Old Martians’ fate may have been accelerated by nuclear war, brings them to disquieting ideas about the future of their own home world.

d) *The Ziggurats of Edom*

Extrapolation. Southeast of the so-called Ancient Spaceport on Mars, and at the junction of two major aqueducts, the Terrans find a wide plain that was once very fertile. On each of the four corners of plain divided by the aqueducts, and surrounded by lesser structures, is a great building, whose architecture resembles that of Terran ziggurats. Due to the lower gravity of Mars, however, these buildings are proportionately taller than their Terran parallels, making the Martian ziggurats look more like artists’ conceptions of the Tower of Babel. The Terrans therefore start calling them ‘ziggurat-towers’. Though all is barren, now, the terraces of these ziggurat-towers are found to have once contained gardens; possibly a protected food source toward the end of Martian civilization.

The interior design of the structures supports this deduction. For unlike Terran ziggurats, which were temples, those of Mars were granaries and reservoirs. Vast empty chambers are found both inside, and below ground. The submartian ones are connected to the aqueducts by pipes, and smaller pipes are discovered leading up to the terraces. Moreover, the terraces themselves are connected to mechanisms which allowed them to be raised or lowered. Presumably, these were employed to make harvesting easier; they could have also protected the terrace-crops from sandstorms, or enemy raiders.

Inscriptions tentatively translated using the Dane Lists suggest that one of the two aqueducts was originally a national border, and that this site was built by the peoples on either side of it. Mars’ steady decline appears to have forced the two nations to make peace, in the common cause of survival. The inscriptions say something about a marriage, or union; but whether these peoples actually united, or their common effort was formalized by a marital alliance, is unclear. Two of the ziggurats are found to have been dedicated to deities, possibly among the Ten Gods of Old Mars.

Explanation. This site would be at the confluence of the Euphrates and Orontes canals; the Orontes being the border canal between the regions of Edom and Eden. The appearance of the Martian buildings is an echo of ancient Israel (which bordered ancient Edom on Terra) and especially the traditional home of the ziggurat—Mesopotamia, the “Land Between the Rivers”, the Tigris and Euphrates.²³⁵ That the Martian regions of Edom and Eden put aside their political differences was inspired by Percival Lowell,

who postulated that the nations of Mars made peace in the interest of self-preservation, and together built the planetary irrigation system. The idea of a marital alliance is historical; peace has often been secured by intermarriage among Terro-Humans, and the same was probably true of Martio-Humans. The two deities the ziggurats are consecrated to would be Phobos and Deimos, which I believe may be two of the Ten Gods of Mars, or at least lesser deities of the Martian pantheon. That would represent the two nations swearing peace 'under the moons of Mars'; that is, as part of the process by which the whole planet united to build the aqueduct system.²³⁶

The four Ziggurats of Edom would then include two ziggurat-towers representing the two lands being united, and two representing the two moons of Mars, but their number would also be modeled on the three Great Pyramids of Giza on Terra. The terraced gardens of the ziggurats are obviously inspired by the Hanging Gardens of Babylon, as well as the 'terraces' of the Tower of Babel; but are also a play on the Garden of Eden, which ties in the Martian Eden, where two of the ziggurats are located. Their frontier location means that the Ziggurats of Edom could also be called 'the Hanging Gardens of the Martian Eden'. They could therefore be another Wonder of Old Mars, constructed in the days of the Canal-Builders. (Figure 21.)

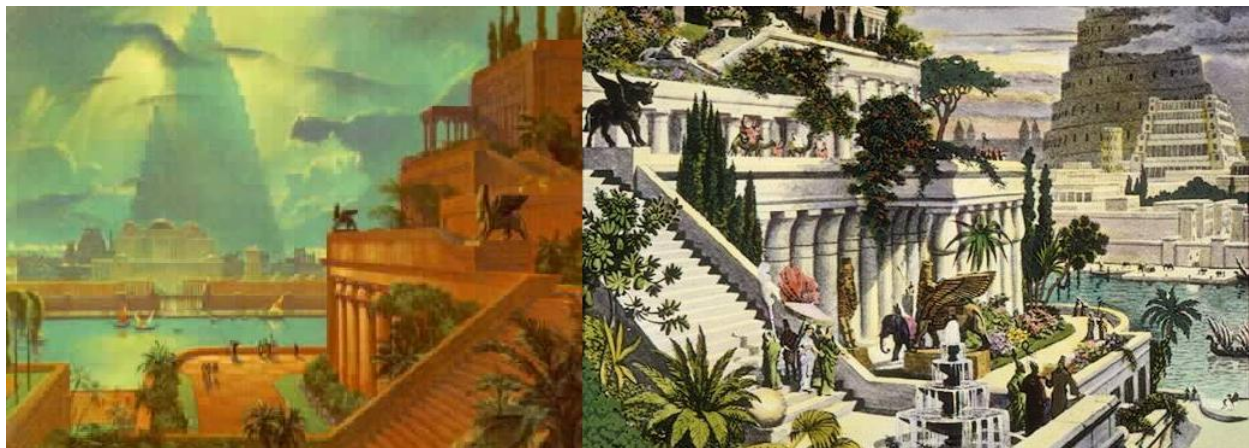


Figure 21. Two paintings of the Tower of Babel and the Hanging Gardens of Babylon.²³⁷

Parallel Story. The colonization of Venus has successfully begun, and the trailblazing *Cyrano* has now returned to the Red Planet; actually just a short stop on the way to its third destination. This is the Asteroid Belt between the orbits of Mars and Jupiter. The asteroids may be rich in minerals, and the current crew of the *Cyrano* are tasked with establishing a mining base on the largest of these, Ceres. If that is successful, they will then establish one on the next-largest, Pallas. Many of the *Cyrano*'s crewmembers take advantage of their stop on Mars to see the sights; several finagle seats on an airdyne flight to visit the ziggurats. These ersatz-tourists are accompanied by Dr. Martha Dane, who became the Director of Martiology at Kukan after the death of the renowned von Ohlmhorst. Thus, they are warmly received by the scientists in the Martian Edom, who give them an extensive tour, describing the site's history, and including the latest discoveries concerning national unification and planetary cooperation.

It sounds a bit familiar to the *Cyrano* crewmen, who compare the nations of Old Mars to the nations of Terra, which are jockeying for position on Luna and Mars, but especially Venus, which requires no Terraforming. These squabbles over territory and resources are causing some politicians on Terra to propose that the Federation be more closely integrated. For the common good, the power of nation-states should be reduced—possibly even eliminated. But numerous countries have denounced these proposals, and the idea looks like it won't be going anywhere, at least for the present. Since the end of the Third World War, the guarantor of Terran peace has been the American Lunar fortress. The United States still plays the leading role in the Federation, whose capital is St. Louis, in the American heartland. But certain other nations, particularly the rising giants of China and India, resent being in an organization

dominated by their former enemy, and are chafing under what they consider an unfair interplanetary political system.

e) *The Eternal Martian City*

Extrapolation. Northeast of Martian Hellas, in a long highland region that ages ago was a peninsula, a Terran archaeological team finds the remains of a very extensive city. Stratigraphical evidence, supported by ground-penetrating radar, suggests it is also very ancient, even by Martian standards. The hinterland of this metropolis is enormous, and is completely surrounded by a truly stupendous wall. The wall is partly ruined, but is very high, consisting of several levels, and is studded with crenellated towers at regular intervals. The wall also contains many fortified gates under great arches, some of which lie damaged and open. The major buildings, which show evidence of great fires, have a characteristic circular shape, some being low and wide, while others are round skyscrapers. The Terran archaeologists notice some similarities to Etruscan and Roman architecture.

The skyscrapers are dwarfed, however, by a tower over a mile high, topped with a sphere. One member of the team, who has worked at Spire City, gets excited. Here's the missing spire! The other scientists have to admit it looks like the skyscrapers at that location, and architecturally is quite different than the skyscrapers it is among. Eagerly discussing the possibility, they wonder why the spire was taken, and more importantly, how the mile high spire was transported. Hopefully they will find a plaque or other inscription that will tell the story of this find.

The Terrans determine that the city was inhabited from very ancient times right up until the end of the Late Upland Culture. The residents had apparently been unwilling or unable to migrate to the lowlands, where what remained of Martian civilization had concentrated. Unwilling perhaps because they were well entrenched and secure, and perhaps unable because their military was a defensive force; it did not possess the offensive capability to successfully secure a lowland city. Several breaches in the wall, plus the open gates and evidence of great fires, lead the Terrans to believe that the city was finally sacked, probably by roving hordes of Martian barbarians, desperate for food and water.

The evidence also seems to show that the slow decline of Mars had been accompanied by a slow decline in the city's population; many of its structures were abandoned or torn down for their materials, while large sections of farmland had lain fallow or reverted to bush lands before the final sack. Apparently this left them vulnerable; the remaining inhabitants could no longer defend the entire length of the enormous wall. But the impressive fortifications suggest that this city was one of the last holdouts of the Late Upland Culture, if not the very last.

Explanation. This would be located in the Hesperia region, the Italy of Mars. The city's great age would be a hidden reference to Rome as the Eternal City. But 'the Eternal Martian City' could also be a play on the very ancient and still-inhabited cities of Barsoom. The sack of this Martian Rome by rampaging hordes of barbarians would then be a combination of the sack of Rome and Burroughs' hordes of green Martians, who continually threaten the civilized cities of the red Martians. The very high and very long wall of the postulated metropolis is a combination of the multilevel Colisseum, the Wall of Hadrian, and the Great Wall of China. The result could be described as 'the Great Wall of the Eternal Martian City'. The circular buildings are modeled on the Pantheon of Rome, a circular temple to all the gods. And the large area of protected farmland is modeled on the old Papal States of central Italy.

Rome of course ruled the ancient Mediterranean world, so the Martian Rome may likewise have once been a great empire, back when Mars still had oceans. In modern times, Italy was reunified, and tried to recreate the Roman Empire, having some small success, by acquiring or invading such countries as Libya, Albania and Ethiopia. Thus, in a later yet still-verdant age, the Hesperians attempt to renew their ancient glory. In one instance this is much easier for them, because unlike Terran Ethiopia, which is far distant from Italy, the Martian Ethiopia, and its capital 'Axum', borders on Hesperia.

As a city of pure science, the Martian Axum viewed itself as serving the interests of all Martio-Humanity, and therefore Aethiopia neglected worldly concerns such as civic defense. But as Mars declined, Axum's wealth of knowledge made it a tempting target, by nations seeking an advantage over their rivals. One nation whose interest would be attracted is the Martian Italy, which, if it parallels the

Terran Italy, would have an impressive history not only of conquest but practical scientific as well as artistic achievement.

The deduced 'Hespero-Aethiopis War' therefore occurs before the great planet-wide drought forces the nations of Mars to cease their strife and build the planetary aqueduct system. The 'moat' around the Martian Axum was therefore originally part of an Aethiopis River; the Aethiops aqueduct was built later, and follows the line of the old watercourse. That means Spire City was built on an island, and its defensive wall and surrounding river was considered adequate for protection. It wasn't, as the Hesperians successfully conquer Aethiopis. During the occupation, and among many other items, they decide to remove one of Aethiopis' famed spires, for the greater glory of their own capital. The sphere at the top of the one they take represents the Red Planet itself, being none other than the 'Martian Spire'. This would be symbolic of the Hesperians' desire to rule Mars once more, to be a great—if not the greatest—world power.

With the help of foreign nations, Aethiopis later throws off the Hesperian yoke; the two nations eventually make peace, and begin cooperating on the building of aqueducts. At this time, there would undoubtedly be some calls for the stolen spire to be returned. But while such a move would be politically desirable, it may be impractical. The original transportation of the spire was undoubtedly very difficult and very expensive. When the great planetwide drought hits, there may be no resources to spare for such a nonessential project. Thus, the Martian Spire remains in the Martian Rome; just as on Terra, many artifacts taken from countries rich in archaeological sites remain in foreign museums.

However, the fact that their country borders Hesperia also means the Aethiopians may actually get some payback. Because the deduced barbarian hordes, who in a later age sack the Martian Rome, should include some Martian Ethiopians. And this appropriately ironic twist could explain why the Martian Spire survives, when so much else of the city is pillaged and burned. Theirs again at last, the now-barbarous Aethiopians nevertheless forbid its destruction, and protect their long-lost spire while the Martian Rome is looted and destroyed around them.

Parallel Story. The Terrans in the great and ancient Martian city discuss the loss of the *Cyrano*, which was apparently destroyed in the Asteroid Belt. But they have just learned that a follow-up mission will be departing soon, by the recently-completed *Fontenelle*. The loss of the *Cyrano* delays Federation plans for a more ambitious project; the colonization of the major moons of Jupiter. But the major nations of Terra, eager to exploit these new worlds, and increasingly suspicious of each other, aren't waiting for the Government to get there. National spaceships have been built, and have been establishing colonies in the Inner System; they are now rushing to stake their claims to the Outer Planets. Despite such 'posturing' by its members—or so the Federation Government describes these activities—it is announced that the delay will not be a long one. Depending upon availability, either the *Fontenelle* or the *Schiaparelli* will undertake the first 'official' expedition to Jupiter.

Meanwhile, national tensions on Terra and the colonial worlds have continued to rise. This has led to renewed calls for greater integration of the Federation. Leading this drive is the United States and its principal allies, like Britain and Japan. The democratic and capitalist nations have a shared interest in world peace and collective security; not to mention the status quo, in which they are dominant. But the erstwhile Eastern Axis nations of China and India have greatly benefited from Federation membership, and have now become world powers. With this power has come a renewed pride in their own ancient civilizations. Japan in particular is worried by the rapid rise of China, which is heading toward superpower status, rivaling the US. Once the victims of Western and Japanese imperialism, China and its fellow giant India have a shared interest in opposing the loss of sovereignty greater integration would entail. But they see a way in which it can be turned to their advantage. They begin talks toward 'integrating' on their own, forming a 'Sino-Hindic' alliance potentially more powerful than the entire West. China and India then turn the tables, declaring that for them to support greater integration, their level of influence in the Federation should be commensurate with their populations.

Since their populations are the greatest on Terra, however, the Western nations reject this idea. That would hand control of the Federation over to the Asian powers, effectively transferring the capital from St. Louis to Peking. The so-called Sino-Hindic Alliance would then rule the world. A new sense of urgency

grips the democratic powers; they begin holding discussions on how to deal with what they privately begin calling the Sino-Hindic 'Axis'. But the clandestine nature of these discussions, and subsequent policy decisions, are viewed with deep suspicion in Peking and New Delhi. It appears to them as a hostile plot to keep them down, forever second-class nations, when by rights it should be the other way around.

Eventually, formal proposals toward greater unity are made on the floor of the Federation Parliament in St. Louis. For the good of all peoples, it is declared that national states should eventually be eliminated, leading to the first true universal state in human history. A state that would last a very long time, bringing peace, security, and prosperity to all of Terro-Humanity. These proposals are met by threats from China and India, plus their satellite states and off-world colonies, to withdraw from the Federation. They will not surrender their sovereignty to, nor accept permanent dominance by, North America, Europe and Japan. Privately, the leaders of these Eastern countries begin discussing political integration, to offset Western unity. The supranational organization they propose to create is officially the "Union of Asian Peoples' Republics",²³⁸ but in reality will be a 'Sino-Hindic Soviet Union.' Far more populous, and far more powerful, than the old Soviet Union which once tried to conquer the world.

Stresses in the Terran Federation appear to be nearing the breaking point. Nothing like this has happened since the Eastern Axis withdrew from the old United Nations back in late 1973, causing the end of that organization and resulting in the Thirty Days' War. If the Federation fractures, the world may therefore be headed toward a "Fourth World—or First Interplanetary—War."²³⁹

Connections. The excavation of the Rome of Mars, plus the mention of the coming first flight to Jupiter, named for the King of the Roman gods, ties the parallel story to the Terran Federation, which Piper partly modeled on the Roman Empire. And the loss of the *Cyrano* is derived from the fact that de Bergerac died before writing any more tales of interplanetary adventure after *Voyage to the Sun*. Its replacement, the *Fontenelle*, is named for de Bergerac's French 'replacement'; Bernard le Bovier de Fontenelle. Born two years after *Cyrano* died, de Fontenelle (1657-1757) also aspired to be a writer, and, like *Cyrano*, is best remembered for his works concerning conditions on other planets. Bernard "wrote extensively on the nature of the universe", and his "Conversations on the Plurality of Worlds" was the most influential work of his time on the subject of life on other planets. Another trait he shared with *Cyrano* was his popularizing method of presenting scientific theories, being "noted for the accessibility of his work—particularly its novelistic style."²⁴⁰

11. Conclusion

a) Summary

As stated by John Carr, H. Beam Piper was fascinated by Mars and its lost civilizations. Due to the scarcity of references he provided, his version of the Red Planet has remained largely a mystery for upwards of fifty years. But, by following the clues he left behind—"Genesis", "the Fourth Dynasty", the *Cyrano* and *Schiaparelli*, and even the mysterious Freyans—we have actually been able to reveal some of Beam's Mars.

We found that Tony Lattimer's reference to "this horse-doctor's Latin the old astronomers splashed all over the map of Mars" referred to Giovanni Schiaparelli's incorrect use of the language on his chart of the Red Planet; that the majority of these errors were in the naming of hydrologic features, and this explained Beam's use of the word "splashed"; that Schiaparelli's nomenclature was adopted by Percival Lowell and Camille Flammarion; that Lowell's description of Mars as having an ancient civilization in advance of ours, with sparse vegetation supported by a still-operating planetary irrigation system, was a big influence on the Mars of Piper; that the 1901 General map by Flammarion and Antoniadi appears to have finalized the Schiaparelli style of Martian place names; and that this map may have been the first one of Mars seen by Piper, born in 1904.

We found that the flight of the Martians in "Genesis" parallels the expulsion of Adam and Eve from the Garden of Eden; that there is in fact an 'Eden' on the Mars of Schiaparelli, and therefore the Martians are 'Adam', the 'first' men or humans; that the Biblical 'expulsion from Eden' parallels "the blastoff from

Doorsha", an expulsion or launch which takes place from a spaceport in Martian Eden; that this interplanetary launch was preceded by rocket flights to Phobos and Deimos; that since the name 'Adam' means "from the red earth" and is used as a synonym for 'mankind', the Martian Adams are 'Men from the Red Planet'; that having an Eden on Mars suggests Piper actually had humanity evolve to sapience in that region; and that what the Bible calls the Terrestrial Paradise is really an Extra-Terrestrial one.

We found that the Extra-Terrestrial Paradise was the connecting link between Piper's two Mars ships, the *Schiaparelli* and *Cyrano*, both of which make 'the return flight to the Martian Eden' foreseen by their ancestors in "Genesis"; that *Cyrano* refers to Cyrano de Bergerac, the Seventeenth Century Frenchman who wrote several tales of interplanetary voyages; that de Bergerac's *Voyage to the Moon* contains many parallels with the *Cyrano*'s voyage to Mars; that this begins with Piper's ship itself, named for de Bergerac, who became in effect his own spaceship to Luna; that de Bergerac departed Earth from Quebec, and the craft that launches him was handled by French Canadian soldiers, which explained why Piper included a French Canadian Space Force officer, Captain Laurent Gicquel, among the *Cyrano*'s crew; that de Bergerac landed in the Lunar Garden of Eden, being the first to return to the Extra-Terrestrial Paradise since Biblical times, which paralleled the crew of the *Cyrano*, who are the first Terro-Humans to return to the Martian Eden since "Genesis"; that just as de Bergerac finds proof for his assertion that the Moon is a world like ours, being habitable and inhabited, and later learns to speak a few words of their unknown language, the crew of the *Cyrano* discover that Mars is a world like ours, being formerly inhabited and still habitable, possessing an unknown language that the Terrans begin to decipher; that the Frenchman de Bergerac was connected back to the Italian Schiaparelli by returning to Earth in Italy, and mistakenly asking the Italians if there is an Italy on the Moon; that Giovanni followed suit by including a Tyrrhenian Sea (Tyrrhenum Mare) and an 'Italy' (Hesperia) on his map of Mars; and that de Bergerac's connection of the interplanetary language problem to extraterrestrial blood kinship paralleled Piper's Terro-Humans, who use the omnilingual of science to translate the ancient omnilingual of their Martian cousins, the language spoken not just by the now-extinct Martians but originally by the Martian ancestors of the Terrans themselves.

