CHAPTER TEN

VENUS AND MARS

From the brow of Zeus, sang the Greeks, sprang Pallas Athene -- fully armed and with a shout [1]. She was cometary Venus -- fiery-faced, owl-eyed, helmeted and horned, with a long gown and hair trailing behind.

Meanwhile, in Mesopotamia the Akkadians were also chanting hymns to Venus, going here by the name of Inanna:[2]

> By night she sends out light like the Moon does.
> At noonday sends out light like the Sun does.
> The mistress of Evening whose largeness is until the limit of Heaven...
> The Holy light that fills the Heavens.
> Inanna who shines as far as the Sun.

These words, along with the symbols of Inanna (Figure 31) part the curtains upon “a lady who needs no introduction to you,” as a master of ceremonies would say.

Many scholars deny that it could happen; yet no astral event of the ancients was so well reported as the career of the glowing and devastating comet and proto-planet Venus [3]. For nearly a thousand years it raged through the heavens periodically, encountering first Earth, then Mars; then Jupiter; then Mars again. It periodically -- every half century -- threatened the Earth and sometimes repeated, less harshly, its first devastation of the planet. The age of Venusia lasted from about 1450 to 700 B.C. endured, that is, until the comet Venus lost its cometary appendages and became a hot, young planet circling the Sun for all the world like an ordinary planet is supposed to behave.

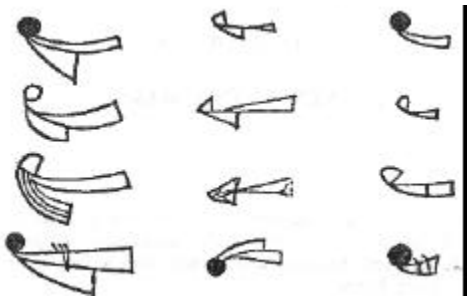

Figure 31. VARIANTS OF THE COMETARY GODDESS INANNA. (Click on the picture to view an enlarged version. Caution: Image files are large.)
Twelve Principal Variants of the Cometary Goddess Inanna Symbol, Source: Falkenstein, Archiasche Texte aus Uruk, cf. Rose (1977).

CAREER OF AN ANDROGYNE

The year around 3450 B.P. was the most devastating since the fall of Saturn; 1453 B.C. may be the exact year by present retrospective reckoning; the superb work of Velikovsky guides us in this as it does elsewhere in these pages [4]. It was a year when the plagues struck Egypt, as the Bible recounts, and the exodus of some Hebrew and Egyptian survivors occurred. Every city in the world must have been shaken and damaged. Tidal floods swept over every coastal culture. Volcanoes erupted. The Earth was scorched by lightning, covered with dust, ashes, gravel, obnoxious and noxious gases, struck repeatedly by slow-speed meteorites, and showered with hydrocarbons, some of it burning. The gamut of sounds was dinned into human ears, at deafening amplitudes.

The encounter lasted for weeks because of the temporary roughly parallel course of the two bodies and because of the enormous train of the cometary Venus. It began with a worldwide plague of red dust. The experience became increasingly excruciating as the Earth moved deeper through the millions of miles of comet tail. At the height of the disturbances, the incandescent head of the comet penetrated the smoking skies of the globe in all of its ruddy immensity. The Earth's axis shifted in a gravitational-electrical field.

Less most of its train, proto-Venus moved on. Now it could not be seem, nor could any other sky object. For some years, the globe was swaddled in smoke. The biosphere hardly survived. Animals often lived upon manna from heaven [5]. Plants withered in the thin light.

When the skies reopened to human vision, they presented for contemplation a re-enactment of the encounter. Half a century had passed. The comet returned like a huge blazing chariot driven by a man or angel [6], raining missiles and spreading terror upon the Earth. Again and again, until the seventh century B.C. Earth was menaced. The most strenuous inventions and applications of magic and religion did not avail against the horrendous god.

Other behaviors of cometary Venus can be recited briefly:

The comet was a god of many characters -- female, male, and androgynous [7]. Thus, in the Mexican ballgame, to be described below, the Venus is male but nevertheless gives birth. Venus appeared on occasion larger than the Moon and fiercely bright.