We found that in Piper's system of historical models, Old Mars parallels Ancient Greece, and Modern Terra parallels Classical Rome; that Beam's name for the two planets, Doorsha and Tareesh, may therefore be partly derived from Doria and Etruria (Tyrrhenia); that the Mars of Schiaparelli contains a 'Hellas'; that just as Greece was the founder of democracy on Terra, Martian Hellas may have been the creator of that political system on Mars, thereby becoming the true birthplace of human democracy; that since Greece played an important role in Western or modern Terran civilization, Martian Hellas may play a key role in Ancient Martian civilization; that because the Terran Federation is "some kind of a world empire", Old Mars probably had a similar global organization, which we postulated as a 'Doorshan Planetary League'; that the Federation's "reclamation projects" in the Northern Hemisphere after WWII therefore parallel the "underground aqueduct" system, built by all the nations of ancient Mars to preserve their croplands as long as possible; that Kalvar Dard's flight from the Old Planet Mars to found the New Planet Terra parallels the voyage of Aeneas the Trojan from the Ancient Greek World to found the Classical Roman World; that the Old Martians are in essence 'Westerners', which is supported by the surviving colonists' landing site in southern France and the reference to gold braid on Doorshan military uniforms; and that if Doorsha is partly derived from Doria, 'Doorsha' may have been the Martian name of Hellas Island.

We found that Piper's mention of a "Fourth Dynasty" on Mars refers to an ancient Egyptian historical model, Egypt being divided by scholars into thirty consecutively-numbered dynastic houses; that just as there is an 'Italy' (Hesperia) and 'Greece' (Hellas) on Mars, Schiaparelli also included an 'Egypt' (Isidis and Neith Regios, and possibly Aeria and Meroe); that the Fourth Dynasty mentioned by Kalvar Dard therefore probably ruled Martian Egypt; that this is supported by the canals surrounding the Isidis and Neith regions, all of which have Egyptian-derived names; that two of these canals, the Nilosyrtis and Astapus, would then be the White and Blue Niles of Mars; that Piper's underground aqueduct system would eliminate water losses through seepage or evaporation, and therefore seems to be a great

improvement over the traditional view of Martian canals, inefficiently open to the ground and sky for thousands of miles; that because the Fourth Dynasty of Terran Egypt is the most famous, having built the Great Pyramids, the Martian Fourth Dynasty may have built parallel wonders, thus explaining why the spacefaring Martians of “Genesis” refer to a dynasty long extinct; and that since Egypt is possibly the oldest Terran civilization, originating around 3,000 BC, Martian Egypt may have been the oldest civilization on the Red Planet, possibly being founded about 5,000 years before Kalvar Dard, thereby placing the creation of human civilization at approximately 105,000 years ago.

We found that on Schiaparelli’s map, Martian Egypt contains almost the entire coastline of Syrtis Major; that since Piper calls the Old Martian city of Kukan a “seaport” on “Syrtis Depression”, Kukan is probably in Martian Egypt; that the precise location of Kukan is most likely at the apex of Syrtis Major, the Nili Pons; that the Nili Pons constitutes the Nile Delta of Mars, thus making Kukan the Martian Alexandria; that the conical-topped university discovered by the Terrans appears to be an immense obelisk, like the Needles of Cleopatra in Paris, London, and New York; that because the Martian university contains “a half-million-volume-library”, it also parallels the Great Library of Alexandria, where half a million scrolls were gathered, and moreover is the model of today’s universities; that the Martian academic skyscraper can therefore be called the ‘Great University’ of Kukan, making it a Wonder of Old Mars; that the Great University may also be modeled on the Pharos Lighthouse of Alexandria, which had a conical top above the beacon; that the current wind-rotor at the apex of the Great University of Kukan may therefore have replaced an earlier navigational light; that this adds meaning to Piper’s reference to the conical top as resembling a “candle extinguisher”, since the light formerly atop the building has been removed, a metaphor for the extinguished light of Martian civilization; and that the remains of the Martians found in Kukan resemble Egyptian mummies, which explains why Tony Lattimer mentions the discovery of King Tut’s tomb in relation to them.

We found that this revealed a new connection between “Genesis” and “Omnilingual”; Seldar Glav’s reference to the Fourth Dynasty points to the Martian Egypt, and Martian Egypt is where Martha Dane and the Terrans make their first landing, where they begin translating Old Martian and start learning about its history; that this will include learning about the Martian Egypt’s Fourth Dynasty, probably depicted on the wall murals in the History Department of Kukan University; that this new connection can be added to those already implicit in the two tales, such as Olva’s statement in “Genesis” that their descendants will build a ship and return to Mars in 100,000 years, a trip that occurs right on time in “Omnilingual”; such as Kalvar Dard’s foresight that their descendants will create a greater civilization on Terra than the one they lost on Mars, which actually occurs not long after “Omnilingual”, when the Terran Federation develops hyperdrive and expands to an interstellar empire of 500 worlds; such as the “brush thickets” of ancient Mars, which parallel the “bush lands” and “brush-grown flats” on modern Mars; and possibly “the game-herds on the wastelands of Doorsha”, which may be paralleled by a game bird shot by Bill Chandler.

We found that there are many parallels between Kalvar Dard and Martha Dane, the ancient and modern protagonists of Beam’s Mars stories; that this begins with their names, which are very similar; that Dr. Dane’s first name is practically ‘Mars’, and that Martha could therefore be the descendant of Kalvar Dard and Analea; that the Martian form of her name would be Mantha or Maltha Dard; that the implication she will stay on Mars for a long time, perhaps the rest of her life, mirrors Kalvar Dard, who stayed on Terra for the rest of his; that this makes Martha one of the first ‘new’ Martians, the first Martio-Humans in 50,000 years, who will repopulate the planet after the earlier ones died out; that this also parallels Dard, who is among the first ‘new’ Terrans, the first Terro-Humans, who colonize our planet and replace the Terran Neanderthals, whom they exterminate; that to both characters, the planet they settle on is literally a whole new world; that both are leaders in their respective expeditions, Dard being a military leader, and Dane a scientific one; that Martha could actually find a picture or statue of Kalvar Dard in the Great University of Kukan, whose name she translates; and that their old-versus-new connection through Martian Egypt means that Martio-Human civilization may have begun and ended in that country.

We found that the Freyans probably came from Old Mars; that the Greco-Trojan references in “When in the Course” (the *Iliad*, Ptosphes, Chartiphon, Hostigos) mean the historical or legendary model comes

from Ancient Greece; that the *Iliad* brings in the *Odyssey*, its sequel, suggesting that the Freyans' origin involves an ancient Martian war, followed by a very long space voyage; that this makes the Freyans' trip a 'sequel' to that of Kalvar Dard; that since Dard was the 'Martian Aeneas'; the Freyans are therefore modeled on the legend of Brutus, the great-grandson of Aeneas, who also led Greco-Trojan refugees abroad after the Fall of Troy; that this was supported by the much greater distances of both later voyages compared to the earlier ones, the trip from Mars to Freya being much farther than the journey from Mars to Terra, just as Brutus' voyage from Greece to Britain was much farther than the earlier journey of Aeneas from Greece to Italy; that just as the Trojans of Rome (the earlier exiles) went on to establish a great Empire which conquered the insular Trojans of Britain (the later exiles), the Martians of Terra (the older emigrants) go on to establish a great interstellar empire, the Terran Federation, which annexes the isolated Martians of Freya (the younger emigrants); that discovering the literary model of the Freyans allowed us to deduce details of their voyage, such as a landing on Terra and a flyby of Venus; that the extraordinary astronomical distance traveled by the Freyans means the last 'epic' achievement of the ancient Red Planet may include the development of a prototype hyperdrive; and that this was too late to save Old Martian civilization, but enabled the Freyans to depart before the planet lost its spacefaring capability.

We found that the extraordinary beauty of the fair-haired Freyan women seems to come from Scandinavia, specifically Iceland; that "Icelandic women are famed for their beauty", and are "very strong and very independent", just like Princess Rylla; that the Scandinavian model explained why Piper named his planet of beautiful women after a Scandinavian goddess; that this may mean the Freyans come from the region of 'Scandia' on Mars; that Scandia puts the Freyans near the Martian North Pole, a 'Nordic' region which on the 1901 reversed-orientation map actually looks like it is near the South Pole; that this reversal may connect Piper's Freyans with the Therns of Burroughs, a remnant of the fair-haired race that ruled ancient Mars, now living near the South Pole of Barsoom; that the Freyans are thus a remnant of the ancient White Martians that ruled Old Mars; that if Beam intended for the Freyans to be a similar South Polar race, they could also come from the three islands of Thyle; that the Martian Thyles are named for 'Thule', which was apparently the name for Iceland in the days of Pytheas the Greek; that the deduced Martian *Iliad* could therefore involve an authoritarian planetary ruler attempting to seize control of the precious ice-caps from the Nordic Martians who inhabit the polar regions; that the Nordic Martians are defeated in a global war and forced to flee off-planet; and that the connecting link between Piper's literary Greco-Trojan and historical Scandinavian models could be Helen of Troy, the most beautiful woman of the ancient world, fought over by all the nations of that time, and usually depicted as a blonde.

And finally, from the maps and related historical models Beam used, we deduced that the "globe of Mars" discovered by the Terrans in Kukan probably contains many more interesting sites; we extrapolated that among these could be a Great Temple containing a colossal statue of Doorsha, in the Athens of Mars at the center of Hellas Island; the remains of an Ancient Spaceport in the Martian Eden, a region possibly named 'Dherga' on the Martian globe; a small walled city of very tall skyscrapers on the Martian equator, in the Aethiopia region, that once served as the Greenwich of Mars; several massive buildings with Mesopotamian-like architecture containing protected gardens that could be called the Ziggurats of Edom, located on the Edom-Eden border; and the ruins of a very great and ancient city in the Hesperia region—the Italy of Mars, containing the Red Planet's Rome, inhabited to the end of the Late Upland Culture.

b) Looking Forward from His Past

H. Beam Piper's version of Mars therefore has its origins in the late Nineteenth and early Twentieth Centuries (Schiaparelli, Lowell, Flammarion), with elements as far back as the Seventeenth (Cyrano de Bergerac). Indeed, since in "Omnilingual" he has "the main expedition" of Terrans on board the soon-to-arrive *Schiaparelli*, this appears to mean that the 'main' influence is Giovanni Schiaparelli's Mars, whose map was the inspiration for Lowell and Flammarion, among many others. "The plain fact of the matter is that Schiaparelli had effectively refashioned Mars with a set of romantic and wistfully evocative names, whose power, despite his stated cautions, was not to be lost on the human capacity to yearn after lost paradises and conjure up nostalgic visions."²⁴¹

Aside from astronomers, Schiaparelli's map also inspired creative writers, such as Edgar Rice Burroughs, and later, H. Beam Piper. Certainly, when Beam cast his gaze a half century into the future at the first true interplanetary voyage, the sources he used to create his version of the Red Planet belong no later than "the late forties and early fifties",²⁴² because the NASA probes of the mid-1960s radically altered our conception of Mars. At that time, the Red Planet moved from the hazy realm of wistfully romantic planetary fantasy and evocative science fiction into the full light of knowledge.

The first successful probe was Mariner 4, in 1965, the year after Beam's death. "The probe passed Mars at a distance of only 10,000 km, and provided information that revolutionized our ideas about Mars. The atmosphere was very tenuous with a ground pressure of no more than 10mb, and was composed chiefly of carbon dioxide. The dark areas were merely low-albedo features, and not all of them were depressions; indeed, the most prominent of them, Syrtis Major, proved to be a lofty plateau. Instead of being smooth and undulating the surface was found to be cratered, so that superficially at least Mars resembled the Moon more than the Earth."²⁴³ "Then, in 1971, Mariner 9 was put into a closed orbit round the planet and continued to operate until October 1972, sending back thousands of high-quality images ... For the first time it became possible to draw up a reliable map of the entire surface of Mars."²⁴⁴

So the Schiaparelli-based names of Mars did change, although not by being replaced with Martian ones the way Piper imagined. According to my 1983 *Atlas of the Solar System*, Eden, the Extra-Terrestrial Paradise, is no more, though its related regions, Utopia and Elysium, are still there. Hellas, the Martian Greece, remains (under the name Hellas Planitia), but the Martian Egypt has been reduced to Isidis (or, the Two, Three, or Four Lands have been merged into one). And the possible Freyan homeland, Scandia, has likewise been absorbed, into the Vastitas Borealis.

Yet, who knows? When we Terro-Humans finally colonize Mars, some of these names could be dusted off and reused. Perhaps an especially difficult attempt to settle near the polar ice-cap will inspire real-life "Second Century Martian colonial poets, Eirrarson, or somebody like that"²⁴⁵ to rediscover the value in those old romantic Martian maps. And if the poet has a Germanic name like Eirrarson, renaming that section of the Vastitas Borealis 'Scandia' might just be a natural choice.

In the farther future, when Mars is largely settled and at least partly Terraformed, the parallels could continue. As humanity finally begins to expand to other stars, they may look back with fond nostalgia on those old Twentieth Century Terran writers who first envisioned such voyages. During this postulated 'Surro-sciencefictionist Movement',²⁴⁶ a real-life "Stellar Explorations, Ltd.",²⁴⁷ whose crew includes a few Scandian Martians, could discover a particularly beautiful Venus-sized Earthlike world, and, in honor of H. Beam Piper, name it 'Freya'.²⁴⁸

c) Looking Back from His Future

Piper himself began his Future History with a guarded optimism. In "The Edge of the Knife", Professor Chalmers foresees World War III less than a year away, in which tens if not hundreds of millions will perish, but he also foresees the eventual spread of Terro-Humanity into a large part of the Galaxy. It is probably appropriate, however, that Beam's next THFH story, "Omnilingual", takes a scientific look into the past. Indeed, reflecting his own love of history, it is interesting that the near-future archaeological story "Omnilingual" is actually bookended by his far-future archaeological story, "The Keeper".

In "Omnilingual", Martha Dane and her colleagues travel to Mars, a planet that can be called 'the forgotten father-world' of Terro-Humanity, now old and nearly dead. There, they begin to translate Old Martian (the omnilingual of ancient Mars), from which all Terran tongues are descended, and in the abandoned city of Kukan begin learning about the history of Old Mars, which is really their own history.

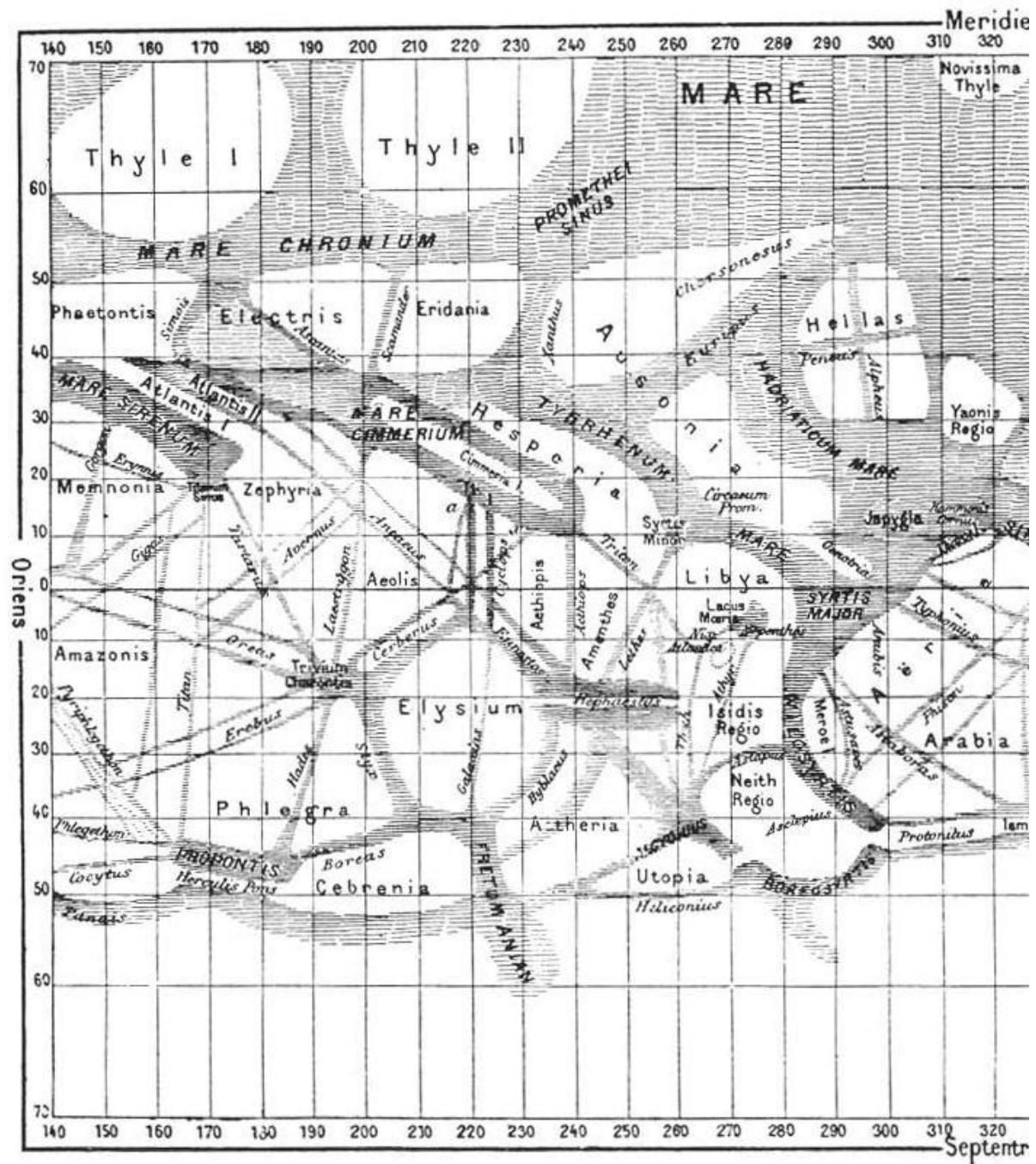
Thirty thousand years later, in "The Keeper", the Lords Salsalvadran and Dranigrastan travel to Terra, "the Mother-World" of what can now be called Galacto-Humanity, which has become an "old, forgotten world."²⁴⁹ Their purpose is "to learn about the long-ago times on this world,"²⁵⁰ which is really their own history. They will begin in the ruins of "the great city that was here,"²⁵¹ and one of the things they learn may well be Old Terran (Lingua Terra, the omnilingual of the ancient Federation), from which all later interstellar and Galactic tongues are descended.

To the very large Piper Cycles deduced above (such as the 100,000 years between the Martian trip to Terra in "Genesis" and its mirror-image, the Terran trip back to Mars in "Omnilingual"), we can now add

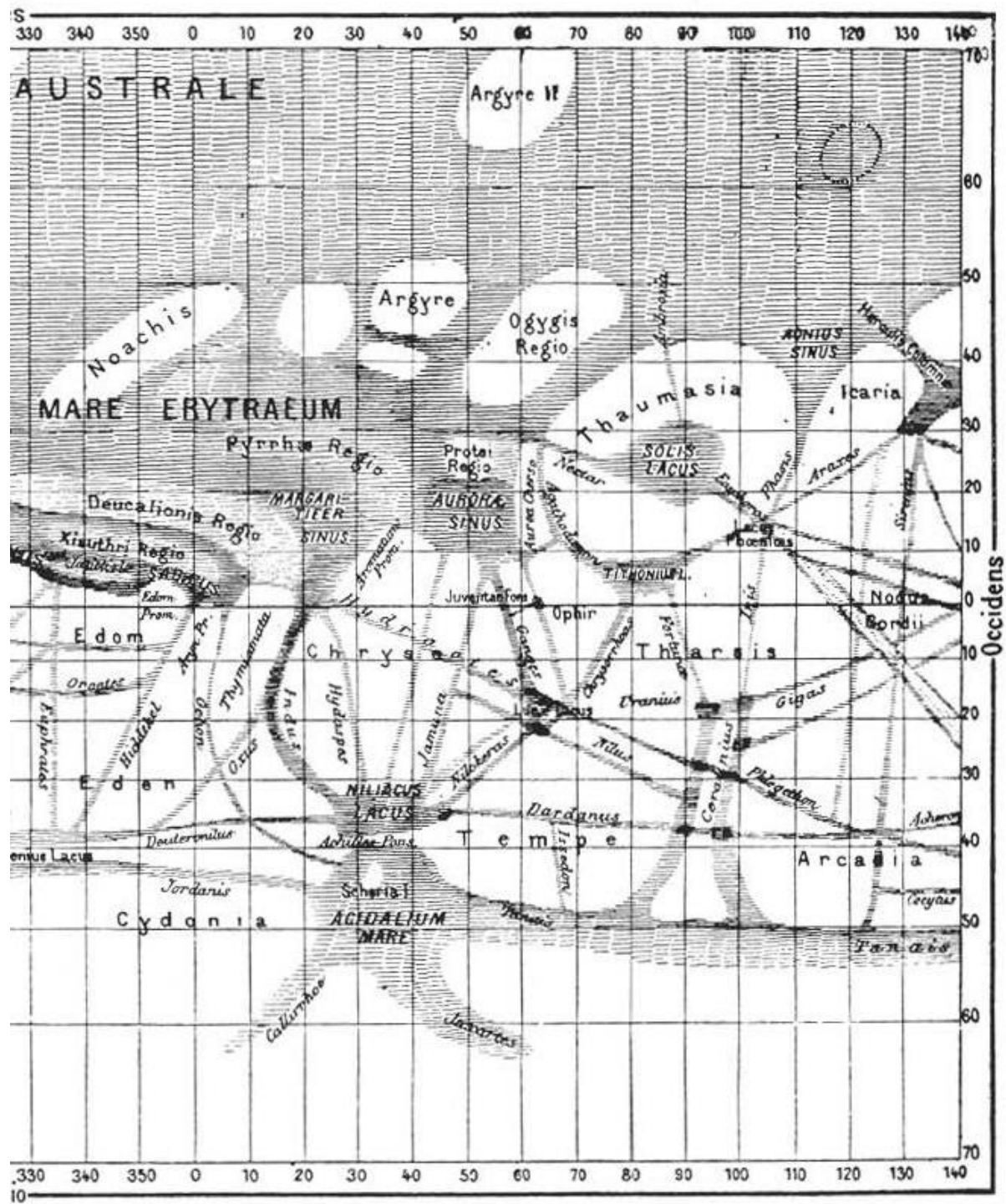
another. “Omnilingual” and “The Keeper” constitute an archaeological Piper Cycle of 30,000 years.

This may be the final piece of evidence supporting the conclusion that the Old Martians were the human ancestors of the Terrans. Near the beginning and the end of the Terro-Human Future History, Piper has mankind take an historical look at itself, among its own ancient ruins.²⁵²

Appendix 1. Larger Map of Schiaparelli

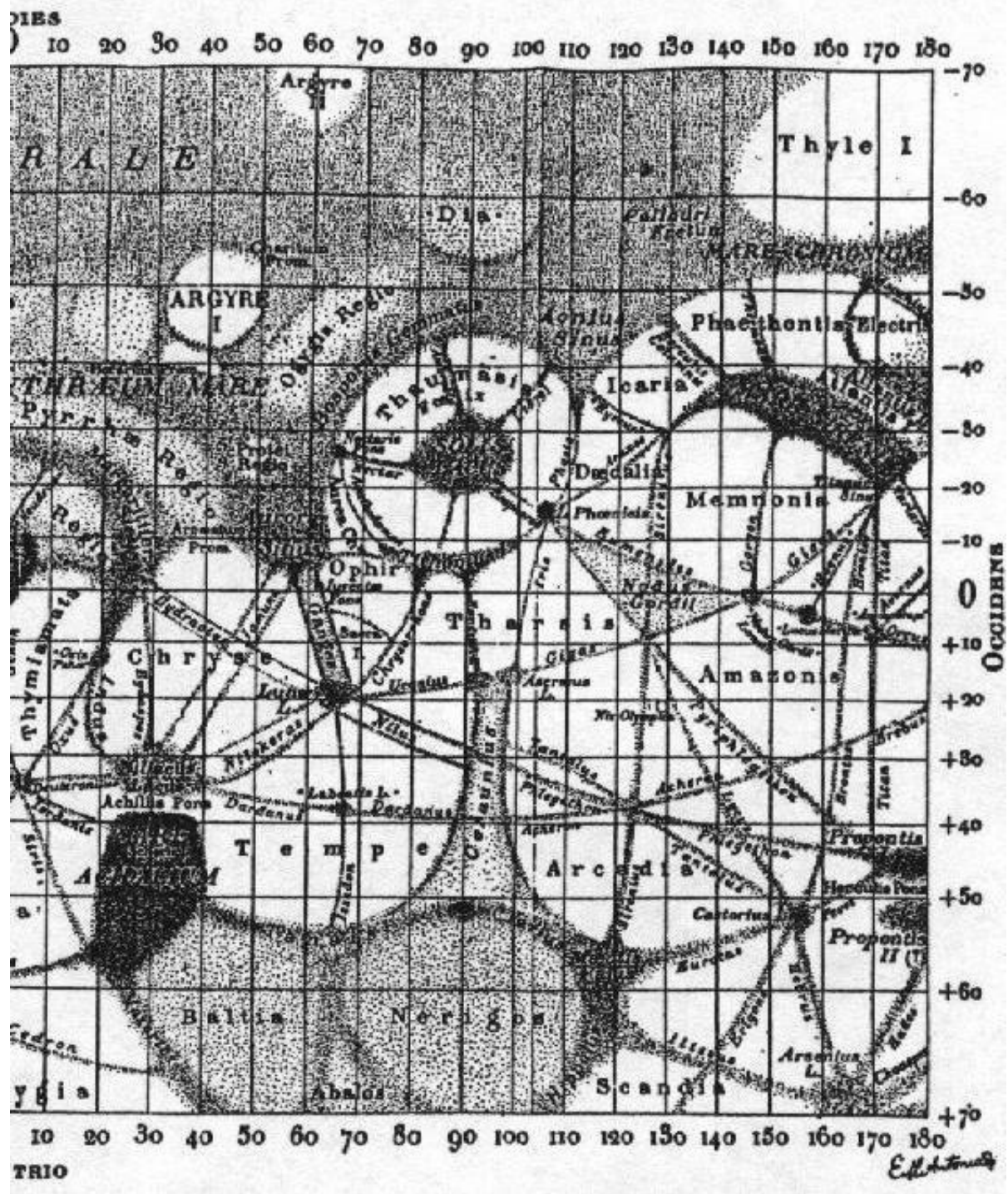


Eastern Mars



Western Mars

49



Western Mars

Appendix 3. An Elemental Connection

In “Omnilingual”, Dr. Dane is able to read Old Martian because the Terrans discover a Martian table of the elements, and decipher it using the Terran table of elements, which of course are the same thing. “That isn’t just the Martian table of elements, that’s *the* table of elements. It’s the only one there is... hydrogen on Mars is the same as hydrogen on Terra, or on Alpha Centauri, or in the next Galaxy”.²⁵³

On 12 December 2008, I realized that Piper may have been engaging in a little subtle humor.

During their translating, the second element, helium, is mentioned five separate times.²⁵⁴ And as most of us science-fiction fans know, “Helium” is not just the second element, it is the name of the greatest Martian civilization in the tales of Edgar Rice Burroughs. It is presumably so called because two moons orbit Mars, even as a helium atom has two electrons orbiting its nucleus, and Helium itself is actually two separate cities, Greater and Lesser Helium.²⁵⁵

It is a very suspicious coincidence that ‘Helium’ is used by Piper’s characters to help translate Old Martian, because this is done not far from the History Department murals, which depict the entire history of Mars; all the Martian civilizations including their greatest ones. Particularly since earlier in his tale of the first Terran trip to Mars, Beam’s characters also mention a ‘Carter’; namely, Howard.²⁵⁶

Carter and Helium, eh? Well, helium is mentioned near the end of Beam’s first Mars story, and near the end of Burroughs’ first Mars story (and after much wandering over Barsoom), John Carter finally arrives in Helium, marrying Dejah Thoris there.²⁵⁷ Just like the Terrans of the First Mars Expedition, John Carter learns the Martian language during his first trip to the Red Planet. In fact, Chapter IX of *A Princess of Mars* is “I Learn the Language”. In both stories, the language is learned in an ancient deserted Martian city. The Terrans decipher Old Martian in an empty metropolis of “the last Martian civilization”, and John Carter learns the language in one of the “deserted metropolises of an ancient Martian civilization.”²⁵⁸ The two authors’ cities are similar in other ways. Piper’s city is Kukan, while the name of the one in Burroughs is “Korad”.²⁵⁹ When Mars still had oceans, Kukan was a “seaport”, while Korad “had been built upon a beautiful, natural harbor, landlocked by magnificent hills.”²⁶⁰ Also, we deduced that Kukan may be the Alexandria of Mars, an ancient center of culture and commerce like its Terran parallel. And Korad “was supposed to have been a center of commerce and culture”.²⁶¹

In Kukan, the Terrans investigate some of the buildings, and find murals and artwork in the History Department of the University. As we’ve seen, Kukan University is a structure of impressive architecture (possibly modeled on the Great Library of Alexandria, the Pharos Lighthouse and Cleopatra’s Needle), and the artwork depicts people that Martha Dane notices are “so human in appearance as to seem members of her own race.”

This parallels John Carter and Dejah Thoris, who during their time in Korad take up residence “in a building nearer the audience chamber [of Lorquas Ptomel] and of far more pretentious architecture than our former habitation.”²⁶² In this building, *they discover murals of the ancient Orovars*. “The decoration of the walls was most elaborate, and, unlike the frescoes in the other buildings I had examined, portrayed many human figures in their compositions. These were of people like myself, and of a much lighter color than Dejah Thoris. They were clad in graceful, flowing robes, highly ornamented in metal and jewels, and their luxuriant hair was of a beautiful golden and reddish bronze. The men were beardless and only a few wore arms. The scenes depicted for the most part, a fair-skinned, fair-haired people at play.”²⁶³

Their reactions are of parallel excitement. “Dejah Thoris clapped her hands with an exclamation of rapture as she gazed upon these magnificent works of art, wrought by a people long extinct”.²⁶⁴ Similarly, Beam’s Terrans get excited when they discover the murals from the ancient past of Mars, painted by the now-extinct Martians.

“Wonderful!” von Ohlmhorst was saying. “The entire history of this race. Why, if the painter depicted appropriate costumes and weapons and machines for each period, and got the architecture right, we can break the history of this planet into eras and periods and civilizations.”

“You can assume they’re authentic. The faculty of this university would insist on authenticity in the *Darfhulva*—History—Department,” she said.

“Yes! *Darfhulva*—History! And your magazine was a journal of *Sornhulva*!” Penrose exclaimed. “You

have a word, Martha!"²⁶⁵

This line of reasoning suggests that, as the main character of the story, and the Terran who learns Old Martian among the murals of Kukan, Martha Dane parallels John Carter, the main character in Burroughs, an Earthman who learns Barsoomian among the murals of Korad.

Perhaps combined with Dejah Thoris, who is with Carter in Korad. John F. Carr says that "In this story Piper shows another of his unrecognized strengths; the creation of a strong central woman character, long before it became politically expedient."²⁶⁶ In addition to being ahead of his time, one must also wonder if Piper made his main character a female because Burroughs did not, disregarding the title of his own book. *A Princess of Mars* is actually about the adventures of John Carter, not Dejah Thoris, though of course she plays an important part in the story.²⁶⁷ If so, then Beam was improving on Burroughs.

As stated in **Mirror-Image Martians**, Kalvar Dard may be one of the Martian notables whose statues are found in Kukan. His position of leadership in "Genesis" may be partly due to his family being of some importance. That would make Dr. Dane a descendant of an important Old Martian family, the Kalvars. She would then parallel Dejah Thoris, who is "the daughter of ten thousand jeddaks."²⁶⁸ As a parallel descendent of ancient Martian leaders, and the next-to-highest level leader (after Selim von Ohlmhorst) among these modern-day Martio-Humans, Martha could actually be called 'a new "princess" of Mars'.

Though the historical model for Beam's tale is undoubtedly Egyptian archaeology, it is here deduced that the literary model, or influence, comes from Burroughs. Piper used Burroughsian models or elements in at least two other tales; 'When in the Course' and *Uller Uprising*.²⁶⁹

Also in support of the Burroughs connection, Beam's Martian/Paratime names (Kalvar Dard, Seldar Glav, Tortha Karf, Verkan Vall), are obviously modeled on those of Burroughs (Kantos Kan, Tardos Mors, Kulan Tith, Gantun Gur).²⁷⁰ Personal names are of course part of any language, which means that Piper's title "Omnilingual" may contain a third meaning, also hidden. His Old Martian is not only the ancient common language of Martio- and Terro- Humanity, *it is also essentially the same language as Barsoomian*.

This further deduction is supported by the fact that Beam's Old Martian wasn't just spoken by the ancient Doorshans, it is still spoken, by the First Level Paratime Martians of modern-day Terra. Their colonization was a complete success, so their language and culture are essentially unchanged from 100,000 years ago. Likewise, Barsoomian is not only the universal language of modern Mars, it is the same language that was spoken on ancient Mars, when it still had oceans. As Dejah Thoris informs John Carter, "All Barsoomians speak the same tongue from the ice-clad south to the ice-clad north, though their written languages differ."²⁷¹ Carter subsequently elaborates on its great longevity. "Upon Barsoom there is but a single oral language. It is spoken today by every race and nation, *just as it was at the beginning of human life upon Barsoom*. It has grown with the growth of the planet's learning and scientific achievements, but so ingenious a thing it is that new words to express new thoughts or describe new conditions or discoveries form themselves—no other word could explain the thing that a new word is required for other than the word that naturally falls to it, and so, no matter how far removed two nations or races, their spoken languages are identical."²⁷²

The strange method by which new Barsoomian words 'form themselves' in a sort of natural growth may explain where Piper got the idea for his Martian language to be similar to German. "This language, she had long ago decided, must be something like German; when the Martians had needed a new word, they had just pasted a couple of existing words together."²⁷³ In Germanic languages including English, it is certainly 'natural growth' to create new words by pasting a couple of existing ones together—like gunpowder and cannonball—rather than invent entirely new ones. Paraphrasing Burroughs, the word gunpowder 'naturally falls' to the powder put in guns, and 'no other word could explain the thing' better.

That the Old Martians are Piper's version of the Orovars, the ancient fair-skinned, fair-haired people of Barsoom, provides another reason for the Martian-German linguistic connection. The fair-skinned, fair-haired Germanic peoples of Terra are presumably the most similar to their white Martian ancestors; therefore, their language is the most similar to Old Martian.

John Carter travels to Mars and in Korad learns Barsoomian, a universal language spoken both on ancient Mars (mainly by the Orovars), and on modern Mars (by people like Kantos Kan). Martha Dane

travels to Mars and in Kukan translates Old Martian, a universal language spoken both on ancient Mars (by people like Kalvar Dard and “tall blonde Olva”²⁷⁴) and currently spoken (by First Level Paratime Martians like Verkan Vall). *Omnilingual*.

And if that were not enough evidence, Piper even followed Burroughs in subdividing the Martian year. In “Omnilingual”, the Terrans “also found [a] Martian calendar; the year had been divided into ten more or less equal months, and one of them had been Doma. Another had been Nor...”²⁷⁵ They later learn that “the names of the months are simply numbers, one to ten, spelled out”, Dr. Dane pointing out that “It’s decimal system, the same as we use.”²⁷⁶ Turning now to Burroughs, we find that “A Barsoomian year is 687 Earth days long, but is only 668.6 Martian mean solar days.” This means that using “the customary Barsoomian decimal system...the year would be divided into ten parts of 67 days each, with minor adjustments from time to time—like our own leap year—to even things out.”²⁷⁷ Burroughs did not name any of his ten Martian months, which may explain why Piper didn’t, either; he merely numbered them.

Continuing with the customary decimal system, the Barsoomian day is divided into ten hours, which Burroughs called zodes.²⁷⁸ It is therefore quite possible that when Piper’s Terrans find a Martian clock, they learn that it is also in decimal system, dividing the Martian day into ten hours. This is supported by his Paratime story, “Last Enemy”.²⁷⁹

We can add that one of Beam’s Martian numbers (probably the word for 10) is *nor*; this is very similar to *tor*, the Barsoomian number 4.²⁸⁰ In turn, *tor* is only one less than *doma*, Piper’s Martian number 5. And *doma* in its turn may have hidden significance. As the very “first Martian word” translated by Dr. Dane,²⁸¹ *doma* could refer to the ‘five’ oceans of ancient Barsoom, now dried up, and/or the ‘five’ races of modern Barsoom; the green, red, white, black and yellow Martians.

There are of course many differences between “Omnilingual” and the tales of Barsoom, so Henry Beam was certainly not rewriting Edgar Rice, but his story’s inclusion of the Table of Elements connects with his hidden inclusion of these other Burroughsian ‘elements’. Particularly Helium and his reference to Howard Carter, which is a hidden play on the Twin Cities of Helium and John Carter. But also Kukan, a play on Korad, and the parallel ‘one language’ of Mars.

Piper was seemingly improving on or extrapolating from Burroughs’ ideas. For example, if you’re going to mention a ‘Carter’ on Mars, a desert planet of ancient ruined cities and dead Martians, then the logical one is not John but Howard, a famous archaeologist who excavated in the mummy-rich ruins of desert Egypt.²⁸² Next, if there’s a ‘Helium’ on Mars, there must also be “Hydrogen...Lithium...Beryllium...Sodium”,²⁸³ “boron and oxygen”,²⁸⁴ “uranium”,²⁸⁵ and all the other elements found throughout the universe. And finally, if there’s an ‘omnilingual’ on Mars, a planet with an ancient scientific civilization, then even though there are no living Martians, its universal language can still be translated, using the universal language of science.

Beam’s other improvement on Burroughs is that this omnilingual was not just spoken by ancient (now extinct) and modern (Paratime) Martians. *It is also the original language of Terro-Humanity, which came from Mars*. Having Mars colonize Terra solves the parallel evolution problem in the tales of Barsoom, by explaining how Burroughs can have Earth men like John Carter and Ulysses Paxton marry and procreate with Martian women like Dejah Thoris and Valla Dia. This is impossible if Terrans and Martians evolved as separate species. Indeed, the interplanetary racial connection is implicit in the very first story of Barsoom. At the beginning of *A Princess of Mars*, John Carter says,

I am a very old man; how old, I do not know. Possibly I am a hundred, possibly more; but I cannot tell because I have not aged as other men, nor do I remember any childhood. So far as I can recollect I have always been a man, a man of about thirty. I appear today as I did forty years and more ago, and yet I feel that I cannot go on living forever; that some day I shall die the real death from which there is no resurrection.²⁸⁶

Carter’s great age, plus the knowledge of his mortality—not to mention his strange mental powers, such as the ability to teleport himself to and from Mars, and the ability to keep Martians from reading his thoughts—parallels the human races of Barsoom; whose natural span of life is at least a thousand years,

and who possess mental powers such as telepathy, which in a few extreme cases includes such strange abilities as the creation of armies by mere thought. Thus, the so-called Earthman John Carter actually appears to be a Martian, even before he goes to the Red Planet.

This also seems to be the case for Ulysses Paxton, the American officer who teleports himself to Barsoom during WWI, in *The Master Mind of Mars*. Like John Carter, the mortally wounded Paxton raises his arms to “the god of my vocation”,²⁸⁷ and by the same psychokinetic process arrives on Barsoom. Before his astral (or, more precisely, planetary) voyage, Paxton describes how he constantly dreamed of Mars. “Such dreams! Always of Mars, and during my waking hours at night my eyes always sought out the Red Planet when he was above the horizon and clung there *seeking a solution of the seemingly unfathomable riddle he has presented to the Earthman for ages.*”²⁸⁸ The solution to the riddle is that, besides being the eternal vocational god of soldiers like Carter and Paxton, Mars is their real ‘home’; indeed, the real home of all Earthmen.

Assuming Beam thought of it that way, he could have supported this connection from the Bible. In early times, humans like Noah allegedly lived hundreds of years, but later men did not. In Burroughs’ universe, this could be fictionalized to mean that the ‘creation’ of Man was actually his ‘arrival’ (sudden appearance) on Earth from Mars, while the Barsoomian trait of long life was eventually lost by the original colonists’ descendants. Probably a result of evolution, as the Martians adapted to their new planet, which is far larger, and has correspondingly greater gravity. John Carter’s long life and mental powers would then be a genetic quirk; a rare reappearance of this ancient Martian characteristic. That Paxton has the mental power to teleport himself to Mars suggests he is another such case, and may therefore possess other Martian characteristics, like the long life inherent to Barsoom.

In his Paratime stories, Piper actually used a similar idea. Because, like Barsoomians, his First Level Martians are very long-lived. Tortha Karf, the Chief of Paratime Police, “was only three hundred years old, so by the barest life-expectancy of his race he was good for another two centuries.”²⁸⁹ This is a total of five hundred years; exactly half of the barest life-expectancy for the peoples of Barsoom. In Beam’s universe, however, this ‘Martian’ characteristic of paratimers is due to advances in medical knowledge, which presumably occur on Terra, long after the Martians have colonized it. In “Police Operation”, during the strato-rocket trip to Dhergabar, Verkan Vall and the rocket pilot compare their First Level science to that of our own Fourth Level world. Vall: ‘ “Of course, the life-expectancy on that level is only about seventy years.” “Humph! I’m seventy-eight, last birthday,” the boyish-looking pilot snorted. “Their medical science must be mostly witchcraft!” “Until quite recently, it was,” Verkan Vall agreed.’²⁹⁰ The First Level Martians of Terra never lost their civilization; therefore, their scientific knowledge—including medical—is about 100,000 years ahead of ours. But it is also a hundred thousand years more advanced than their ancestors who lived in the time of “Genesis”; whose knowledge-level is comparable to our Fourth Level timeline, and who therefore most likely had a similarly short life-span.