She caused the Earth to alter it ponderous movements.

She brought the Sun on at least two occasions to an apparent standstill.

She wore horns and trailed long tresses which, in her male form, were more evidently a phallus.

She destroyed countries and people, rendering the land barren, clogged the air and soil with red dust, darkened the day, excited pandemonium and brought general starvation.

She sent berserk tribes upon the warpath.

She aroused a great religious fervor and claimed sacrificial victims, in great numbers.

Her tresses (phallus) were cut off in a passage near Earth and a frenzy of sexual deviance seized many people. (Cults of the virgin and eunuchs.)[8]

She sent great *tsunamis* over the coastal land, tipped over lakes like mere bowls of soup.

She is "geologically quite young and was seismically active until recently..."[9] and its surface may be burning.

G.Talbott (1978) has proven "in a *fully quantitative manner* that a massive, molten body -- quantitatively a mass equivalent to Venus and having the Venus surface area, and molten at between 1500° K and 2000° K -- will transfer heat internally by flowing magma, and will radiate its heat in such a way that in *exactly 3500* years its temperature is expected to be exactly 750° K, which by measurement it is."

She generated many millions of tons of burning pitch and petroleum that fell along a broad swath of the Earth that turned in her path [10]. Countries grow rich today from the oil rains that ruined ancient "*Arabia felix*."

And when she crossed orbits with the planet Mars, a mighty battle of the gods ensued which their human champions emulated.

She stimulated new cycles of fear and new prodigies of careful astronomical observations to warn of her coming.

Nor did her effects cease, for the Earth and Moon are scarred by flood, fire, quakes, and biosphere disruption that she caused, and she left psychological and cultural marks that could not be erased.

THE HEAT OF VENUS

The great heat of Venus is predictable from its recent origin and subsequent collisions and encounters. The theory that its miles-deep clouds set up a "greenhouse effect" on its surface, heating it to over 600 Celsius, will not stand examination; little of the Sun's heat (perhaps 2%) reaches the surface, and the planet rotates upon its axis so slowly that an exceedingly cold mass would prevail on the night side for long periods of time; yet the heat is uniform throughout [11].

No matter how many books and articles may be written on the subject of the heat of planet Venus, disdaining Velikovsky, the fact remains that he had before 1950 read nearly everything that ancient and modern sources said about the planet and decided -- indeed, was compelled to decide -- that it was hot, whereas, try as they may, those who have chosen to make an historical issue of the heat of Venus, have been hard-pressed to find any chain of opinions in modern scientific circles which affirmed that Venus was warm. Nor is if far from the truth to claim that the great heat of Venus has been the leading light pointing to the many surprises that the exploration of the solar system has since displayed.

The myth of Phaeton is famous: the inexperienced youth, who was let to drive the chariot of the sun across the skies, was burning up the Earth until Zeus, implored to help, dispatched him into the sea with a thunderbolt. Dwardu Cardona puts the case succinctly, citing the originals : “That the myth of Phaeton describes a shifting of heavenly bodies, we know from Plato. That Phaeton was comet or a “blazing star”, we know from Cicero. That this “blazing star” became a planet, we know from Hesiod. And that this planet was the planet Venus, we know from both Nonnos and Solinus.”[12]

Venus was not the first body to appear before astonished humans as a comet. Any body that intrudes upon an atmosphere may look like a comet. It can acquire horns as it brushes through the air, and trail turbulent gases behind it. This was especially yrue before the age of Jovea, for then the magnetic tube of Solaria Binaria was dense. Today, the gross eccentricity of motion of a comet heightens its electrical activity and brings a variety of visual forms even in “near-empty” space Planet Venus even now displays to astronomers a fan-like tail sunwards and a “comet-like tail” swept by solar winds into space [13].