In Piper’s universe, the Fourth Level legends of Noah and other such ancient people living hundreds of years would then be myths build up around a grain of truth. The approximately seventy year life-spans of the Martians in “Genesis” would undoubtedly be long compared to their Terran descendants, who lose their civilization, and quickly become short-lived savages.

Yet another Burroughsian ‘element’ in “Omnilingual” actually involves two elements; hydrogen and oxygen, or H₂O. Piper’s Martian water-distribution system, described in **Egypto-Martian Canals**, pumps water through underground aqueducts to reservoirs beneath cities like Kukan. Though I gave Beam credit for some smart engineering, his system may also be derived from Burroughs. In *A Princess of Mars*, John Carter describes the Barsoomian canals in this manner:

The water which supplies the farms of Mars is collected in immense underground reservoirs at either pole from the melting ice caps, and pumped through long conduits to the various populated centers. Along either side of these conduits, and extending their entire length, lie the cultivated districts. These are divided into tracts of about the same size, each tract being under the supervision of one or more government officers.

Instead of flooding the surface of the fields, and thus wasting immense quantities of water by evaporation, the precious liquid is carried underground through a vast network of small pipes directly to the roots of the vegetation.

The crops upon Mars are always uniform, for there are no droughts, no rains, no high winds, and no insects, or destroying birds.²⁹¹

In any case, the Burroughsian elements found in "Omnilingual" are almost certainly an inner tribute to the tales Piper enjoyed in his youth. As he wrote in the *Double-Bill Symposium* fanzine, "In the early days, as soon as I'd discover a new favorite, I was going to write like him. I was going to write like James Branch Cabell, which would have taken a lot of doing. Before that, I was going to write like Rafael Sabatini, and like Talbot Munday [sic], and like Rider Haggard, and even, God help us, like Edgar Rice Burroughs."²⁹²

Burroughs' Martian tales have many flaws, and yet they possess a powerful creative charm all their own. Because of this, you can't fault the perfectionist Piper, God bless him, for making hidden references to them. Especially since these were improvements on Burroughs, and so subtly done as to be almost invisible.²⁹³

Appendix 4. Kukan and Piper

a) *World, Region, and City*

When I first read “Omnilingual” in 1981, another detail which stuck in my imagination was the fact that “Kukan” is not the city’s actual name. Martha Dane’s transliteration system is an *ad hoc* one. She “had set up a purely arbitrary but consistently pronounceable system of phonetic values for the letters...The odds were [therefore] millions to one against her system being anything like the original sound of the language”.²⁹² When the Terrans find the globe of Mars, they discover that the city’s “name had been Kukan—or something with a similar vowel-consonant ratio.”²⁹³ Even though I thought ‘Kukan’ itself was a pretty cool name, I used to wonder what its real name was; maybe something even better. However, my initial attempts to decode Kukan were fruitless. Though I didn’t realize it at the time, Piper’s vagueness on the issue actually adds to the aura of mystery surrounding Mars. Here his characters have landed and begun exploring the Red Planet, yet they can’t even be certain of something as simple as a place name! It’s a neat touch, and may have been a deliberate tribute by Beam to the Martian mystique.

Or was he hiding something? Many years later, in the summer of 2000, I began researching Piper’s historical models. A strange idea occurred to me when I took another look at Beam’s Mars; I realized that Kukan has the same vowel-consonant ratio as *Piper*. That made a certain amount of sense, since these were Piper’s characters in Piper’s story that are visiting a city on ‘his’ version of Mars, which furthermore is sustained by water fed to it by extremely long ‘pipes’. It could therefore be an inside joke by Beam. (The parallel with Korad in **Appendix 3** occurred to me much later.)

Another reason for calling the city a transliterated version of his own name would be to sign his name to the Red Planet; to ‘make his mark’ on the Mars that so fascinated him. If so, then Piper could again parallel Edgar Rice Burroughs, whose renaming of Mars to ‘Barsoom’ may have involved his own last name. Because another idea occurring to me was that Barsoom could be a modified anagram of “Burroughs’ Mars”. By combining the letters of Burroughs and Mars we can get B-ars-urroughs-M, and then by shifting the duplicated letters so that they’re all together, this becomes Barrrrsououghm. Now, subtracting the duplicate letters makes Barsoughm, which phonetically would be Barsoom.

Assuming that Burroughs named his literary version of the planet after himself, then Piper was simply following suit, by naming a *city* on his version of the planet after himself. Why just a city rather than the whole planet? Because Beam’s own name for Mars, ‘Doorsha’, appears to be a modified anagram of Barsoom itself. The derivation here would presumably be Barsoom—Darsooh—Doorsha, or alternately Barsoom—Boorsma—Doorsha. The first syllable ‘Door’ is an echo of the Valley Dor, the place on Barsoom where life began. “Doorsha” may therefore be a combination of Dor and Barsoom.²⁹⁴

Thus, because he had already named his version of Mars after Barsoom, undoubtedly as a tribute to the Mars of Burroughs, Piper couldn’t name it after himself. And because he was following the Martian maps of Schiaparelli and Flammarion-Antoniadi, who had already named all the lands and waters, he couldn’t put his name there either. But he could apply his name to a city.

This brings us to a third reason, which is that Piper himself actually ‘discovered’ Kukan. From above, we saw that Kukan is probably in Martian Egypt, and may be the Alexandria of Mars. But though Giovanni Schiaparelli placed an Egypt (Isidis and Neith) a Greece (Hellas) and an Italy (Hesperia) on Mars, he did not delineate any Martian cities corresponding to Alexandria or Athens or Rome. Naturally not, for he had no idea whether there were any.²⁹⁵

Piper may therefore have figured, ‘Since there’s an Egypt on Mars, there should be a major city paralleling Alexandria where the Nilosyrty empties into Syrtis Major.’ Being the ‘discoverer’ of this Martian Alexandria, Beam had the same right as anyone—to name his discovery, in this case after himself. That may not have been mere ego, as Beam didn’t just discover the city, he *created* it in the pages of his story. So he could have been following the example of the real Alexandria, which of course was named after (and by) the man who created it—Alexander the Great.²⁹⁶

As Percival Lowell once said, “Naming a thing is man’s nearest approach to creating it.”²⁹⁷ Piper was therefore also following the example of Schiaparelli, whose “names created a new Mars, or at least a new

way of looking at the old Mars.”²⁹⁸

b) The Martian Alexander

The next deductive step is obvious; Kukan as the Martian ‘Alexandria’ may mean that the name ‘Kukan’ was originally borne by the ‘Alexander’ of Mars. Since Piper discovered the Alexandria of Mars, then by extension, he also discovered its Alexander. So by naming the discovered city after himself, he could have named its ancient Martian founder after himself as well.

Alexander of Macedon began his conquests from the Ancient Greek World, subduing Persia, Phoenicia, and Egypt. Assuming a parallel history, this means that on Old Mars, Kukan was a great conqueror who sailed from the Hellas of Mars to subdue the ancient Doorshan world. Some of the continental regions nearest to the Martian Hellas are likely to have been invaded by this conqueror, and interestingly enough, these regions include Egypt (Neith/Isidis/Aeria), and Libya. The Terran Alexander conquered a great empire, married the beautiful daughter of the Persian ‘King of Kings’, and founded Alexandria. Thus, the Martian Alexander may subdue a large area of continental Mars and marry a beautiful foreign princess (possibly that of Martian Egypt), subsequently founding Kukan.

The Hellenistic Age begun by Alexander may therefore be paralleled by a hybrid ‘Martio-Hellenistic’ Age begun by the conqueror Kukan. Assuming the city of Kukan is the Martian Alexandria, the Hellenistic model suggests that the civilization of Old Mars was also a hybrid one. And this is supported by the variety of historical, classical and biblical names on the maps of Schiaparelli and Flammarion-Antoniadi.

Given his combination of self-educated mind with an affinity for military matters, plus an objective scientific outlook and fascination with the Red Planet, it would seem appropriate for Piper to have applied his name to the Alexandria of Mars, a city that evokes conquest, high culture, and hybridization.

c) Kukan and Carter

The following may stretch the speculation too far, but if Kukan is a transliteration of Piper, then Beam may have envisioned himself as the Alexander of Mars.

Not in person, of course, but fictionally. Authors often project themselves into their main characters, and as I state in “The Martio-Human Race”, Beam’s mainly Caucasian Old Martians seem to be based on the ancient white Orovars of Edgar Rice Burroughs. Piper as the Martian Alexander could therefore be another Burroughs influence, as Edgar’s own analog is John Carter. In the first three books of the series, Carter wins all his battles in the end, defeats all the enemies of Helium in the process; marries the beautiful granddaughter of a Jeddak (Emperor), overthrows the false religion of Issus, and for his deeds is proclaimed as the Warlord of all Mars. In essence, a world-ruler.

Since Burroughs’ main character conquers modern Mars, Beam’s version of a great fictional Martian conqueror would have to appear in another historical period. His presumed character Kukan therefore conquers *ancient* Mars. A world-ruler of that age.

And Alexander himself is very similar to John Carter. Alexander the Great is famed for winning all his battles—it took a sit-down strike by his soldiers to prevent him from advancing to the Ganges and conquering India—he married the beautiful daughter of an Emperor (Darius II), became the object of reverence in several religions, and conquered just about the entire ancient world.

Based on Alexander, and being the ancient Martian analog of John Carter, Piper’s Kukan would therefore be a great warrior who wins all his battles, conquers just about the entire ancient Martian world, and marries into the royal family of a mighty foreign power, possibly the daughter of the Martio-Egyptian ‘Pharaoh’. Kukan/Piper finds his Princess.

And if, like John Carter, the fictional Kukan overthrows a false religion in the course of his conquests, the parallel would be even closer, as the agnostic Piper was known to dislike organized religion.

It is well known that John Carter fights for Helium, making it the supreme power on modern Barsoom. And as stated, the Martian Alexander may set sail from the Martian Hellas, making it the paramount nation on ancient Doorsha.

Thus, Beam’s ancient ‘Hellas’ may parallel Burrough’s modern ‘Helium’, with Kukan as his Carter.

ENDNOTES

1. Introduction

1. John F. Carr, Introduction, *Paratime* (New York, NY: Ace Books, 1981), p. 11
2. H. Beam Piper, *Federation* (New York, NY: Ace Books, 1981), p. 21
3. H. Beam Piper, *The Worlds of H. Beam Piper* (New York, NY: Ace Books, 1983), p. 170
4. Ibid., p. 150
5. Bill Manley, *The Penguin Historical Atlas of Ancient Egypt* (New York, NY: Penguin Books USA, Inc., 1996), p. 132
6. Piper, *Federation*, p. 20
7. Ibid., p. 35
8. Areography; Martian geography. The word was apparently invented by "Dr. Johann Hieronymus Shroeter, who spent a large part of an inherited fortune to build himself a then up-to-date observatory at Lilienthal near Bremen ...Shroeter's observations [of Mars] covered the oppositions from 1785 to 1802...The term was coined in analogy to "geography", using *Ares*, the Greek word for Mars, instead of the Greek word for the earth (*gaia*).” (Willy Ley and Wernher von Braun, *The Exploration of Mars* (New York, NY: The Viking Press, 1956), p. 33)
Here I should note that the picture of Mars on the title page of my paper is by Chesley Bonestell, and comes from Plate IX of that book (ibid., p. 65).

2. The Mars of Schiaparelli

9. Patrick Moore and Garry Hunt, *Atlas of the Solar System* (New York, NY: Rand McNally, & Company, 1983), p. 214
10. Ley and von Braun, *Mars Exploration*, p. 12
11. Ibid., pp. 14, 15
12. Moore and Hunt, *Solar Atlas*, p. 214
13. Ibid.
14. Ley and von Braun, *Mars Exploration*, p. 43
15. Ibid.
16. Ibid., p. 33
17. Ibid., p. 44
18. Ibid. Also note the perhaps unintentionally amusing 'Beer Bay' and 'Beer Sea'. Such places would undoubtedly be welcome stops after the long voyage from Earth. Of particular interest are the nearby Dawes Continent, Dawes Ocean, Dawes Strait, and Dawes Forked Bay, probably named for William Rutter Dawes, who "made extensive drawings of Mars during its 1864 opposition." (http://en.wikipedia.org/wiki/William_Rutter_Dawes) The drawings by this clergyman, nicknamed "eagle eye", were the basis for Proctor's 1867 map (ibid.). This explains why Dawes was given such a prominent place among Proctor's Martian place names.
William Dawes is important because he may be the inspiration for Piper's characters Lester and Anse Dawes in *The Cosmic Computer*. Lester and Anse, who live on Poictesme, are nevertheless related to Mars. The first

contragravity ship of 'The Fawzi's Office Gang' is christened "the *Lester Dawes*, because Dawes had secured her and because the name began with the initials of Litchfield Exploration & Salvage." (H. Beam Piper, *The Cosmic Computer* (New York, NY: Ace Books, 1963), pp. 29, 67)

The LES group eventually participates in completing a spaceship, and some of its members, including Anse Dawes, serve as crew in its first voyage. This is a long normal-space trip from Poictesme to Koshchei. As a habitable third planet, Poictesme is the 'Terra' of the Alpha Gartner system, and since Koshchei is "The fourth planet of Alpha Gartner" (ibid., p. 30), that makes it its 'Mars'. Like our Red Planet, Koshchei is also red, due to iron oxide in the soil. "All that had remained had been a core of almost pure iron and a mantle that was mostly high-grade iron ore...The whole planet started to rust. It had been rusting, slowly, for the billion or so years that had followed, and almost all the free oxygen had become locked in iron oxide." (ibid., p. 131) The surface of Koshchei is therefore a nearly "uniform red-brown". (ibid., p. 138).

Incidentally, this seems a bit darker than the reddish-orange of Mars. Probably a reflection of the fact that life never appeared on Koshchei (ibid., p. 131), but did appear—and still exists—on Beam's Mars. Koshchei is therefore a 'dark Mars'. Mars is an old and dying planet, but Koshchei is old and dead. "The fourth planet of Alpha Gartner was older than Poictesme; geologists claimed that it was the oldest thing, the sun excepted, in the system" (ibid., p. 130). Moreover, the real Koshchei is an old, dark figure of legend. "In Russian literature, Koshchei...is an evil person of ugly senile appearance, menacing principally young women." (<http://en.wikipedia.org/wiki/Koshchei>)

And, just as the Terrans in "Omnilingual" find Mars full of empty cities (all the Martians having died out), so the Poictesmeans find Koshchei full of abandoned ones (all the Terrans having left after the War). "Koshchei grew larger and larger ahead; the polar icecaps, and the faint dappling of clouds, and the dark wiggling lines on the otherwise uniform red-brown surface which were mountain ranges became visible. Finally they began to see, first with the telescopic screens and then without magnification, the little dots and specks that were cities and industrial centers." (ibid.) A similar description could have been made by the crew of the *Cyrano* on its first approach to Mars. Merely substitute 'Mars' for Koshchei, 'straight' lines for wiggling, 'orange' for brown, and 'canals' for mountain ranges.

So William Dawes was an early observer of Mars, Lester Dawes is an early supporter of Conn's effort to go to Alpha Gartner's Mars (Koshchei), and Anse Dawes is an early traveler to (and first-hand observer of) Gartner's Mars. And the Terrans who abandoned Koshchei in the first place are a Martian race, being descended from Martio-Human ancestors. As a parallel of Mars, Koshchei therefore fits John Carr's statement that "Like the themes of nuclear war and time travel, *the lost Martian races was a theme that would appear in many guises.*" (Carr, Introduction to *Federation*, p. xii, emphasis added. That's actually a paraphrase; Carr has "the lost Martian races" before "time travel".)

In "Omnilingual", the Old Martians died out fifty thousand years ago, and their Terran descendants become the first 'new' Martians; while in *The Cosmic Computer*, Koshchei lost its 'Martian' inhabitants forty years ago, with the Poictesmean settlers becoming the first 'new' ones.

Incidentally, the 'Red' Planet of Alpha Gartner also embodies the nuclear war theme, because Koshchei threatens Poictesme with nuclear annihilation; a parallel of the Cold War. (Piper, *Cosmic Computer*, p. 232) See my paper "Emblems of Aditya", endnote 65.

19. Ley and von Braun, *Mars Exploration*, p. 44 The name 'Behssol' is not certain, as it is partially overwritten by the equator and the 240 degree longitude number. Other possible readings are Bedssol and Bellssol.

20. Ibid., p. 34

21. Ibid.

22. Moore and Hunt, *Solar Atlas*, p. 214

23. Piper, *Federation*, p. 36

24. Ibid., p. 25

25. Piper, *Worlds*, p. 149

26. Ibid., pg. 155, emphasis added

27. William Sheehan, *The Planet Mars: A History of Observation and Discovery* (online book), <http://www.uapress.arizona.edu/onlinebks/mars/chap05.htm>

28. Ibid.

29. Ley and von Braun, *Mars Exploration*, pp. 70-71

30. Piper, *Federation*, p. 17

31. Schiaparelli was not even consistent. On an 1879 map he labeled it "L. [acus] Solis", but on an 1881 map reverted to Solis Lacus. (Ley and von Braun, *Mars Exploration*, p. 46)

32. Novissima is probably correct Latin; it seems to mean 'new little' Thyle. And Novissima Thyle is much smaller in area than Thyle I and II. However, according to http://en.wikipedia.org/wiki/Classical_albedo_features_on_Mars, it translates to "Newest Thule".

33. The numbering of features would actually seem logical when applied to the *canali*. For Schiaparelli also observed that some canals 'doubled' at times; two canals appeared where one had been seen previously. This phenomenon was formally called 'gemination'. (Ley and von Braun, *Mars Exploration*, p. 49)

3. Schiaparelli's Followers

34. Schiaparelli's reverse order of so many Latin names could have been for poetic effect, adding to the 'strangeness' or mystique of this alien world. Poetic reversals are also seen in English, as in the phrase 'tripping the light fantastic' (instead of 'fantastic light'), or in the Silver Surfer's 'Power Cosmic' (instead of cosmic power). Piper's horse-doctor reference may have therefore been a play on 'putting the cart before the horse', as opposed to the proper order for the name, horse-cart.

35. Ley and von Braun, *Mars Exploration*, p. 61

36. Roy Gallant, *Exploring Mars* (Garden City, New York: Garden City Books, 1956), pp. 28-30

37. I don't know if Lowell postulated any remaining animal life, but Piper did. "Ivan Fitzgerald, the medic" says that "I've been checking on bacteria cultures, and...dissecting specimens for Bill Chandler [the zoologist]. Bill's finally found a mammal. Looks like a lizard, and it's only four inches long...Burrows, and seems to live on what pass for insects here". (Piper, *Federation*, p. 10) 'Finally' suggests that Chandler has already found other Martian animals that are not mammals, and these are what Fitzgerald has been dissecting. Probably reptiles, since the mammal he finds looks like one, and the bird he later shoots "was more reptilian than avian in general characteristics." (ibid., p. 42) Chandler and Fitzgerald then skin, mount, and dissect the reptile-bird. (ibid.)

That Old Mars once had many mammals, and still did at the time of "Genesis", is implied by Varnis' statement. "If there's such a large polar ice-cap [on Tareesh], the summers ought to be fairly cool, and the winters cold...I'd think that would mean fur-bearing animals. Colonel, you'll have to shoot me something with a nice, soft fur. I like furs." (Piper, *Worlds*, p. 149) Since they haven't reached Terra yet, the furs she likes are unquestionably Martian.

38. Ibid., p. 148 A few pages later, Kalvar Dard says the ship carried "fifteen hundred people". (ibid., p. 155) This is either a misprint, or the ship carried over a thousand colonists (passengers), and almost 500 crew (including military personnel like Dard).

39. Piper, *Federation*, p. 35 And if the Martian ship had 1500 people aboard (see endnote 38), its complement was three times as large as the *Schiaparelli*.

40. Ibid., p. 19

41. Ibid., pp. 35-36

42. Ibid., pp. 14, 21-22, 29 One would presume these technological advances were made out of necessity; to preserve scarce food, defend against barbarian attack, and retain their knowledge as long as possible.

43. Both men also mention museums. Lowell speculated that "Quite possibly, such Martian folk are possessed of inventions of which we have not dreamed, and with them electrophones [telephones] and kinetoscopes [motion

pictures] are things of a bygone past, preserved with veneration in museums as relics of the clumsy contrivances of the simple childhood of the race.” (Ley and von Braun, *Mars Exploration*, p. 62, brackets in original, quoting Lowell from *Mars*.) Piper’s characters actually find such a place. When the Terrans get to “the second floor [of the university at Kukan], they found a museum; many of the exhibits remained, tantalizingly half-visible in grimed glass cases.” (Piper, *Federation*, p. 31)

One then wonders if Beam’s tale of archaeological discovery was partly inspired by Lowell. Lowell apparently believed the Martians could still be alive, but by the time Beam wrote his story, it was clear that wasn’t possible. But if they had all died out, the remains of their civilization would still be there, waiting for us to come and explore them.