HUNDREDS OF IDENTITIES

Cometary-Venus and proto-planet Venus was in other guises Pan, Phosphorus, Hesperus, Dionysius, Hephaestus. It was Moloch (the evil god)[14] and the inspirer of the lord-shepherds (moloch-shepherds) or Hyksos who invaded and conquered Egypt as that great nation collapsed and the Hebrews crossed into their “Promised Land.” It was Lucifer, who sank finally to

the low estate of the morning star. It was Molochset or Seth, the Devil God, and Seth (or Set), who is also Typhon, granting that Seth was a name of older gods, too. Typhon was the name of the first Hyksos king of Egypt; either he took the name of the portion of Venus that fell to Earth, or his name was given to it, since by its help he won Egypt [15]. Typhon was king of the red country, the country pulverized by the red train of the Comet. The red was believed by the brunette peoples to have cursed the frequently semitic red heads and marked them as of the evil god [16].

Typhon was Phaeton; Typhon was the monster struck down by Zeus in a great battle; but some saw Zeus and Typhon while others saw the comet head battling the grip of its monster-like tail. Typhon is the archetype of the typhoon.

The Iroquois Indians told a story much like Phaeton and Typhon:

> Long ago, an immense Serpent bearing horns (*encorné*) devastated Lake Ontario. The Sun and the Moon witnessed the extinction of the Indians, swallows up one after another by the monster. In the end not a canoe was left on the water, not a lodge on the lake shores. But one day the beast ventured too near the falls (Niagara). The Thunder god slew it with a bolt and left its body floating on the water like a chain of rocky spurs.[17]

When the Romans came to name the planet of the morning and evening star, they called it Venus, for reasons little known, since on the one hand Venus is thought to have been a minor Italian goddess and, on the other hand, Cicero was probably wrong in saying the name came from the word *venire* (to come)[18]. For that matter the Greeks, after calling the planet Hesperos (evening star) and Phosphoros (morning star), came to call it Aphrodite. But in one of its first known usages, Plato says that the name Aphrodite came from “a Syrian lawgiver,” a male, when he ascribes it to planet Venus [19]. Whence Aphrodite, goddess of love and of the Moon, became goddess of love, and the planet Venus.

THE PLOT OF THE ILIAD

In my view Aphrodite became the planet Venus to the Greeks only after the reality of the catastrophic period was dissipated into a euphoric amnesiac sublimation. In Homer's epics, Aphrodite wears the golden girdle of the full Moon. She provokes the Trojan wars by bribing Paris with possession of beautiful Helen (Selene, the Moon). Paris, identifiable as Ares, or Mars, returns to Troy, where he is pursued by the furious Danaens (Greeks), devotees of Pallas Athene, who seek, then, in effect, to recover the moon (Helen). Aphrodite and Ares, gods and lovers, side with the Trojans, but ultimately, the Athene faction wins and recaptures Helen [20].

The last Trojan war belongs probably in the early 7th century (-687?), as the crises of Mars drew to a close. Aphrodite is still the Moon, reckless, wanton, "weak", (because capturable and preyed upon in the eyes of man), "feminine." Her identity will become more foggy, until, with confusing effects upon art history, science, astrology, and mythological understanding, she will be identified with the planet Venus.

Cometary Venus, Pallas Athene was strikingly different from Apollo and Mercury. Her relations with her father, Zeus, were more richly distinctive than those of any other god. Her mastery of the age was unchallenged. If she was not ruler of the gods, she was certainly their field marshal. Only Athene might wear the aegis of Zeus. She was mistress of the arts and sciences as well.

At the risk of descending into mere cataloguing, we may return to the myriad identities of this singular goddess and god. We have not yet toured the world for its names, nor can we do so very well until anthropologists have caught up with the historians and humanists in descriptions. Every language, every culture and sub-culture carries one and more names for Venus. Cometary Venus was Minerva of the Latins, it was Hathor (Egypt), but also Isis; it was Fricka, Freyia or Frigga, wife of Odin-Mercury among the Teutons; Durga-Devi and Kali in India; Quetzalcoatl in Meso-America; Ishtar and Inanna in Babylonia (Hebrew "Esther" and Greek "Aster"); Mazzaroth, Noga, Michael, Lucifer, and Baal of the Hebrews; and Uzza of Arabia. The star that aroused and rained down plagues of vermin upon Egypt just

before the Hebrew Exodus: was the "dog-fly" (Pallas Athene) to her enemies in Homer's *Iliad*, and the "wasp-star" of the Meso-Americans [21].

On the cave-walls of Australia, the ancestors of the stone age tribes of today drew figures that appear to describe Venus [22]. One depicts an owl-like creature with hands, feet, feathers, owl-tail, owl-eyes, and owl-head. It is painted in ocher. (It is doubtful that there were owls in pre-colonial Australia.)

Figure 32. THE IMPERIAL CHINESE DRAGON ROBES. (Click on the picture to view an enlarged version. *Caution: Image files are large.*)
The Kang Hsi emperor (1662-1722) wearing the traditional dragon robes, (The Metropolitan Museum of Art, Rogers Fund, 1942.)

Another painting shows a serpent-woman between whose hands is arched what is probably a lightning-bolt. And still another reveals a person called "Thunderman" who holds a lightning bolt in his hands.

In China, the classical "Lucky Dragon," which was carried in the most beautiful and ornate fashion on the robes of the Emperor (see Figure 32) has been traced back to around 3500

B.P., to a very *unlucky* period of Chinese history [23]. The original image was probably of a serpent exploding in lightning and swallowing a great globe, as Cardona's painting in the Frontispiece depicts.

Thus there are many parallels, from many cultures, marking the worldwide shift of attention to the behavior of a new and distinctive god in the sky. More than poetic fantasy, or a casual shift of allegiance from one regularly orbiting stone of outer space to another, is needed as a reason for the immense historical obsession with the sky-god and planet Venus. The more insistent and persistent a legendary theme, the more forceful is the reality behind the theme.

GLOBAL RUINATION AND ITS PERPETRATOR

In 1948, Claude Schaeffer published his comprehensive review of the field studies of Ancient Near and Middle East civilizations. He concluded that all had been concurrently destroyed by earthquake or other cause on several occasions. The many cities shown on the map of Figure 33 suffered destruction by natural causes, twice or more in the Jovean, Mercurian, Venusian and Martian periods. He goes far towards demonstrating that the conventional divisions of the Bronze ages are in fact divisions by catastrophe. No existing settlement escaped.

Rockenbach, a careful collector of ancient materials, published in 1602 a work fixing a great cometary disaster at the time of the Exodus of the Hebrews from Egypt, giving the date as 1493 B.C. He alludes to witnesses of the phenomenon as far as India [24]. In 1950, Velikovsky tied in the proto-Indian disasters of around 3500 B.P. to the Venusian catastrophe of Exodus times [25]. Archaeology has produced more evidence since then and the question of the mode of physical destruction has been discussed. Raikes (with the present author dissenting) has argued that great natural dams holding back the Indus River waters upstream collapsed and flooded the many Indus towns [26]; thus was proto-Indian civilization fatally wounded. I would reject the argument because, first, the destruction was exceedingly widespread, from one end of India to another, and, secondly, in any event, because huge river channel diversions or floods are owing to seismism, and the origins of such seismism

must be searched for in an interruption of earth motions, in "cosmic excitement." A third objection to the "burst dam" explanation is the contemporary occurrence of catastrophe far beyond the Indus and even the Indian subcontinent. Robert McC. Adams has recently written: "It is now apparent that there was a major westwards shift of the Euphrates system of channels as a whole during Kassite times."[27] This would probably be the middle of the second millennium B.C. He alludes to a long "dark age" of vastly reduced population and to hundreds of abandoned settlements, newly located.