We could add that the mention of the construction of the Egyptian pyramids being child’s play compared to the construction of the planetary irrigation system ties in Martian Egypt and Piper’s Kukan. See those sections.

44. Gallant, *Exploring Mars*, p. 30

45. Piper, *Federation*, p. 21

46. http://www.cloudynights.com/item.php?item_id=1208

47. Astronomers of the time used telescopes that optically reversed the image they were viewing. Later telescopes corrected that deficiency.

Piper appears to have employed reversed-orientation maps elsewhere. One is found in the historical model of the Aryan-Transpacific Sector of Paratime (see my paper “A Study of Kalvan Subsector”). Another in the historical models for the early part of his Future History (see “Piper’s WWII—From Thirty Years War to Thirty Days’ War”). Since both the Paratime and the THFH series have their source on Mars, and both series contain reversed maps, this leads me to wonder if the general map of Mars—which as the present paper shows contains the historical models for the beginning of his version of human history—was the source of this deduced practice by Beam.

4. The Expulsion from ‘Eden’

48. Piper, *Worlds*, pp. 163, 169, 170 The references on pages 163 and 169 say that *Tareesh* is the wonderful Eden-like place. But page 170 makes it clear that Mars was the original place of happiness and plenty. *Tareesh* was to become so when Martian civilization became well established. Piper therefore connects the Extra-Terrestrial Eden with the Terrestrial one. Mars is the technological paradise, but *Tareesh* is the ecological one, and will eventually become the technological one. The ‘blurring’ of the two planetary Edens may have therefore been deliberate, subtly hinting at how the Martians lost the knowledge of their extraterrestrial origin.

49. <http://www.spaceline.org/capehistory/2a.html>

50. Piper, *Worlds*, p. 148 Beam could have adapted Verne to Mars. In *From the Earth to the Moon*, Verne’s Earthmen make the first moonshot from central Florida (latitude 28 North). Since Martio-Humanity makes the first ‘Earthshot’ from the Martian Eden (latitude 20-30 North), this suggests there is a spaceport in that region. However, the interplanetary mission to *Tareesh* was undoubtedly preceded by the first Martian moonshots (or moons-shots) to Phobos and Deimos. Thus, the Eden Spaceport was probably built in this ‘Martian Florida’ for flights that can be called ‘From the Red Earth to the Moons’. Launches that could have been fictionally foreseen a century earlier by a ‘Martian Verne’. (Later Terran expeditions may discover this spaceport. See section “**A Globe of Mars**”.)

51. Later, hyperships—notably in *Space Viking*—begin construction on planetary surfaces, and then are finished in orbit. (H. Beam Piper, *Space Viking* (New York, NY: Ace Books, 1963), p. 37) Though not a hypership, the interplanetary colony ship in “Genesis” is a large vessel, holding over a thousand passengers, and could therefore have been built in Martian orbit. If so, “the blastoff from Doorsha” would actually mean ‘from Doorshan orbit’, at least for the colony ship. For the passengers and crew, the blastoff would be via shuttle rocket from the Eden Spaceport, up to the waiting interplanetary vessel.

Mars’ lower gravity would seem to make orbital completion there a more attractive option than on Terra, since it would be much easier to boost materials from the surface. This brings us to the Terran ships; the *Cyrano* and the *Schiaparelli*, which may be built in Terran orbit. As stated, the similarity of latitudes means that Terran Florida parallels Martian Eden. The postulated Eden Spaceport would then be paralleled by Cape Canaveral, which could therefore be the embarkation point of for the Terran members of the First Mars Expedition.

In *Space Viking*, finishing hyperships in space is made much easier by the existence of contragravity, but the *Cyrano* and *Schiaparelli* make their voyages in the late 1990s, about 40 years before contragravity is invented. Since

the modern First Mars Expedition parallels the ancient 'First Tareesh Expedition', this means the Martians probably do not have contragravity at the time of "Genesis". They apparently employ pseudograv on the colony ship, and the Terrans heading to Mars probably use pseudograv as well.

The Martian rocket-boats in "Genesis" are nuclear powered, and so is the *Kilroy*, the first Terran rocket to Luna. So nuclear powered rockets (NPRs) are utilized to loft the materials to build all three interplanetary spaceships in orbit. (See endnote 68.) Constructions in Martian and Terran orbits separated by 100,000 years.

52. <http://www.blueletterbible.org/lang/lexicon/lexicon.cfm?Strong=G76&t=KJV>, and <http://www.thinkbabynames.com/meaning/1/Adam>

53. Cyrano de Bergerac, *Voyages to the Moon and Sun* (New York, NY: Orion Press, 1962), cover blurb

The inside jacket adds that Cyrano de Bergerac "was one of the free spirits, fine writers, and great wits of his age." A description that would not be amiss in describing H. Beam Piper, in my opinion. Cyrano was also a cavalier, and a great fencer, having fought over a hundred duels. (ibid., p. 17) Admirers of Piper have dubbed him "the Last Cavalier", and he is known to have brandished cane-swords and cutlasses at would-be muggers and intruders. (Carr, *Piper Biography*, pp. 181, 190)

As a free spirit and highly creative writer, de Bergerac treasured his independence. In the play by Rostand, Cyrano declares that "I carry my adornments only on my soul. Decked with deeds instead of ribbons; mantled in my good name, and crowned with a white plume of freedom." This characteristic causes him trouble, however, as his own pride and high standards make him a bit arrogant and intolerant, which in turn makes him enemies, such as the Count de Guiche. His friend Henri le Bret disparagingly refers to the dark side of Cyrano's solitary nature as "your precious independence, your white plume."

And as John Carr discovered, the free spirited and highly creative Beam Piper also treasured his independence. His ex-wife Betty wrote that "One line in our French divorce pleased him very much—it was: "He always maintained his independence," he said he wanted that on his tombstone." (ibid., p. 205) Given the parallels, I cannot help but feel that Piper's own pride and high standards—perhaps including an intellectual and/or spiritual affinity with Cyrano—are at least part of the reason he was sometimes intolerant of the failings in others, such as John J. McGuire. (ibid., pp. 107-108)

Both men disdained organized religion. The real de Bergerac wrote a play called *The Death of Agrippina*, which to his admirers contained "such splendid impieties", but the reactions of his detractors included "Ah! the rascal! Ah! the atheist! Hear how he speaks of the holy sacrament!" (De Bergerac, *Voyages*, pp. 4-5) As a follower of Kepler and Copernicus, de Bergerac was a heliocentrist, and rejected the Church's dogmatically-maintained geocentric cosmology. Moreover, just before his *Voyage to the Sun*, the fictional Cyrano runs afoul of local authorities in Toulon. They accuse the popular author of *Voyage to the Moon* of sorcery, because to these superstitious men, only a "magician" could fly to the Moon and have such extraordinary adventures. The fictional Cyrano is imprisoned by the Church, but manages to manipulate his gaol into a workshop to build a new flying machine, in which he escapes and travels to the Sun. (ibid., pp. 158-187)

Similarly, although Piper lived in the Bible Belt, he did not believe in a Supreme Being (Carr, *Piper Biography*, pp. 39-40, 194), derided the religious class as "Jesus-brokers and salvation-smiths" (ibid., p. 40), and called his Prohibition-defying group of imbibers the "Moral Lepers" and then the "Unholy Trinity" (ibid., p. 29). As John Carr says, "Piper was outwardly antagonistic towards organized religion, be it Buddhism or Christianity...Throughout Piper's future history, religion is played down or is the butt of satire, as in *Space Viking*". (ibid., p. 216)

One difference between the two men is that Cyrano was always "a little threadbare", while Beam was usually well dressed. (ibid., p. 50) But Piper often wasted money on new suits that could have been put to better use (ibid., pp. 154, 171, 177), and de Bergerac was a money-waster, as well. In Cyrano's case, it is believed this was due to gambling. (De Bergerac, *Voyages*, p. 20) A scene in the play by Rostand, based on a real event in Cyrano's life, illustrates the point. Because the pudgy actor Montfleury "dared smile upon" the beautiful Roxanne, Cyrano forbids him to appear on stage for a month. When the actor ignores the command, Cyrano confronts him, "with knife, to carve this fat, stuffed goose." The rotund thespian wisely beats a hasty retreat, and the play is therefore closed. Confronted in turn by the play's director, de Bergerac gallantly tosses him a bag of gold to reimburse the audience. But this leaves him broke. Le Bret: "Then you have, until the first of next month—" Cyrano: "Nothing." Le Bret: "What a fool!" Cyrano: "Yes, but what a moment!" To a proud and creative man like Cyrano—or Piper—the dramatic gesture is often more important than common sense. Indeed, it may be that such men feel *compelled* to do the uncommon thing, because they themselves are not 'common'.

Both de Bergerac and Piper had one great love in their lives; a beautiful blonde French girl, but neither man could have her. In the play by Rostand, Cyrano loves his distant cousin Roxanne, but cannot tell her so because he considers himself ugly due to his overlarge nose. And she loves someone else, anyway; the young and handsome Baron Christian de Neuvillette. So to secure her happiness Cyrano helps his young but unlettered rival win her heart

with wit and poetry. But the young couples' happiness is short-lived, as the regiment both de Neuville and de Bergerac belong to is ordered to the front that very night, and Christian is soon killed in battle. Many years later, the mortally wounded de Bergerac visits Roxanne, who realizes too late that it was he who wrote all of Christian's love letters to her, and that she has really loved Cyrano all along.

Similarly, Piper fell in love with "an attractive school teacher of his own middle age" (Carr, *Piper Biography*, p. 96). Betty was blonde, and a 'French' girl, being fluent in that language and having lived in Paris as part of her job with the Council on Student Travel. (ibid., p. 135) Like Roxanne, she 'loved someone else', having been married and divorced before she met Beam. Piper apparently won her heart with his unique combination of wit, charm and genius, and the two were married. They even settled in Paris, leading me to wonder if among the reasons Beam acquiesced to the relocation included the chance to live like Cyrano. But their happiness was short-lived, as Piper grew to hate France, and Betty would not return with him to America. Thus, much like the fictional tragedy of Cyrano and Roxanne who loved each other but couldn't be together, the real-life tragedy was that Beam and Betty couldn't make their relationship work. But they never stopped loving each other; after he returned to the US, he wrote in his diary that "Beam Still Loves Betty", and after his death Betty wrote "I know it will seem strange to you but I miss him terribly." (ibid., pp. 173, 205) After their divorce, neither ever had a serious relationship again.

Like Beam, in his later life the real Cyrano fell into poverty, but was briefly rescued from it. (De Bergerac, *Voyages*, p. 21) His poverty was partly the result of his independent streak; "his small hope of preferment, from the lack of a patron, to whom his free genius was incapable of submitting". (ibid., p. 17) Another statement that could certainly also describe H. Beam Piper. Moreover, because Beam had a habit of burning his diaries and unpublished manuscripts, much of his life is unknown—and so is de Bergerac's. "The fact is we know very little about the last ten years of Cyrano's life." (ibid., p. 21) And, just as Piper's final depression and death is somewhat shrouded in mystery, with the possibility of murder, so was Cyrano's. "There is a mystery about the death of Cyrano de Bergerac and the *"maladie"* which preceded it." (ibid., p. 20) Also, "The death of Cyrano de Bergerac is surrounded with mystery. He was only thirty-five when he died. Was this early death the result of a disease, as M. Lachevre asserts; or was it, as other commentators say, the result of a blow to the head from a falling beam? If he were hit by a piece of timber, was this an accident, or was it revenge?" (ibid., p. 22)

The latter reason found its way into Rostand's play, in which Cyrano's enemies, still fearful of his sword, have him run down with a horse-drawn wooden wagon. De Bergerac sustains a serious head injury, which later that day causes his death, in the presence of Roxanne. Likewise, some of Piper's friends believed that his death by a .38 caliber pistol was no accident. Until he heard the text of Beam's suicide note, Jerry Pournelle "was convinced that he had been murdered by someone clever" (Pournelle, Preface to *Federation*, p. viii), and John J. McGuire "said it was not possible, and that someone must have murdered him. He insisted to the Police Chief that he read *Murder in the Gunroom*. To the end of his life, [he] insisted there "was no suicide"." (Carr, *Piper Biography*, p. 201)

Though his ex-wife Betty wondered if Beam's suicide was inspired by that of Ernest Hemingway (ibid., p. 205), the strong similarities between the Last Cavalier and de Bergerac now compels us to ask a question: was Piper's gunshot manner of death actually a deliberate play on Cyrano's? *A blow to the head from a falling Beam?*

54. De Bergerac, *Voyages*, p. 45 A footnote reads "This was a popular superstition of the age."

55. Ibid., pp. 47-55

56. Ibid., p. 56

57. Ibid., p. 57

58. Ibid., pp. 57-58 It is interesting that Cyrano's upward flight resembles the staging process of a modern space launch, with his contraption as a booster rocket and Cyrano as the payload. Also that his somersault while falling toward the Moon foreshadows the turnover maneuver before braking into Lunar orbit, prior to landing.

59. Ibid., pp. 58-62

60. Ibid., p. 61

61. Ibid., p. 81

62. Ibid., p. 97 In his play, Rostand incorporates Cyrano's fictional voyage to the Moon. The Count de Guiche is Christian's (other) rival for Roxanne's hand. The regiment to which all three men belong is mobilized to fight the Spanish, and de Guiche attempts to wed Roxanne the night before they leave. With Cyrano's impassioned poetry,

however, Christian has just won her heart, so the elderly priest bearing de Guiche's message of matrimony is told that it says he is to wed Roxanne and *Christian*, rather than de Guiche. As the Count approaches Roxanne's door, a hastily-disguised Cyrano drops from a tree, pretending to have fallen from the Moon. Using a sexual metaphor to distract the matrimonial-minded de Guiche, Cyrano keeps the Count interested in the methods he has conceived for traveling in space ("several ways to violate the virgin sky") long enough for Christian and Roxanne to be wed.

63. Ibid., pp. 150-151 Cyrano's belief that Hell is at the Earth's core may be derived from a book published three centuries earlier. "In Dante's *Divine Comedy*, Hell is a vast underground cavern and the narrator travels through the center of the Earth and out the other side." (http://en.wikipedia.org/wiki/Subterranean_fiction)

64. Cyrano apparently didn't consider Elijah, whom he met in the Lunar Garden of Eden, to be a Christian. That would appear to be technically correct, since Elijah lived on Earth before the time of Christ.

65. De Bergerac, *Voyages*, p. 151

66. Ibid., from a plate facing page 55, titled "PORTRAIT OF CYRANO BY AN ENGRAVING BY DESROCHERS." Credited to the New York Public Library.

The picture of a spherical spaceship and shuttle rocket is from the cover of the 1951 book *Between Planets*, by Robert Heinlein.

Piper apparently borrowed the concept, because like Heinlein he used spherical spaceships in his stories. "Spaceships, either interplanetary or interstellar, were always spherical with a pseudogravity system at the center." (Piper, *Cosmic Computer*, p. 124) In "Omnilingual", Beam does not explicitly state that the *Cyrano* is a spherical craft, but I believe it is, and also the *Schiaparelli*. The *Cyrano* carries "the fifty-odd men and women of the expedition" to Mars, but remains "on orbit five thousand miles off planet." (Piper, *Federation*, pp. 4, 34) Samples of what's left of the Old Martians' food are "rocketed up to the ship" for radio-carbon analysis, and because "Nobody seemed willing to trust the ancient elevators" in Kukan University, "it was the next evening before a couple of cars and the necessary machinery could be fabricated in the machine shops aboard the ship and sent down by landing-rocket." (ibid., pp. 29, 35) We can add that "There was work to be done enlarging the landing field for the ship's rocket craft, and building new chemical-fuel tanks." (ibid., p. 35)

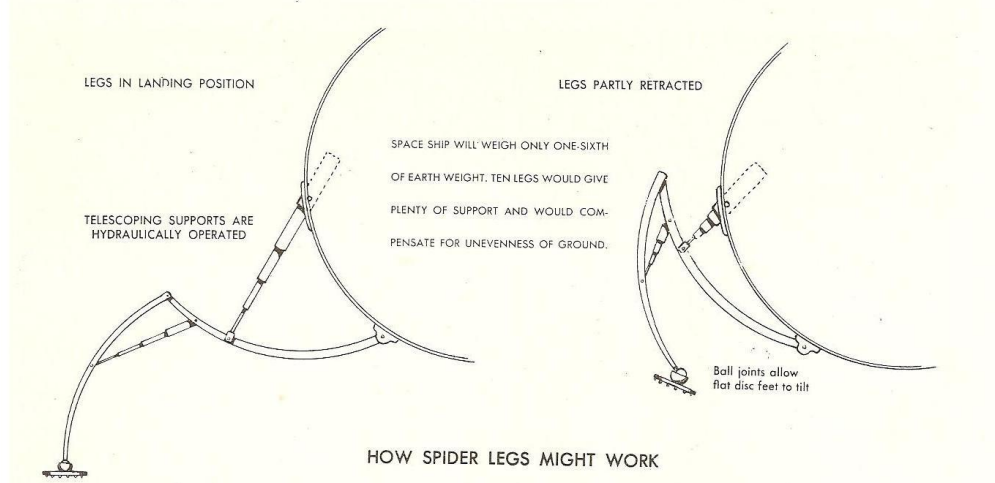
This parallels Heinlein's spherical ships, built for use only in space, and serviced from planetary bodies by shuttle rockets. In *Between Planets*, the Circum-Terra space station is "the place where short-range winged rockets from Earth met the [spherical] space liners that plied between the planets." (Robert Heinlein, *Between Planets* (New York, NY: Charles Scribner's Sons, 1951), p. 68)

Since the *Cyrano* with its 50-member crew doesn't land, the *Schiaparelli*, which carries "the five hundred members of the main expedition", undoubtedly doesn't, either. These vessels therefore differ from Piper's later spherical spaceships, which have legs like a spider to allow them to set down on planetary surfaces. Arriving on the planet Fenris, the spaceship *Peenemunde* "had her landing legs extended; she looked like a big overfed spider being hauled in by a couple of gnats." (H. Beam Piper, *Four-Day Planet/Lone Star Planet* (New York, NY: Ace Books, 1961), p. 21) And on Gram, "The *Nemesis* came back to the Gorram yards and settled onto her curved landing-legs like a monstrous spider." (Piper, *Space Viking*, p. 38)

Beam's spider-legged version of a spherical spaceship is another concept from the early 1950s, as seen in a book by Jack Coggins and Fletcher Pratt, the latter of whom Piper knew personally. On page 43 of this 1952 book, there is a picture (see next page) of the first spaceship on the Moon. The postulated moon ship only has a crew of two (Coggins and Pratt, *By Space Ship to the Moon*, p. 38), and includes a sketch showing how the legs could work. (ibid., p. 46) Another contemporary moonship concept, this one by Wernher von Braun and Willy Ley, parallels Piper's initial 50-man crew to Mars. This moonship envisions a crew of fifty in "personnel spheres". (Wernher von Braun, Fred Whipple, and Willy Ley, *Conquest of the Moon* (New York, NY: The Viking Press, 1953), pp. 44-45) In that book, however, the spheres are attached to external fuel and water tanks in a large cage-like configuration.

I would therefore conclude that the *Cyrano* is a spherical ship, built in Terran orbit, and the prototype of the much larger *Schiaparelli*. That would make it part of the tooling-up or preparatory work in building the first full-scale interplanetary ship. I would also deduce that the *Cyrano* does not land on Mars because it wasn't designed to, just like Heinlein's ships. A spherical *Cyrano* could certainly withstand reentry forces (just as the spherical Soviet Vostoks did), but it would seem a huge challenge to make large enough parachutes for a giant sphere carrying fifty people to land safely on a large Earthlike planet—though with Mars' lower gravity, it might just be possible there. But it is probably the invention of contragravity in AE 92, thirty-eight years after "Omnilingual", that enables Piper's spherical ships to rise from and land on large planetary bodies. Thus, both the *Cyrano* and *Schiaparelli* do not have landing legs, and the expedition members employ shuttle or landing rockets to and from the Martian surface.

In his turn, George Lucas was apparently inspired by Piper. The spherical ships in *Attack of the Clones* (2002)



not only have spider legs, but are called "Federation" ships. Although in Lucas' universe, these are 'Trade' Federation ships, this is certainly an echo of Beam's 'Terran' Federation ships. The Terran Federation is a peaceful universal state, so for many centuries its spherical ships are mainly involved in interstellar trade.

The legs of Coggins and Pratt's moonship do not retract into the body of the vessel, probably because with a two-man crew, it is too small. However, from the diagram we see that they do retract somewhat. This rather accurately foreshadowed the landers America used in the Apollo program; the LEMs or LMs (Lunar Modules). Their legs did not retract, although they did fold inward, so the landers could fit into the shell of the rocket.

As usual, Piper is not explicit, but the landing legs of his much larger spherical ships certainly retract, giving the vessel a more-or-less smooth appearance while underway. And when George Lucas' Trade Federation ships attempt to lift off from the planet Geonosis (apparently a thinly disguised reference to 'Genesis', although the name would be more appropriate for Kamino, the planet where human clones are created), their legs are shown to be retracting into the body of the ship.

While the above picture's caption mentions "ten legs", the Coggins-Pratt moonship actually appears to have twelve or thirteen, while Lucas' Federation ships have a more truly spider-like eight. Beam's spaceships are similar to both, as described at Port Carpenter on the planet Koshchei. "Ship-construction yards and docks; for the most part, these were empty, but on some of them the landing stands of spaceships, like eight- and ten-legged spiders, waited for forty years for hulls to be built on them." (Piper, *Cosmic Computer*, p. 139) One would presume that ships needing ten landing legs are larger than those only needing eight.

67. Piper, *Federation*, p. 36

68. *Ibid.*, p. 6

69. *Ibid.* Another building is air-sealed on pp. 34-35

70. *Ibid.*, p. 34

71. Piper, *Worlds*, p. 155

72. *Ibid.*, pp. 155-156

73. *Ibid.*, p. 163

74. *Ibid.*, p. 169

75. *Ibid.*, pp. 149, 156, 161 The explosions of the colony ship, rocket-boat, and the "big bomb" that kills Kalvar Dard all appear to be nuclear. And among the supplies the Martians salvage from the rocket-boat are "three atomic lighters". (*ibid.*, p. 156) These atomic Martian lighters are paralleled in *The Cosmic Computer*. On Koshchei (the 'Mars' of Alpha Gartner), the Poictesmeans find a wide variety of nuclear-electric batteries at the power-unit cartridge factory: "big ones for heavy machines and tiny ones for things like hand tools and *pocket lighters* and razors. There were stacks of them, in all sizes, loaded on skids and ready to move out." (Piper, *Cosmic Computer*, p. 151, emphasis added) By extension, the various other tools and equipment aboard the Martian colony ship in "Genesis" are probably also atomic-powered.

76. *Ibid.*, p. 170

77. The original Man in the Moon being Adam, and the current one Elijah. That Adam came from the Moon is apparently an old belief. In 1679, Athanasius Kircher quoted the medieval Arab scholar Abubacer, who had written: "They [the Sabaeans] say that Adam...had come from the Moon, that he was the prophet and apostle of the Moon, and that he had exhorted the nations that they should serve the Moon...They also related about Adam that when he had left the Moon and proceeded from the area of India towards Babylonia, that he brought many wonders with him." (Kircher, *Turris Babel sive Archonotologia* (Amsterdam, 1679), p. 134; sourced from the Velikovsky Archive online; <http://www.varchive.org/itb/ecadam.htm>)

78. Piper, *Federation*, p. 43

79. Thomas Bullfinch, *Bullfinch's Mythology: The Age of Fable* (New York, NY: Mentor Books, 1962), p. 299 The *Aeneid* also brings in the Freyans' origin on Mars. See that section.

Attached to the southern end of Hesperia is a roughly triangular region called Eridanus; this could be considered the Martian Sicily. And between Hesperia and Hellas is a boomerang-shaped landmass called Ausonia. According to http://en.wikipedia.org/wiki/Classical_albedo_features_on_Mars, Ausonia is “a poetic name for Italy”. That could actually mean Ausonia is the Martian Italy, while Hesperia and Eridania are the ‘Hispania’ (Spain) and Portugal of Mars. However, assuming that Hesperia is the Martian Italy, Ausonia would make a good parallel of Corsica and Sardinia, two neighboring Terran islands closely associated with Italy.

80. Having eaten from the Tree of Knowledge, Elijah knows, and speaks to Cyrano in, French. The moon-people outside the Garden of Eden are not exactly men, but “beast-men”. These are giants who stand twelve cubits high, and look like men, but walk about on all fours. (De Bergerac, *Voyages*, pp. 74-75) One could take this to mean that their parallels, the Martians in “Omnilingual”, are not the same species as us. But since Piper uses words like “identical”, and phrases like “members of her own race”, I have no doubt the Martians are completely human.

And indeed, although Cyrano does not make it explicit, it is possible the Lunar beast-men were originally human. That’s because during his conversation with Elijah, the prophet informs Cyrano that the waters of the Flood carried Noah’s Ark up very close to the Moon. While in its vicinity, Achab, one of the daughters of Noah, took a skiff and sailed to the lunar surface, followed by some of the animals of the Ark, who swam or flew after her. Once on the Moon, Achab married Enoch, and “begat posterity” with him. But they did not remain together, because of her pride, and the original sin of their children. (ibid., pp. 64-65) Thus, it is possible that the beast-men are the sinful descendants of Achab and Enoch, and this would explain why they do not live in the Lunar Garden of Eden.

81. Piper, *Federation*, p. 17

82. Ibid., p. 27

83. Since “Genesis” and “Omnilingual” are mirror image stories (both relate the first spaceship’s journey to the other planet), the titles may be related as well. “Genesis” is obviously Biblical, so “Omnilingual” could also refer to the ‘one language’ of humankind before the fall of the Tower of Babel. (See my paper “Martio-Human History” for more.) This aspect would also support Old Martian being the original common tongue of Martio- and Terro-Humanity.

5. The Doorshan Origin of Democracy

84. That they are ‘ourselves’ also means the Martians are mainly if not totally Caucasian. See my paper “The Martio-Human Race”.

85. Piper, *Worlds*, p. 150

86. Ibid., p. 170 The remains of the first *Homo Sapiens Sapiens* were discovered in Cro-Magnon, in 1868. “Undoubtedly part of the attraction of this period is that its cultures seem to have been made by *men like ourselves*—men who, in the 19th Century, came to be called Cro-Magnons.” (Professor Philip E. L. Smith, Introduction to *Cro-Magnon Man* (New York, NY: Time-Life Books, 1973), p. 7, emphasis added) These men like ourselves created “a series of new cultural shifts and emphases...events henceforth began to move in a different direction and at a different, speeded-up tempo—and the prime mover was now man himself...these *new humans* proceeded to make a quantum jump greater than anything seen before in a comparable length of time. In esthetics, in communication and symbols, in technology and adaptive efficiency, and perhaps in newer forms of social organization and more complex ways of viewing their fellows, these first modern men went on to effect a transformation worldwide in its impact.” (ibid., emphasis added) This certainly sounds like Beam’s Martians, who even though totally losing their Martian civilization are still far superior to the native Neanderthals they exterminate and replace.

Cro-Magnon is in southwestern France, east of Bordeaux, and north of Toulouse. The capital of Piper’s Home Time Line, Dhergabar, seems to be in the same area. In “Police Operation”, Verkan Vall transposes from Pennsylvania to its First Level equivalent, then has to take a strato-rocket “northward across the pole and [then] southward to Dhergabar”. (H. Beam Piper, *Paratime* (New York, NY: 1981), p. 49) That puts the city in the Eastern Hemisphere. Then, in “Last Enemy”, Vall and Dalla return from “Ravvanan, on the Nile”, which is “spatially co-existent with Ghamma”, the Akor-Neb city. (ibid., p. 91). From there, “The ship for Dhergabar was driving north and west”, and later “spilling up over the horizon, was a golden glow—the lights of Dhergabar and home”. (ibid., p. 147)

Ghamma and Ravvanan are on the upper Nile, possibly meaning that their parallel on our timeline is Aswan. Consulting a map, we see that flying northwest from Aswan roughly takes us over the Strait of Messina (between Sicily and Italy), then over the Strait of Boniface (between Sardinia and Corsica), finally reaching a major landmass in

southern France; the general area of Marseilles, Bordeaux and Toulouse.

It is therefore interesting that, even though one attempt was a complete success and the other an almost complete disaster, the First Level and Fourth Level landing sites appear to be in the exact same area! By interpolation, this means that the Martian landing sites in the Second and Third Levels are probably in southern France, as well. Why did Piper have them all land in the same area, even though the results were so different? Possibly this is due to the Barsoom influence, since Beam was apparently trying to solve the parallel evolution problem found in the Martian tales of Edgar Rice Burroughs. John Carter and Dejah Thoris come from different planets, but have no problem procreating. Thus, the human races in Burroughs' Solar System must have had a common origin. Mars is the older planet, and if the ancient Orovars that ruled it had space travel, they could have come to Earth before their civilization collapsed. There, they would have become the Cro-Magnons, and this explains the later successful mating of Carter and Thoris. They are interplanetary 'cousins'. See my papers "The Martio-Human Race" and "When in the Course—Piper's *Gods of Mars*?"

We recall that Piper was also a fan of James Branch Cabell. And Cabell's Poictesme is a fictional province in southern France. The Martians become the Cro-Magnons in southern France ('Poictesme'), whose descendants later repopulate Mars; just as Piper's 'southern French' Poictesmeans later repopulate Koshchei, the 'Mars' of Alpha Gartner.

87. Carr, Introduction to *Federation*, p. xxi

88. This would parallel the Piper Cycle deduced above, but perhaps not made explicit, that mankind evolves in Martian Eden but believes itself to have been created in (or later, evolved on), the Terran Eden. It also accompanies the cycle implied by the gold braid reference, that gold braid is originally adopted by ancient ('Western') Martio-Human military organizations, and later readopted by modern (originally Western) Terro-Human ones.

89. Again, see my paper "Martio-Human History".

90. Piper, *Federation*, pp. 213, 267

6. The "Fourth Dynasty" of Mars

91. Piper, *Worlds*, p. 150

92. The Egyptian parallel is of course more appropriate to Mars' later desert condition than its early verdant history.

93. http://en.wikipedia.org/wiki/Classical_albedo_features_on_Mars

94. Michael Jordan, *Encyclopedia of Gods* (New York, NY: Facts on File Books, 1993), p. 180

95. http://panglosstech.com/planetary_navigator/mars_albedo_features.html

96. If Beam envisioned Martian Egypt as Three Lands, it could have been a reference to the three kingdoms of Egyptian history; Old, Middle, and New. For the subtle Piper, however, it could have also been an inner joke on H. G. Wells' tripod-equipped Martians, who, if memory serves, also had trinocular vision.

97. Graham Hancock, *The Sign and the Seal* (New York, NY: Touchstone Books, 1992), p. 205 Referenced from E.L. Stevenson, *Geography of Claudius Ptolemy*, New York, 1932.

98. We could even add that the Protonilus flows from the Ismenius Lacus, on the other side of which is the Deuteronilus canal, the "second" or "secondary" Nile. (http://www.en.wikipedia.org/wiki/List_of_Martian_canals) Continuing westward, the Deuteronilus in turn begins in the Niliacus Lacus, the Lake of the Nile.

99. F. Guirand, et al., *Larousse Encyclopedia of Mythology* (New York, NY: Prometheus Press, 1960), p. 43

100. http://en.wikipedia.org/wiki/List_of_Martian_canals

101. Guirand, *Larousse Encyclopedia*, p. 23

102. Ibid., p. 25, and http://www.panglosstech.com/planetary_navigator/mars_albedo_features.html
103. <http://en.wikipedia.org/wiki/Nepenthes> The article states that it “was given to Helen by an Egyptian queen”, and “literally means “without grief” (ne = not, penthos = grief)”.
104. http://en.wikipedia.org/wiki/List_of_Martian_canals
105. Jordan, *Encyclopedia of Gods*, p. 19
106. Ley and von Braun, *Mars Exploration*, p. 51 Schiaparelli is quoted from “a long article which appeared in *Natura ed Arte*, February 15, 1893”.
107. Gallant, *Exploring Mars*, p. 24 Illustration by Lowell Hess. The cropped-out caption reads in part, “Flying over the planet, this is the view you would have—if Lowell’s description is [an] accurate one.”
108. Manley, *Ancient Egypt Atlas*, p. 28

109. And if the early Martio-Egyptians built waterways like their Earthly cousins, then Martian civilization is cyclical. It begins when the ancient Martio-Egyptians build canals to control the floodwaters of the Nilosyrtis, thereby enabling them to increase food production, which in turn allows the expansion of population, foreign conquest and the further development of technology. It ends after the much later Canal-Builders construct the planetary irrigation system, an ultimately losing battle against the dying planet itself, in which the Martians slowly decline in population, and, bit by bit, lose their technology.

Assuming Piper thought of it that way, then he improved on Percival Lowell, who popularized the idea that Martian civilization essentially ended with the building of the canal system. Thus, the deduction is made here that Beam’s contribution, based on history, is that Martian civilization didn’t just *end* with canal building, it *began* with it, too.

As far as the deduced ‘Pyramid Builders’ are concerned, early pyramids were actually step-pyramids. In addition to Egypt, these are found in Mesopotamia and Mesoamerica. Mesoamerica reflects my impression, on first reading the story, that Kukan was an abbreviation of ‘Kukulkan’. So if Piper wanted to differentiate his early Martio-Egyptians from the Terrestrial ones, he could have called them the Ziggurat Builders instead. Since ‘ziggurat’ in the Mesopotamian sense brings in the Biblical aspect of “Omnilingual” (the ‘one language’ before the fall of the Martian ‘tower of Babel’, or ancient spacefaring civilization), there may actually be ziggurats elsewhere on Beam’s Mars. (See section “**A Globe of Mars**”.)

Another possible term for the ancient Martio-Egyptian Fourth Dynasty occurs if we take the shape of the modern Kukan University into account. As a great obelisk, the university’s skyscraper design may have been influenced by its forerunner civilization. Thus, the Fourth Dynasty could have also been called the Obelisk Builders (or Raisers).

110. Ibid., p. 22

7. Kukan

111. Piper, *Federation*, p. 2
112. Ibid., p. 41
113. Ibid., p. 5
114. Ibid., p. 55 In July 1955, Piper wrote in his diary, “Picked up a paperback copy of Edward Sapir’s *Language: An Introduction to the Study of Speech* at Doubleday’s; will be useful in next story.” John Carr adds that “This book sparked the genesis of one of Piper’s most praised short stories, “Omnilingual.” ” (Carr, *Piper Biography*, p. 111)
- Here I must disagree, as that is not how I would interpret Beam’s entry. “Will be useful in next story” implies that he already had the story in mind. Sapir’s *Language* would then be a study-aid, as Piper researched the topic to get some historical facts to put into his planned story on Martian archaeology. This interpretation is supported by the fact that a month later, in August 1955, and on the way to New York to pick up Betty and go to the Bread Loaf Writer’s Conference, Beam “read and finished Sir Leonard Woolley’s *Digging Up the Past*”. (ibid., p. 113)
- Undoubtedly another source for facts on archaeological methods and historical digs that would find their way into “Omnilingual”.

Thus, I would say that Carr was partly correct; *Language* (and *Digging Up the Past*) certainly inspired some of the ideas in "Omnilingual". But I do not believe it was the "genesis" of Beam's story.

Given Piper's love of history and fascination with Mars, it would seem inevitable for him to write a story on Martian history and/or archaeology at some point. And in fact, he wrote one of each. The 1951 story "Genesis" describes the later period of Old Martian history; its attempt to colonize Terra. But his inclusion in that story of references such as the (Egyptian) "Fourth Dynasty" and that the Martian's descendants on Terra would someday return to the Red Planet, may well mean that Beam already intended to write a story about 'Martio-Egyptian' archaeology, set in modern times. Assuming so, then the idea was in the back of his mind for at least four years, because he began writing "Omnilingual" in 1955. This scenario seems to be supported by the many connections between the two tales; see section **Connecting "Genesis" and "Omnilingual"**.

However, the impulse may have in fact been from a much earlier age, because the influence of Burroughs' Mars appears to be present, as well. (See **Appendix 3: An Elemental Connection.**)

115. Piper, *Federation*, p. 2

116. Gallant, *Exploring Mars*, p. 29

117. As well as modern cities; possibly another historical Piper Cycle.

118. Piper, *Federation*, p. 24

119. Ibid., p. 6

120. http://en.wikipedia.org/wiki/Cleopatra's_Needle

121. Piper, *Federation*, p. 24

122. Colin McEvedy, *The Penguin Atlas of Ancient History* (Harmondsworth, England: Penguin Books, Ltd., 1967), p. 70

123. Piper, *Federation*, p. 24

124. Ibid., p. 39

125. Robert Morkot, *The Penguin Historical Atlas of Ancient Greece* (London, England: Penguin Books, 1996), p. 118
Incidentally, it is unfortunate that the Thoth canal does not empty directly into Syrtis. As the Egyptian god of wisdom or knowledge, Thoth would seem an appropriate location for a Great University.

126. http://en.wikipedia.org/wiki/Library_of_Alexandria

127. Ibid.

128. Piper, *Federation*, p. 33

129. http://en.wikipedia.org/wiki/Pharos_Lighthouse

130. In Figure 14, the picture on the left comes from the wikipedia article on the Pharos Lighthouse. It is titled "Graphic reconstruction of the lighthouse according to a comprehensive study of 2006." The 2006 reconstruction is very similar to another picture in the article, titled "A drawing of the lighthouse by German archaeologist Prof. H. Thiersch (1909)". This puts the general concept at least as far back as Piper's childhood.

The picture on the right is from David Johnson's Piper website, www.zarthani.net/galterro.htm, but the Freas illustrations on that site are stated to be courtesy of Project Gutenberg.

Assuming his drawing was consciously modeled on the Pharos Lighthouse, Kelly Freas probably noticed the parallel on his own. It could have been inspired by the Egyptian archaeological references in the story, plus the "candle extinguisher" phrase. But it is just possible that he was *told* of it. Piper finished "Omnilingual" while on his French vacation in Paris, and after mailing it home, it was almost immediately accepted for publication. When he finally returned to New York, "Beam had lunch with Ken White and Kelly Freas who had just finished the illustrations

for “Omnilingual.” ” (Carr, *Piper Biography*, p. 123) There is little mention of transoceanic correspondence between the men, but it is conceivable—though not very likely, given Piper’s secretive nature—that he gave Freas some information about the story’s sources before his return.

131. This brings Percival Lowell to mind again, who postulated that Mars would have cities like New York, London and Paris. The postulated ‘beacon’ atop the Great University of Kukan might then parallel the ‘torch’ atop the Statue of Liberty in New York City. The beacon deduction also has support from the 1950s. At the beginning of the 1953 movie *The War of the Worlds*, a close up of dying Mars depicts a city at the junction of several canals. The city is dominated by a tower, which has a slowly blinking light at the top.

As is well known, Welles’ Martians were defeated by Earth’s microbes, which killed off the invaders. And in relation to his dead Martians, Piper actually refers to *The War of the Worlds* in “Omnilingual”—albeit the radio, not the movie version. “The Terran public wanted to hear about Martians, and if live Martians couldn’t be found, a room full of dead ones was the next best thing. Maybe an even better thing; it had only been sixty-odd years since the Orson Welles invasion-scare.” (Piper, *Federation*, p. 45) “Omnilingual” was published in 1957, four years after the movie was released.

In support of the movie influence, Beam does in fact mention one movie by name in the story. “Gloria [Standish] was the leading contender for the title of Miss Mars, 1996, if you liked big, bosomy blondes, but Tony [Lattimer] would have been just as attentive to her if she’d looked like the Wicked Witch from “The Wizard of Oz,” because Gloria was the Pan-Federation Telecast System commentator with the expedition.” (ibid., p. 19)

And in 2012, the beacon deduction found even better support from Edgar Rice Burroughs. In *A Fighting Man of Mars*, Tan Hadron of Hastor enters a waterfront building in the ancient Martian port city of Xanator. The 200-foot tall structure is a fifty-foot building topped by a 150-foot tower. From the summit, Tan Hadron describes what he finds there. “Before me were the corroded remains of an ancient and long obsolete beacon-light, such as was used by the ancients long before the discovery of radium...These ancient lamps were operated by expensive machines which generated electricity, and this was doubtless used as a beacon for the safe guidance of ancient mariners into the harbor, whose waters once rolled almost to the foot of the tower.” (Edgar Rice Burroughs, *A Fighting Man of Mars* (New York, NY: Ballantine Books, 1976), p. 30)

Xanator is located on the erstwhile shoreline of the former Gulf of Torquas (ibid., p. 31), just as Kukan is on the erstwhile shoreline of the former Gulf of Syrtis. Burroughs’ tower is 200 feet high, while Piper’s 25-story university is presumably about 250 feet high. (For more of the Burroughs influence on “Omnilingual”, see **Appendix 3.**)

132. Piper, *Federation*, p. 44

133. Ibid., p. 17

134. <http://www.ancientegypt.co.uk/mummies/story/main.html> The ‘tidiness’ of the Martians toward their dead may also imply cannibalism, since when nearing the end of their civilization even a dead Martian would be a valuable resource. Piper’s statement that “For centuries, as it had died, this city [Kukan] had been consuming itself by a process of autocannibalism” (Piper, *Federation*, p. 7) could be a hint in this regard. Alternately, the deceased may have been fed to Martian animals (such as their parallel of pigs or goats), in turn eaten by the Martians.