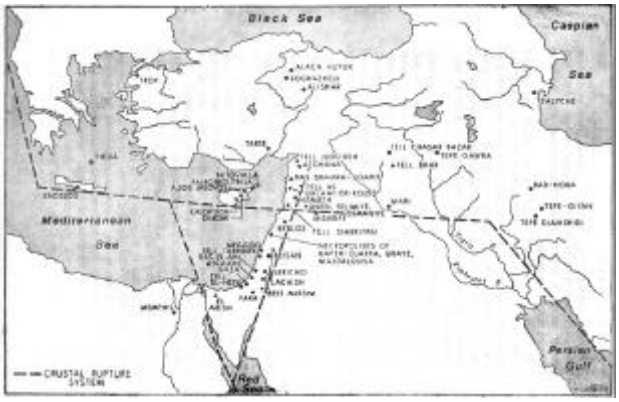

Figure 33. TOWN SITES REPEATEDLY DESTROYED DURING BRONZE AGE. (Click on the picture to view an enlarged version. *Caution: Image files are large*.)

Kondratov reporting upon Soviet archaeological studies, writes : "In the middle of the second millennium B.C. the ancient cities of Southern Turkmenia declined and were abandoned by the inhabitants. The South Turkmenia civilization perished at about the same time as the proto-Indian, and the reasons are still unknown." [28]

China did not escape. "We discover between the chronology and the stratigraphy of the sites of the second millennium of China and those of Western Asia a very close parallelism."[29] There appears to have been a hiatus of centuries between the legendary Hia dynasty and the historic Chang dynasty. In the West, this was the Exodus period.

The Baltic Sea may have formed now then. Its remarkably fresh waters, fed salt only through narrow currents from the North Sea, would be post-Saturnian. Its depth is mostly less than 100

meters, practically all less than 200. It may have originated from an ice melt in the Venus encounters of the second millennium B.C., with an axial tilt of the Earth southwards, a heating of the atmosphere, and earth movements. Then pollen radiocarbon datings of this period might be explained. The pine forests would be drowned and give up fossil resin for amber, as recounted above, pages 72-3.[30]

Southeast Europe and Near Asia were probably devastated at the same time as the Baltic Basin was flooded. At from 20 to 70 centimeters depth, large areas of the Black Sea bottom "consist entirely of cellular fragments and organic remains, well preserved and showing remarkable detail when examined with the electron microscope." Metallic stains are heavy in the 20 to 70 cm levels [31]. Dates of 3500 years ago were indicated.

The "Old World,." then appears to have been beset by the celestial encounters of Earth and Venus throughout its length and breadth. The contemporary archaeology of the Americas is only in its beginnings. Ecuador is the current nominee for the Mother culture, and is carried back to 5000 B.P. (Jovea) according to Donald Collier of the University of Chicago. The best-known ancient sites excavated, those of the Olmec civilization of South-Eastern Mexico, do bear the tell-tale marks of fire, ashes and abrupt cessation of activities around 1500 B.C.[32]. In the same area, at the Temple of Monte Negro, heavy combustion is reported for the Martian period (a 649 B.C. average date) "over which nothing was subsequently built."[33] The Americas from Alaska to Bolivia have suffered greatly from pre-historic catastrophes; this much is admitted. The problem is to arrive at acceptable dates for the physical ruins that will match the abundant legendary material.

In the "Old World," Geography, archaeology and legend are receiving some coordination. In India, the wreckage of culture can be correlated with the stories of a rampant Venus. Isenberg, for example, has recently added a remarkable piece to the emerging structure. He does so by analyzing the myth of the goddess Devi.

THE DEVI AND THE MEXICAN BALLPLAYER

The birth and behavior of Devi is made understandable in the perspective of Venus. She was born from an exploding conflagration of all the great god-lights of the sky and from each of them received her form and equipment. Mounted upon a lion, she went forth [34]. She

> "gave out a loud roar with a defying laugh again and again. By her unending exceedingly great terrible roar the entire sky was filled, and there was a great reverberation. All the worlds shook. The seas trembled. The earth quaked and all the mountains rocked."[35]

The Devi

> "indented the earth struck by her foot, her crown struck the sky : the sound of her bowstring terrified the whole subterranean world. She grasped all the space of the regions by her one thousand arms; fierce war was raged between the Devi and the enemies of the devas."[36]

Many details might be added. The Venus encounter is also mythically portrayed in the "New World," The ball court sculptured panels of Vijin, Mexico, are a most clear and significant depiction of the career of proto-planet Venus. Carmen Cook de Leonard offers a detailed description and analysis of them which carries us within easy reach of the central theory of Venusia. The earliest Meso-American towns thus far uncovered give us ruined ball-courts.

The characters are identified as the ballplaying contestants -- Venus (as a male sinner and the feathered serpent, Quetzalcoatl) and the Sun -- plus a body that may be 'Mars' or the "Night Sun," the Moon and Mercury. The Moon is pictured as a skeleton, hanging partly immersed in water. Mercury appears as "a human figure with a mask of a big-eared dog or maybe an opossum, probably representing the god Xolotl who might also be a symbol of the planet Mercury whose revolution around the Sun is probably twice depicted (88 days). He is also leader of the dead to the other world."[37] (Seth?, see p.210)

The ballgame moves as follows :

1. 'Venus' sits on a serpent-mouthed throne, denouncing sin and readying to move down to Earth. The Moon as goddess of love and Mercury stand besides the second central figure of the Sun.

2. 'Venus' is tempted by a bird-musician, and, though "male," is giving birth to a sky monster, product of his sin.

3. The Sun and 'Venus' have played the game and 'Venus' has lost after having enjoyed 236 nights of debauchery. Venus offers Sun a knife with which to kill him and 'Mercury' prepares to lead the dead.

4. The Sun is sacrificing 'Venus' whose spirit oozes out penitentially. (This is the fate meted out to the defeated human ballplayers as well.)

Thus this late representation of a 3500-years old scene parallels the Phaeton and the Jupiter-Typhon legends. 'Venus' is sexually well intentioned, goes to Earth, is tempted into sinning, gives birth to a monster, and is sacrificed.

The Venus-worship and preoccupation go back to the earliest civilization presently known in Meso-America (and it may be that by Venusian times the American population had been reduced to a survival culture). In the light of our earlier chapters, the existence of cultures in Meso-America that flourished long before Venusia cannot be doubted. The legends all go back before then. So do the calendars. The Mayan calendars begins with the year October 4, 5373 B.P. or August 13, 5113 B.P. according to recent calculations. This would indicate a Jovean base, and before then comes the story of Atlantis and eastern connections.

In Meso-America between 1500-1200 B.C., writes, there was a diffusion of the religious idea of the jaguar. Also "the baby face and hollow figures are actually, related to the jaguar. It is amazing that this animal could have been so important in the Valley of Mexico or in the highlands in general, where it was not found in the natural state."[38]

In Olmec period III (600-100), continues Bernal, a jaguar mask carries tears, "a clear suggestion of the water god" and a forked

tongue, also characteristic of later water gods and obviously a feature of the serpent..... The forked tongue of the serpent. associated with jaguar elements is typical to some classic gods. Both elements form a sort of dragon very characteristic of Meso-American art and religion."[39] A kind of dragon has a body made up of volutes. The volutes are said not to be an "Olmec element." "Volutes. The volutes may have been the origin of the plumed serpent, which is not an Olmec element either."[40]

In other words, the jaguar may be merged into the origin of the plumed serpent or Quetzalcoatl, both representing the planet Venus. Venus was also called by Meso-Americans "the star that smokes," although it does not smoke.

A LONGER DAY

Between 1528 and 1371 B.C., the Hindus plotted their Lunar Mansions [41]. With these marching across the sky, the calendar could be redone and the major actors tracked in the sky. I take this to mean, not as the English astronomer Bentley said in his classic work of 1825 on Indian astronomy, a first-time invention, but a clearing of the fulginaceous chaos of the skies following the worst of the cometary-Venus encounters. The Moon could be well observed again, the various mansions discerned, and the planets Mercury, Venus, Mars, and Jupiter "born again." Not until later is Saturn mentioned and he was said to be born later -- revealed later, I would guess [42].