135. Piper, *Federation*, p. 44

136. Ibid., pp. 45-46

137. Manley, *Ancient Egypt Atlas*, p. 134

138. Ibid.

139. Piper, *Federation*, pp. 4, 19

140. http://en.wikipedia.org/wiki/Howard_Carter/archaeologist This parallel also brings in the fact that the Terran Federation is partly modeled on the British Empire.

141. Piper, *Federation*, p. 45

142. http://en.wikipedia.org/wiki/Howard_Carter/archaeologist

143. Piper, *Federation*, pp. 46-47
144. Ibid., p. 52, second emphasis added
145. [http://en.wikipedia.org/wiki/Howard_Carter\(archaeologist\)](http://en.wikipedia.org/wiki/Howard_Carter(archaeologist))
146. Piper, *Federation*, p. 43

8. Connecting “Genesis” and “Omnilingual”

147. Ibid., p. 26
148. Piper, *Worlds*, p. 155
149. Ibid., p. 163 When you consider it, this is not necessarily a difficult prediction for Dard to make. A larger, younger world with greater resources and much more air and water could logically be expected to develop a greater civilization than one on a smaller, resource-poorer, dying planet like Mars.
150. H. Beam Piper, *Fuzzies and Other People* (New York, NY: Ace Books, 1984), p. 1
151. Piper, *Space Viking*, p. 32
152. Piper, *Worlds*, p. 148, emphasis added
153. Piper, *Federation*, p. 2, emphasis added
154. Ibid., p. 3, emphasis added
155. Ibid., p. 26
156. Piper, *Worlds*, p. 156
157. Piper, *Federation*, p. 42
158. Piper, *Worlds*, p. 150
159. Ibid., pp. 157, 163
160. This connection may also be supported by the fact that all three—Kalvar Dard, Martha Dane, Analea—have 3 ‘a’s in their name.
 There is another possibility. Martha’s last name, ‘Dane’, is suggestive of fair hair and skin. That brings the Martian female “tall blond Olva” to mind. (ibid., p. 148) She walks with Seldar Glav at the rear of the group. The rearguard is the second-most important position to the vanguard, where Dard and Analea are located. And Olva and Glav have a “three-year-old daughter” together. (ibid., p. 147) Martha Dane might then be a descendant of the possibly fair-haired daughter of Olva and Glav, who when she becomes an adult has a child with the son of Dard and Analea. “In the rear, in Seldar Glav’s old place, the son of Kalvar Dard and Analea walked...The woman who walked beside him and carried his spears was the daughter of Glav and Olva; in a net-bag on her back she carried their infant child; the first Tareeshan born of Tareeshan parents” (ibid., p. 163).
161. The name Varnis may be derived from “The Swordsmen of Varnis”, a short satire on Burroughs’ Martian tales, written by Clive Jackson and published in the September 1950 issue of *Other Worlds*. Varnis is apparently a city or nation on Jackson’s Barsoom-like Mars; Beam might then have simply changed it into a personal name. For more on the Burroughs influence on “Omnilingual”, see **Appendix 3. An Elemental Connection**.
 Piper’s Varnis is one of the “half a dozen charming girls” that Dard gets cozy with at the beginning of the story. (ibid., p. 148) She is second in his attentions to Analea, both of whom he has an arm around when Seldar Glav interrupts the scene. (ibid., p. 150)

162. Indeed, the n in Conn may be doubled because there is actually a 'double con' in the story. Conn cons the Poictesmeans into believing that Merlin exists, but he himself was previously conned by Foxx Travis into believing that it doesn't.

Likewise, the final d in Boyd may stand for 'detective'. Walter is an investigative reporter, a sort of 'boy detective', and he himself toys with the idea of opening a detective agency, as the junior partner of Bish Ware. "Ware & Boyd, Planetwide Detective Agency." (Piper, *Four-Day/Lone Star*, p. 150) No doubt, this is part of the Sherlock Holmes influence on the story.

And finally, the extra r in Barron is found in 'prince', his future title. We know Roger won't become a king, because he says that when Rylla succeeds her father, "I will make no claim on the throne" of Hos-Hostigos. (Piper, *Federation*, p. 279) His wife will become Queen Rylla, but he will remain Prince Roger, similar to the way in which Queen Victoria's consort was Prince Albert.

163. Piper, *Federation*, p. 20, emphasis added

164. Ibid.

165. Piper, *Worlds*, p. 162

166. Piper, *Federation*, p. 20

167. Ibid., p. 21

168. Ibid., p. 170

169. Piper, *Worlds*, p. 148

170. The Terran officer is "Colonel Hubert Penrose, the Space Force CO". (Piper, *Federation*, p. 4) The Martian officer, Dard, is also a Colonel; "Colonel Kalvar" of "the Frontier Guards". (Piper, *Worlds*, p. 153) But if ancient Mars was a nominally unified planet like modern Terra, then the only 'frontier' should be the *new* frontier, the space frontier. Colonel Kalvar Dard of the Space Frontier Guard, CO of what can be called the 'First Tareesh Expedition', is then paralleled by Colonel Hubert Penrose of the TF Space Force, CO of the First Mars Expedition. (See my paper "Martio-Human History".)

However, Seldar Glav is surprised at Dard's intelligence. "He had always been inclined to think of the Frontier Guards as a gang of scientifically illiterate dirk-and-pistol bravos." (ibid.) This may mean that the frontier Dard guards is in fact on Mars, which would presumably be where the shrinking farmlands meet the encroaching deserts. These might need to be guarded against attack by nomadic barbarians of the wastelands. If so, then Dard actually parallels Reginald Fitzurse in "When in the Course". Fitzurse is "a retired Federation army officer" (Piper, *Federation*, p. 206), and "All the mounted warriors he had ever seen had been Eurasian barbarians of North Terra, the human debris of the Atomic Wars, against whom he had campaigned to protect the reclamation projects." (ibid., p. 213)

171. Piper, *Federation*, pp. 20-21, emphases added

172. Ibid., p. 41

173. Ibid.

174. Ibid., p. 19

175. Ibid., p. 28

176. Ibid., p. 55

177. Ibid., p. 20 Because of lower gravity on Mars, Selim may actually live a bit longer than he expects, just as General Travis extends his life by retiring to Luna. (Piper, *Cosmic Computer*., p. 20)

178. Ibid., p. 17

179. Piper, *Worlds*, p. 150

180. Ibid., pp. 163, 167, 169

181. Piper, *Paratime*, p. 53

182. Ibid., p. 178

183. Ibid., p. 54, for example

184. Ibid.

185. Piper, *Empire*, p. 54

186. Piper, *Federation*, p. 7

187. Ibid., p. 45

188. After the end of Martian civilization, some hunter-gatherers undoubtedly remain, probably in the old sea-bottoms, where the remaining water and air are. This may continue for several thousand years, until the last large animals die out or are killed off, soon after which the humans follow.

189. Perhaps I shouldn't throw too many possibilities out there, but it occurs to me that Kukan could also be the 'Memphis' of Mars. Memphis is at the apex of the Nile Delta, and we note that the Egyptian Nile does not actually have a delta feature. Kukan could therefore be considered as lying at the apex of Syrtis Gulf, paralleling Memphis. If so, then Martian civilization could actually end in the *city* where it began, not just the country.

9. The Freyan Homeland on Mars

190. Piper, *Worlds*, p. 170

191. Piper, *Federation*, p. 217

192. Ibid., p. 9

193. Thomas Bullfinch, *Bullfinch's Mythology : The Age of Chivalry* (New York, NY: Mentor Books, 1962), pp. 53-55

194. Piper, *Federation*, p. 215

195. Probably an Atomic War; see my paper "Martio-Human History".

196. Piper, *Federation*, pp. 32-33

197. The deduced Dark Age of Mars may not actually begin until the Martio-Humans die out entirely. It ends when Terro-Humans return to resettle and Terraform the Red Planet, thereby beginning a 'new' Martian civilization, some 50,000 years later. Fifty thousand years; now, that's one hell of a Dark Age!

198. Odysseus wandered for ten years after the Trojan War, mostly in the eastern Mediterranean. Brutus and his Greco-Trojan followers wandered into the western Mediterranean, and then into the Atlantic Ocean, all the way to Britain. Though I have been unable to discover how long their legendary voyage supposedly took, it is arguably a much greater odyssey than Odysseus', in distance from Greece if nothing else.

199. Actually, since Piper's Mars already contains an Egypt and other Near Eastern regions, the real parallel of Jupiter should be Persia or India.

Also note that Mars, Terra and Venus (the three life-bearing planets of Piper's Solar System) parallel *European* peninsulas. This supports my belief that Beam mainly modeled Western or European history for his Martio-Human Past and Terro-Human Future Histories.

200. H. Beam Piper, *Uller Uprising* (New York, NY: Ace Books, 1983), p. 16 I say 'at least Marslike' because the

Freyans are Martians, and should therefore prefer a planet most like their own, if hopefully a younger and more fertile version. For that reason, I colored their postulated stop, Mimir, orange; placing it between the red of Mars and the green of Venus and Freya, though closer to the former. In size I made it larger than Mars, but smaller than Venus and Freya; another compromise.

I believe the Freyans stop on Mimir because the planet's "utterly vicious" quasi-rodents seem to be Piper's version of the "giant Martian rat"; the *ulsios* of Barsoom. "The Martian rat is a fierce and unlovely thing. It is many-legged and hairless, its hide resembling that of a new-born mouse in repulsiveness. In size and weight it is comparable to a large Airedale terrier. Its eyes are small and close-set, and almost hidden in deep, fleshy apertures. But its most ferocious and repulsive feature is its jaws, the entire bony structure of which protrudes several inches beyond the flesh, revealing five sharp, spade-like teeth in the upper jaw and the same number of similar teeth in the lower, the whole suggesting the appearance of a rotting face from which much of the flesh has sloughed away." (Edgar Rice Burroughs, *The Chessmen of Mars* (New York, NY: Ballantine Books, 1981), pp. 115, 116)

Like Beam's Mimirians, Burroughs' *ulsios* are utterly vicious; they keep attacking, even when injured, and have to be killed to be stopped. So, in *Chessmen*, "Twice Turan struck it away as he sought to regain his feet, but both times it returned with increased ferocity to renew the attack" (ibid., p. 116); and in *Llana of Gathol*, "It was quite a battle. That *ulsio* was the most ferocious and most determined beast I had ever seen, and it gave Pan Dan Chee the fight of his life. He had knocked off two of its six legs, an ear, and most of its teeth before the ferocity of its repeated attacks abated at all. It was almost cut to ribbons, yet it always forced the fighting." (Edgar Rice Burroughs, *Llana of Gathol* (New York, NY: Ballantine Books, 1990), p. 24)

The description of the Mimir natives as 'a semi-intelligent race' always suggested to me that they are a very large quasi-rodent; probably not human in size, but comparable to a wolf. Wolves are canines, making my first impression of the Mimirians very similar to the Airedale-sized *ulsios*. Indeed, the one faced by John Carter and Pan Dan Chee in *Llana* is a giant of the kind, "as large as a small puma and ten times as ferocious." (ibid.)

Ulsios are purely animals, but Piper provided his version with one major difference; he made the Mimirians semi-intelligent, presumably meaning these quasi-rodents are at a low level of sapience. This is supported by their ability to be "treacherous" as well as "murderous", which implies intelligent cunning and premeditation. Yet this element also has its source in Burroughs. For the most murderous and treacherous '*ulsio*' on Barsoom is actually a sapient human; Rapas, called the *Ulsio*. In *Swords of Mars*, Rapas first helps John Carter (who is disguised as the panthan Vandro) gain employment with his master, Fal Sivas, but later treacherously arranges to send several assassins to murder him. The *Ulsio*'s treachery also involves Fal Sivas, for Rapas joins the Assassin's Guilds of Zodanga, whose head, Ur Jan, has been employed by Gar Nal to destroy Fal Sivas, his main enemy and rival. (Edgar Rice Burroughs, *Swords of Mars* (New York, NY: Ballantine Books, 1989), pp. 22-24, 32, 43-44, 64-65)

We can add that, in the possibly non-canon "John Carter and the Giant of Mars" (*Amazing Stories*, January 1941), Carter is captured by some semi-sapient *ulsios* beneath the dead city of Korvas. In a giant subterranean—pardon, subbarsoomean—chamber, these *ulsios* have constructed a village, consisting of huts made from mud and human bones. Their leader is another giant *ulsio*, which Carter calls "the King of the Rats" and "Lord of the Underworld". Seemingly a primitive tribe, these *ulsios* perform a strange ritual dance, at the end of which they plan to kill and eat the Warlord of Mars. (Edgar Rice Burroughs, *John Carter of Mars* (New York, NY: Ballantine Books, 1980), pp. 18, 20, 21-22)

Thus, I would conclude that Piper's vicious quasi-rodents of Mimir are a creative combination of Barsoomian *ulsios* (including the possibly erroneous ones under Korvas) and the sapient but none-too-intelligent Rapas, whose name is probably derived from 'rapacious'. And this combination is therefore an improvement on Burroughs, for their semi-intelligence should make Beam's quasi-rodents far more dangerous than the standard non-sapient *ulsios*, while his use of the word 'swarming' implies that the whole planet of Mimir is full of these creatures. A perilous place for a single shipload of humans, such as the Freyans, to land.

Assuming this analysis is correct, then in addition to the voyage of Brutus, the ancient flight of the Freyans also parallels the ancient 'flight' of the Orovars. The Freyans are a remnant of the Nordic or 'white' Martians, who leave their polar homelands on the dying Red Planet, and encounter a severe 'Martian' danger (a whole planet essentially swarming with giant *ulsios*), on the way to their new idyllic homeland, a large river-valley on Freya which has a beneficent climate. This parallels how a remnant of the actual Orovars, or white Martians, left their mid-latitude homelands on the ancient and dying Barsoom, and encountered various severe dangers, including the rapacious hordes of six-limbed green Martians, on the way to their new 'heavenly' homeland at the Martian South Pole; the beautiful Valley Dor. (John Flint Roy, *A Guide to Barsoom* (New York, NY: Ballantine Books, 1978), p. 8)

This, incidentally, raises the possibility that the Freyans actually land, not on Mimir, but on ancient Uller, with its six-limbed, Thark-like inhabitants, and its five equatorial seas; a parallel of ancient Barsoom's five oceans. Semi-arid Uller is comparable to Barsoom in an intermediate age, between its ancient verdancy and its modern aridity. But Uller is discovered several centuries after Freya, which means that it is probably much farther away from Terra than Mimir, which I surmise is between Terra and Freya. The mention by Carlos von Schlichten that Mimir is a worse

planet to serve on than Uller implies that Mimir was discovered much earlier, placing it nearer to Terra, and thereby making it a better candidate for the Freyans to have landed on.

201. Michael Grant, *Ancient History Atlas* (New York, NY: Macmillan Publishing Company, 1971), map 15 The cartography in that book is by Arthur Banks; map 15 is a black and white chart titled "Mediterranean Mountains and Rivers". My version is a scanned and modified version of that base map.

202. Again, see my papers "Martio-Human History" and "Old Mars and Freya." By extension, since both Spain and Britain became the seats of great empires after Greece and Rome, this may mean that Venus and Freya become the seats of great empires in the THFH, after Old Mars and Terra. Although not mentioned by Piper, Venus (or perhaps Terraformed Mars) should actually become the dominant planet in the Solar System after Terra is bombed back to the Stone Age in the Interstellar Wars. After the fall of the Federation, both Venus and Freya may therefore become strong 'regional' powers.

But 'a great empire' in the THFH usually means a Galactic Empire, and the First Galactic Empire's capital is on Odin, not Venus or Mars. As other Piper researchers have pointed out, Odin most likely orbits Alpha Centauri, four light years distant. The capitals of the later Galactic Empires are presumably farther and farther from Sol, as humanity expands farther and farther outward. That would seem to eliminate Venus as a possibility.

However, Freya is essentially the same goddess as Venus, and Freya already has an indigenous human population. Indeed, it is one of the three ancient and original worlds of mankind, after Mars and Terra. Moreover, although Charley Clifford says that Freya is "seven hundred light years" from Sol (Piper, *Federation*, p. 276), this seems to be a deliberate misprint for 'seventy' light years. Seventy light years would put Freya a bit farther from Sol than Odin, but much closer than Poictesme, which is about 700 light-years away, and is the possible seat of the Third Galactic Empire.

Thus, like Mars and Terra before it, Freya may become the capital planet of a universal state. If so, the most likely candidate is the Second Galactic Empire. See my paper "Piper's System".

203. Piper, *Federation*, p. 213

204. Edgar Rice Burroughs, *A Princess of Mars* (New York, NY: Ballantine Books, 1912), p. 59

205. Assuming that he used the same maps Beam did, this may explain why Edgar Rice Burroughs located his Therns at the South Pole of Mars. He either didn't realize the maps had reversed orientation, or it was a detail he didn't think important; 'artistic license', as it were.

206. <http://kisacat.blogspot.com/2007/03/untamed-beauty.html>,
http://www.krisandsusanna.com/Travel/Iceland/Normal_Life.htm, and
http://www.iceland-vacation-information.com/iceland_woman.html

207. <http://www.colesmithey.com/interviews/2008/06/icelandic-beaut.html>

208. Ibid. My original references on the beauty of Icelandic women dated from around 2001, but have since been misplaced. From my notes, they included an article in the *Daily News* from Iceland, which mentioned "the famed beauty of the Icelandic women", who are "among the most beautiful in the world." Another piece was in *Vogue*, which described them as "intelligent, independent, and naturally beautiful". And a couple honeymooning on Iceland posted an account of their stay, where they had "never seen so many astoundingly beautiful women...in one country. All the Icelandic women under 40 are gorgeous."

209. James Reston, Jr., *The Last Apocalypse* (New York, NY: Doubleday, 1998), p. 21

210. http://www.iceland-vacation-information.com/iceland_woman.html

211. Peter Lacey, editor, *Great Adventures That Changed Our World* (Pleasantville, NY: Reader's Digest Association, Inc., 1978), p. 18

212. The Greek word was *xanthos*, meaning 'fair', a word also used to describe the sun god, Apollo. This was taken by Germanist scholars of the Nineteenth and early Twentieth Centuries to mean "that the Greeks envisioned their gods and heroes as Nordic blonds." (Richard Poe, *Black Spark, White Fire* (Rocklin, CA: Prima Publishing, 1997),

p. 363)

Piper himself seems to have held this view. In *Lord Kalvan of Otherwhen*, he has the title character mention that the Zarthani, who have Greek-sounding names, are descendants of the Aryans; and the Aryans were “blond Caucasians” who “had come out of Central Asia, thousands of years ago, sweeping west and south into India and the Mediterranean basin [where they founded the classical Indian and Greek civilizations], and west and north to Scandinavia.” (H. Beam Piper, *Lord Kalvan of Otherwhen* (New York, NY: Ace Books, 1965), p. 104)

213. Piper, *Worlds*, p. 149 Piper includes several interesting hints to this possibility in “Genesis”. First, Olva greets the rocket-boat pilot, Seldar Glav, with “Don’t tell me you’ve been to Tareesh and back in that thing.” “Seldar Glav grinned at her. “You know, I could have been, at that; we’re only twenty or thirty planetary calibers away, now. We ought to be entering Tareeshan atmosphere by the middle of the next watch. I was only checking the boats, to make sure they’ll be ready to launch.” ” (ibid, pp. 149-150) This makes the rocket-boats appear to be shuttle-craft, yet with a suggestion of interplanetary range. Second, when they escape the doomed colony ship in a rocket-boat, Seldar Glav actually considers flying back to Mars. “ “Set course for Tareesh?” Glav asked. “We haven’t fuel enough to make it back to Doorsha.” “I was afraid of that,” Dard nodded. “Tareesh it is; daylight side, northern hemisphere.” ” (ibid, p. 150) If the scout-boats are merely shuttle-craft, the Martians wouldn’t even consider returning home in one, particularly since they’re so close to Terra already. And third, after they crashland on Tareesh, they have to evacuate the rocket-boat, which soon explodes in a massive, nuclear-sounding detonation. “ “That was just the fuel-tank of a little Class-3 rocket-boat,” [Dard] said. “I wonder what the explosion of the [colony] ship was like.” ” (ibid, p. 154)

Reading between the lines, as one must so often do in Piper, brings us to the deduction that there are Class-2 and Class-1 rocket-boats, which are presumably bigger with more powerful engines—and consequently greater range. Using a real-world example, we couldn’t get to the Moon in a little ‘class 3’ Vanguard rocket, but we could in a big ‘class 1’ Saturn V. In addition, the reason the survivors don’t have enough fuel to return to Mars may be due to the fact that they have to fight against Earth’s gravity, as well as the Sun’s. It’s more difficult to fly from Earth to Mars than from Mars to Earth. Thus, a Class-3 rocket-boat may indeed have enough fuel to travel gravitationally ‘downhill’ from Mars to Terra, though it might not have the capability to fly ‘uphill’ home.