Bentley argues, too, that the Kali Yuga, the longtime cycle of Venus, could not have been recorded before 1425 B.C., "which was only the dawn of astronomy in India."[43] On this point, he engages in vituperous debate with his critics, who claimed that Hindu astronomy goes back to around 3000 B.C. He aims to show by retroactive calculations that the older dates would be impossible. The debate is a forerunner (partly in reverse) of the attacks upon Velikovsky by historians and astronomers, 1950-1979, who insisted both that Venus was known to be an orderly planet before the fifteenth century and at the same time that the Babylonians lacked the ability to make correct observations of Venus before 747 B.C.[44] Again, in my opinion, Bentley is proving that the skies were disorganized by the Venusian incursions, yet he was led by uniformitarian presumptions to

believe that Hindu astronomers were incompetent before that time.

All over the world, a Venus calendar came into being with the incursions of the goddess. This could only mean that the Earth's motions were sufficiently altered to institute a new order of the years and months. Confirming Velikovsky's circumnavigation of cultures on the calendric changes, the recent writings of Prof. Coe are most emphatic regarding Meso-America. "Perhaps most important of all in their cosmological thinking was the calendar itself. At its heart was the sacred 260-day count, the origin of which was obscure." Again, "...Since it was associated with the color direction concept, with the gods, and with the affairs of men, this ritual count was the most significant mental construct in Meso-America."[45] This year was broken down into thirteen twenty-day intervals.

Not the Venus year, this year of 260-days, but the "Jupiter-year," or perhaps a later "Mercury-year." The year was 260 days during some period before the time of Venus. Then came a change to the 360 day year everywhere. This was the Venus year.

Writes Coe, "At each appearance with the dawn sun at 584-day intervals, the Venus regent threw his spear at a victim symbolizing an aspect of Meso-American daily life: at a water goddess, signifying impending drought...; at a jaguar throne, symbol of the rulers; at various deities; at the jaguar warriors, i.e. the soldiery; and at the Maize god, indicating starvation...." Coe stresses the "basically malevolent character of this great heavenly body."[46] He insists that "Venus was enormously important in Meso-American religion and mythology. A large body of myth relates to the apotheosis of Quetzalcoatl-Kukulcan, the Feathered-Serpent, as the Morning Star."

A god who produces a new calendar had moved the world; Jupiter and Venus were accordingly so celebrated everywhere. The Venus case is summed up: "All over the world we find that there was at some time the same calendar of 360 days, and that at some later date, about the seventh century before the present era, five days were added at the end of the year, as 'days over the year,' or 'days of nothing.'[47] Often they were considered days of ill-omen and danger. These were the work of Mars

probably. (An Egyptian myth tells of Mercury-Thoth winning five days from the Moon in a dice game, thus lengthening the lunar year.) Again, Velikovsky introduces extensive proof that the priests, rulers and astronomers were busily engaged in reckoning new calendars in the century following the Mars incursions, that is, after 687 B.C.[48]

In Meso-America, to the 360 day year was added a "five days without name," a so-called "vague year." This 365-day year was then matched with the 260-day sacred year to produce a calendar round of 51 vague years (note the probable relation to the recurring visits of Venus as developed by Velikovsky in treating of the Jews' *Jubilee Year*).[49] The resulting span of time of 11,960 days was marvelous to them, for it conjoined the calendars and arrived at 405 Lunations or months of 29.53 days. Calendar upsets mark Mayan records, *ca* -2840 and -1558.[50]

With Meso-American legends fresh in mind, a brief aside may be forgiven. The Near East and Iran are no longer the sole major world areas for the study of ancient religion, history, and science. Rapid progress has been made in the illumination of several great early cultures: the proto-Indian and Hindu, the Chinese, the Northwest European, the Saharan, the Indo-Chinese, and the Meso-American. Discoveries flash out from all of them at an increasing rate; for example, preliminary revelations by the University of Pennsylvania Museum, in 1977, immediately placed in Indo-China a significant "Bronze Age" civilization that appears to predate any known Near-East development.

Because of its present geographical separation, Meso-America assumes first-ranking importance. Scholars are agreed in locating a basic civilization, then a widespread later Olmec culture, a Mayan, and a number of derivatives up to the Toltec-Aztec. All except the first, for which symbolic and literary materials are presently lacking, are emphatically catastrophic in outlook. It has been estimated that as many as 200,000 persons per year were being sacrificed as late as A.D. 1500 on the altars of the Aztec Empire before a god resembling Mars, and in order to keep the Sun from stopping its regular rounds.