But this reasoning raises the question of why the Martians didn’t just try to colonize Tareesh using a lot of bigger Class-1 and Class-2 rocket-boats—which one would guess can fly both ways, at least after building a rocket-fuel plant on Terra—rather than putting all their eggs in one giant interplanetary-spaceship basket. Perhaps the project was run by a ‘Martian von Braun’, who was fixated on the idea of huge spaceships, to the exclusion of other options. However, that’s beyond the scope of this discussion; it is enough to establish the potential interplanetary range of Martian rocket-boats, which makes a ‘pursuit’ of the Freyans possible. The only thing left in this scenario is to make the rocket-boats warships, and Seldar Glav is “a young Air Force lieutenant” and a pilot (ibid, p. 149). So rocket-boats are undoubtedly also found in the Martian military. Thus, several generations after “Genesis”, when the deduced world war over control of the ice-caps occurs, military rocket-boats will certainly be used by both sides; that of the nominal planetary ruler who controls most of Mars, and the Scando-Thylians who control the poles.

After their defeat, the fleeing Scando-Thylians would then have been justified in fearing pursuit by a vengeful Martian enemy in armed rocket-boats. But the threat was probably short-lived. For the devastation from the world war actually signals the end of civilization on Old Mars, which soon loses its spacefaring capability, and from its pinnacle of technological achievement begins the irreversible decline toward barbarism and eventual extinction.

—Incidentally, Piper’s “twenty or thirty planetary calibers” are undoubtedly some form of measurement. I always took this phrase to mean ‘Terran planetary diameters’, which would put the Martians between 160,000 (20 x 8000) and 240,000 (30 x 8000) miles from the surface of Tareesh. That seems about right, since when they abandon ship soon afterward, they consider landing on Luna, which at about 240,000 miles from Earth is the closest heavenly body to their current position. Glav: “How about the satellite? It’s closer.” Dard: “It’s also airless. Look at it and see for yourself... Not enough mass to hold an atmosphere.” (ibid., p. 153)

214. It occurs to me that there may be another influence on the beauty of Freyan women. When considering a name for the planet, Julio Almagro says “Pity Venus is a planet already...How about Aphrodite?” (Piper, *Federation*, p. 226) A planet of beautiful women with Greek names, suggestive of Venus, and who are described as “shapely and lightly clad” (Ibid.), also recalls the B-movies—and probably pulp stories—of Beam’s generation, where Venus was a planet populated by beautiful women in Greco-Roman costume.

215. Piper, *Federation*, p. 208

216. Ibid.

217. Ibid.

10. "A Globe of Mars"

217. Carr, *Piper Biography*, p. 136

218. *Ibid.*, p. 212

219. Roland and Francois Etienne, *The Search for Ancient Greece* (New York, NY: Abrams Books, 1992), pp. 68-72

220. *Ibid.*, pp. 72-73

221. Ley and von Braun, *Mars Exploration*, p. 66 Figure 19 is a combination of the two pictures of Plate X in the book. The caption to the Greek picture reads, "The ruins of the Temple of Zeus Olympus near Athens, from the time of Hadrian. In such severely classical stone architecture a column 60 feet high had a diameter of 6 feet, and the clear span of the lintels bridging a colonnade was 9 feet..." The caption then continues with the Mars picture, "but stone architecture on Mars would look spidery to terrestrial eyes. The diameter of a 60-foot column would be 2 feet and the clear span of the lintels would be 27 feet. However, if the same type of stone were used, such a structure would be just as "massive" under the weaker Martian gravity."

Assuming Piper read Ley and von Braun's book, then in addition to Lowell's description of Martian cities, this example could be another influence on his decision to write a tale about Martian archaeology. Changing the setting from the Greece of Mars to its Egypt would be Beam's way of expanding and improving on the idea. And if Kukan is the 'Hellenistic Alexandria' of Mars, that would actually connect the Greek and Egyptian models.

222. Piper, *Federation*, p. 4

223. *Ibid.*, p. 48

224. John Carr, Introduction to "Flight from Tomorrow", *The Worlds of H. Beam Piper*, p. 111

225. Piper, *Worlds*, pp. 133-134

226. *Ibid.*, p. 134

227. *Ibid.*, p. 170

228. Piper, *Lord Kalvan*, p. 3

229. <http://en.wikipedia.org/wiki/Axum>

230. Graham Hancock, *The Sign and the Seal* (New York, NY: Simon and Schuster, Inc., 1993), pp. 18-19

231. *Ibid.*, p. 19

232. Hancock, *Sign and Seal*, p. 19

233. John Flint Roy, *A Guide to Barsoom* (New York, NY: Ballantine Books, 1978), p. 25 Exum is described there as "A center of unknown size, on the equator at the Prime Meridian. The Barsoomian Greenwich. It may be nothing more than a single building containing scientific equipment—similar to the Atmosphere Plant."

234. *Ibid.*, p. 27 In Piper's time—well, at least from 1931 on—the Empire State Building was the tallest on Terra, at 1,250 feet and 102 stories. (http://en.wikipedia.org/wiki/Empire_state_building) The lower gravity of Mars means such a structure there could be three times higher, or 3,750 feet. That is taller than the tallest building now under construction; the Burj Mubarak al Kabir in Kuwait, which will be 1,001 meters (3,300 feet) high when completed in 2016.

But we recall that the Old Martians were more advanced than the Terrans who journey there in 1996. So they could have built something like the Burj Mubarak on Mars, which because of lower gravity would then be 9,900 feet tall; a height approaching 2 miles (10,560 feet)! Piper's Martians could therefore have improved on the mile-high

buildings of Barsoom, though it is questionable whether these postulated structures would still be intact after at least 50,000 years of neglect, not to mention ancient atomic wars.

For more about the Burroughs influence on "Omnilingual", see **Appendix 3**.

235. Neither Edom nor Eden can be called 'the Land of the Two Canals', which would be the Martian parallel of the Land of the Two Rivers. Edom contains or is bordered by four canals, and Eden six.

By the way, the northeast corner of the Orontes-Euphrates junction appears to be part of the Martian Arabia, rather than its Eden. It is therefore possible that Arabia was also a partner in the construction of the ziggurats.

236. See my paper "The Ten Gods of Mars". That these 'lunar' ziggurats contain food and water would also be a play on the fact that in Burroughs, the moons of Mars are habitable. Well, Phobos is, anyway. In *Swords of Mars*, John Carter travels to the moon that Barsoomians call Thuria, and finds that it is a life-bearing world with its own atmosphere. Indeed, in its verdancy, Thuria (Phobos) seems more like Earth than Mars. By extension, if Burroughs had subsequently written a story where Barsoomians landed on Cluros (Deimos), it almost certainly would have been found to be habitable, as well.

237. http://en.wikipedia.org/wiki/Hanging_Gardens_of_Babylon, and http://en.wikipedia.org/wiki/Tower_of_babel

Since the soil of Mars is red, the color of the deduced Martian ziggurats would probably be close to those in the image on the left.

238. Piper, *Worlds*, p. 135 The postulated Union of Asian Peoples' Republics is a play on Piper's alternate names for the USSR and Red China in "Operation R.S.V.P."; the Union of East European Soviet Republics and the United People's Republics of East Asia.

239. Piper, *Four Day/Lone Star*, pp. 229-230

240. http://en.wikipedia.org/wiki/Bernard_le_Bovier_de_Fontenelle

11. Conclusion

241. Sheehan, *The Planet Mars* (<http://www.uapress.arizona.edu/onlinebks/mars/chap05.htm>)

243. Carr, *Paratime* Introduction, p. 11

244. Moore and Hunt, *Solar Atlas*, p. 215

245. Ibid.

246. Piper, *Federation*, p. 179

247. Ibid., p. 175 A play on Piper's "Surromanticist Movement", though today we might use the word 'retro', or even dispense with the prefix entirely.

248. Ibid., p. 225 The 'e' in Explorations is mistakenly lower case.

249. Another planet of the kind would be Elysia, in honor of Robert A. Heinlein's *Time for the Stars*. In that book, Elysia orbits Beta Ceti, sixty-three light-years from Sol. (Robert Heinlein, *Time for the Stars* (New York, NY: Charles Scribner's Sons, 1956), p. 144) And a real Elysia would tie in our postulated Martian crew members, who would also name the planet in honor of the Elysium region on their home planet.

250. Piper, *Empire*, p. 225

251. Ibid., p. 222

252. Ibid.

252. Indeed, the parallel may be closer than we think. The reader will recall that Percival Lowell speculated Mars

could have cities like New York, London and Paris. In Piper's time, New York was the greatest city on Earth, and since he was strongly influenced by Lowell's description of the Red Planet, he may have intended Kukan to be 'the New York of Mars.' Like Kukan, New York is a seaport, and its 'wonder' is the Statue of Liberty, whose torch would parallel the deduced light originally atop the Great University on Mars.

If this idea has merit, then the Terrans in "Omnilingual" excavate the ruins of the Martian New York ("this was a big city, in its prime"), while the Dremnans in "The Keeper" excavate the ruins of New York itself (the 'Big Apple'; the quintessential big city). Another Piper Cycle.

The main difference between the two stories is that the modern Terrans have forgotten their ancestors came from Mars, while the far future Dremnans have not forgotten that their ancestors came from Terra. (Piper, *Empire*, pp. 224, 225) This is easily explained, however, because the first Terrans lost their Martian civilization entirely, and had to start over from a caveman level of society ("Genesis"), while the Fifth Empire of Dremna is descended in an unbroken line from the old Terran Federation. There have been interregnum periods, but no total loss of civilization, and therefore, no total loss of memory.

In addition, there are 100,000 years between the Terrans and their Old Martian ancestors, but only 30,000 years between the Dremnans and their Old Terran ancestors. And notice that in these 30,000 years, or less than one-third the time, the future native Terrans have forgotten their own planet is the Mother-World. The process of amnesia has begun; given another 70,000 years, the truth about Terra may well be totally forgotten by the galaxy at large. Or at best, it may sink into a legendary status as one of several possible home worlds of humanity, as happens in the classic Foundation series.

Appendix 3. An Elemental Connection

253. Piper, *Federation*, p. 54

254. Ibid., pp. 49, 50, 51, 53 Appropriately second to hydrogen, the first element, mentioned eight times.

255. Roy, *Barsoom Guide*, pp. 27-28

256. Piper, *Federation*, p. 45

257. Burroughs, *Princess*, pp. 148, 153

258. Ibid., p. 50

259. Ibid., p. 63 It might appear that Kukan cannot be Piper's version of Korad, because the vowel-consonant ratio is not quite the same. Assuming Martha Dane's transliteration system actually got the 'k' and 'a' right, then Korad would be transliterated by her as 'Kulan', or 'Kutan', or 'Kuvan', et cetera. Close to Kukan, but not exactly. However, since Beam's name for Mars, Doorsha, is a modified anagram of Barsoom, Kukan could be a modified form of Korad. He could have transliterated Korad to, say, Kulan, and then simply changed the second consonant to obscure the derivation. The reason Piper changed it to another 'k' could be because Kukan would then be a combination of Korad and 'Piper'; see **Appendix 4**.

260. Ibid.

261. Ibid.

262. Ibid., p. 59

263. Ibid.

264. Ibid.

265. Piper, *Federation*, p. 26

266. Carr, Introduction to "Omnilingual", *Federation*, p. 1

267. It was originally published as *Under the Moons of Mars*, a more general, but probably more accurate, title.

Burroughs repeats the error in the also misnamed *Thuvia, Maid of Mars*, which is mainly about the adventures of Carthoris (son of John Carter), not Thuvia of Ptarth. Though like Dejah Thoris in *A Princess of Mars*, Thuvia plays an important role in *Maid of Mars*, being the princess Carthoris fights for and wins.

268. Burroughs, *Princess*, p. 71

269. See my papers “When in the Course—Piper’s *Gods of Mars?*”, and “*Uller Uprising*—Piper’s *Chessmen of Mars?*”

270. See my paper “Beam’s Martian Names—Burroughs, Extended”.

271. Burroughs, *Princess*, p. 60

272. Burroughs, *Warlord*, pp. 114-115, emphasis added

273. Piper, *Federation*, p. 9 As stated previously, the German element of the Martian language may also be a subtle tie-in to the ‘Germanic’ peoples of Mars, particularly the Freyans.

274. Piper, *Worlds*, p. 148 Indeed, that Olva is blonde may even mean her that name is derived from Orovar. If so, Piper would have presumably started by writing down ‘Orovar’. Two of the letters in Orovar are duplicated—o and r—so he could then have deleted the second occurrence of each. This leaves Or-va-, or ‘Orva’, which is then easily modified to Olva.

275. Piper, *Federation*, p. 42

276. *Ibid.*, pp. 50, 51

277. Roy, *Barsoom Guide*, p. 119

278. *Ibid.*, p. 116, 117

279. On the Second Level Akor-Neb Sector of Paratime, Verkan Vall enters the Martian Room of the Solar Hotel in the city of Darsh to get some dinner, accompanied by his personal assassins. “The Martian Room...was a big place, occupying almost half of the floor space of one corner tower. It had been fitted to resemble one of the ruined buildings of the ancient and vanished race of Mars who were the ancestors of Terran humanity. One whole side of the room was a gigantic cine-solidograph screen, on which the gullied desolation of a Martian landscape was projected; in the course of about two hours, the scene changed from sunrise through daylight and night to sunrise again.” (Piper, *Paratime*, p. 107)

Though Piper cleverly glosses over the exact amount of time this takes, “about two hours” is very similar to a Barsoomian hour, a zode. A zode is “A Barsoomian unit of time, one-tenth of a Barsoomian day, and containing fifty xats [Barsoomian minutes]. It is equal to 2.462 Earth hours.” (Roy, *Barsoom Guide*, p. 164) If Beam weren’t covering his literary tracks, he would have written that the scene changes ‘in the course of about two and a half hours’.

That a Barsoomian hour is meant is confirmed by Piper’s statement that the screen begins a Martian day at ‘sunrise’. For unlike a Terran day which begins at midnight, the Barsoomian day, the padan, begins around sunrise, too. “The Barsoomian day is approximately 24 hours and 37 minutes long—Earth time. *Their day starts at the equivalent to our 6 a.m.* and is divided into ten equal parts.” (*ibid.*, p. 116, emphasis added. ‘Padan’ as the name of the Barsoomian day was found among Burroughs’ notes; p. 119)

Beam’s quote in “Last Enemy” can now be translated to read, ‘in the course of a zode, the scene changed through a padan.’ That would make perfect sense; *in the Martian Room, a Martian day passes every Martian hour*. And in keeping with the story’s Paratime setting, one merely has to ‘transpose’ Barsoomian for Martian to discover the real meaning. Vall is actually eating in the Barsoomian Room, or ‘Room Barsoom’.

280. Piper, *Federation*, p. 52; Roy, *Barsoom Guide*, p. 123 For basic numbers, Piper reveals roughly the same number (six) as Burroughs (five). Beam gives us the names for one (trav), two (sanv), three (krav), five (doma), eight (yenth) and ten (nor). Burroughs gives us the names for one (ay), four (tor), seven (ov), eight (bar) and ten (tee).

281. Piper, *Federation*, p. 51

282. Burroughs would not have known about this, since *A Princess of Mars* came out in 1912, and Howard Carter made his discovery in 1923.

283. Piper, *Federation*, pp. 49-51

284. *Ibid.*, p. 53

285. *Ibid.*, p. 48

286. Burroughs, *Princess*, p. 11

287. Edgar Rice Burroughs, *The Master Mind of Mars* (New York, NY: Ballantine Books, 1963), p. 9

288. *Ibid.*, p. 7, emphasis added

289. Piper, *Lord Kalvan*, p. 1

290. H. Beam Piper, *Paratime* (New York, NY: Ace Books, 1981), p. 50

291. Burroughs, *Princess*, p. 117 And depending on how Schiaparelli and Lowell described the Martian canals, both Burroughs and Piper may have modeled their Martian waterways on those of these astronomers.

292. Carr, *Piper Biography*, p. 79

293. The topic of Helium on Mars brings to mind the "First Level Abzar Sector" (Piper, *Paratime*, p. 239). Their history was the same as that of the Martians of Home Time Line, until a major crossroad of destiny occurred. "Twelve millenia ago, the world of the First Level had been exhausted; having used up the resources of their home planet, Mars, a hundred thousand years before, the descendants of the population that had migrated across space had repeated on the third planet the devastation of the fourth. The ancestors of Verkan Vall's people had discovered the principle of paratime transposition and had begun to exploit an infinity of worlds on other lines of probability. The people of the First Level Dwarma Sector, reduced by sheer starvation to a tiny handful, had abandoned their cities and renounced their technologies and created for themselves a farm-and-village culture without progress or change or curiosity or struggle or ambition, and a way of life in which every day was like every other day that had been or would come.

"The Abzar people had done neither. They had wasted their resources to the last, fighting bitterly over the ultimate crumbs, with fission bombs, and with muskets, and with swords, and with spears and clubs, and finally they had died out, leaving a planet of almost uniform desert dotted with vast empty cities which even twelve thousand years had barely begun to obliterate." (*ibid.*, pp. 239-240)

Piper's description of the Abzar Sector makes it sound very much like Barsoom, a planet of almost uniform desert dotted with vast empty cities that tens of millenia have barely begun to obliterate. The main differences being that Barsoom is still inhabited while Abzar is not, and Abzar is on Terra rather than Mars. But the name Abzar may in fact be a modified anagram of Mars. From Beam's perspective, the process would be Mars—Marz—Amzr—Amzar—Abzar. In the last step of the process, changing the 'm' to 'b' would be a nod to how Burroughs changed 'M'ars to 'B'arsoom.

Helium has two electrons, just as Mars has two moons. So the greatest civilization of a Barsoom-like timeline on the Earth of the Abzar Sector could be called 'Hydrogen'. Hydrogen has one electron, just as Earth has one moon. Beam would likely never do so, but since *Paratime* contains 'an infinity' of Earths on other lines of probability, he could potentially have written a story about a lone Paratimer discovering a still-inhabited, Barsoom-like Abzar timeline. In the story, the reason for the city's name, Hydrogen, could be a puzzle the Paratimer tries to solve. He reasons that it could refer to the nuclear weapons ("fission bombs") that ended their civilization, or the city's current nuclear-power status (a parallel to how Burroughs' Martians have 'radium' weapons), or even one of the two elements necessary to make water on this desert Earth (H₂O). But Beam's unstated reason would be that it is actually a play on the Helium of Burroughs.

Helium is located in the southern hemisphere of Barsoom, and likewise Piper could have put the postulated city of Hydrogen in the southern hemisphere of Abzar Terra. And this would actually parallel his own *Terro-Human Future History* (which may be a Fourth Level *Europo-American Sector* timeline), where the Northern Hemisphere is destroyed in an Atomic War, and the center of civilization then moves to the Southern Hemisphere. There it remains

even into the far future, for during the Fifth Galactic Empire, Terran civilization is centered in “the cities of Awster and fabulous Antark” (Piper, *Empire*, p. 222), which are that time’s names for Australia and Antarctica.

Appendix 4. Kukan and Piper

294. Piper, *Federation*, p. 41

295. Burroughs includes an ‘Exum’ on Mars, a name obviously modeled on Axum in Ethiopia. This may have also been inspired by Schiaparelli’s map, which has a region called ‘Aethiopsis’. So the creation by Burroughs of Exum may have also been an influence on Piper’s thinking. If there’s an Exum (Axum) on Mars, then there should also be parallels with other ancient Earthly cities, such as Alexandria. And Martian Egypt is not far from Aethiopsis.

296. If so, this would be consistent with the Martians of Freya, whose name for their language, ‘Sosti’, appears to be a combination of Otz and Iss. See my paper “‘When in the Course’—Piper’s Gods of Mars?”

297. And from **Appendix 3**, we saw that Kukan may be Piper’s version of Korad. Assuming so, then if Kukan is a combination of Korad and Piper, then it could also be called “Piper’s Korad”. A parallel of Barsoom, which we deduced was a modified anagram of “Burroughs’ Mars”.

298. Richard Lupoff, *Edgar Rice Burroughs: Master of Adventure* (New York, NY: Ace Books, 1965), p. 49

299. Sheehan, *The Planet Mars* (<http://www.uapress.arizona.edu/onlinebks/mars/chap05.htm>), referenced from Percival Lowell, *Mars* (Boston: Houghton-Mifflin, 1895), p. 157

300. Ibid.