THE EXPLOSION OF THIRA

It may have been during one of the later incursions of Venus that the island of Thira-Santorini exploded. This now arc-shaped island of the southern Aegean Sea harbored a well-developed Bronze Age civilization of the type of Late Minoan I. Late Minoan I is correlated by common artifacts with the New Kingdom and New Bronze Age in Egypt. This would be then long after the Exodus of around 1500 B.C., which date closed down the Middle Kingdom and the Middle Bronze Age everywhere. Hence, as Issacson has pointed out [51], under the reconstructed chronology of Velikovsky, the event would have befallen about 1000 B.C., and so I have noted it on page 211.

Our sources say that German (H. Reck *et al*) and Greek (Marinatos) scholars established in the 1930's that the Thira explosion created havoc throughout the Eastern Mediterranean. Velikovsky tied the explosion into the Exodus. Upon a suggestion of a German scholar [52] Marinatos visited Velikovsky. Both agreed that the explosion occurred at the end of the Middle Bronze Age. But Velikovsky's -1500 meant to Marinatos perhaps about -1750; both tied the Exodus to the event. Velikovsky subtracted a zero from Plato's account of Atlantic making out 900 years instead of 9000 years before Solon for the Thira disaster [53]. Mairnatos followed suit. So did all the archeologists and geologists who pursued the popular study of Thira as the true Atlantis. But they and Velikovsky were using a different absolute age for the date -1500 Radiocarbon dating gave a variety of reading from the 18th to the 10th century [54], letting everyone rest with the mid-millennium date. Only Isaacson, then, has pointed irrefutably to the circumstances, to wit. Velikovsky must move up to about 1000 B. C. or give up his immense chronological reconstruction. And the rest of the group concerned must follow suit or depend heavily on the conventional chronology of Egypt and Minoan Crete. Thira was only a minor disaster in comparison with the Atlantis catastrophe; the sinking of Atlantic took place in North-western European seas; and the Thira explosion is properly placed as a Venus-induced event of the tenth century.

If it were part of what Patten calls the Greater Davidic Catastrophe of 972 B.C., some part of the population of united Israel would have died, mostly by cosmic fall-out, called the

"pestilence" of the Lord, and by meteoroids, and earthquakes [55]. If it were the lesser Davidic catastrophe of perhaps 1025 B.C., again in Patten's scheme, celestial specters, darkness, earthquakes, and meteoroids were occurring inland [56]. A third Patten scenario is possible, this around 1080 B.C. called the Samuelic Catastrophe [57]. Here severe earthquakes, great thunder and fierce cosmic lightning took place in the midst of a war between Jews and Philistines. A great stone, probably a fallen meteoroid, was set up by Samuel to commemorate the victory.

If the 50 or 52-year cycle, suggested by Velikovsky as denoting the passages of Venus by Earth, is accepted, then the likely years for an encounter between Venus and Earth would be 973, which could have synchronized with the Thira disaster. But Patten's dates are not exact; he too relies upon a cycle, a 54-year cycle of cosmic danger to help him provide a date. Since Israel was inland, tsunamis were not featured in the Bible. Therefore the correlation with Thira is difficult.

Cook's revision of the carbon 14 dating formula may be introduced as a final expert witness. He made allowances for the build-up of 14C in the atmosphere and advanced a non-equilibrium calculation which "reduces the computed age..by amounts increasing in time from about 20% in 1000 years, 30% in 4000 years and finally telescoping all very long ages to 12,500 years or less."[58] Accordingly reduced by about 30%, the mean of Thira 14C dates would approximate 1050 B.C. This would appear then to be an acceptable date.

We conclude that Near East indications lend support to the probability of a Thira-type explosion, with cosmic relatedness, around 1050 B.C.

Yet the Thira disaster was only a minor feature of 700 years' rule by the "goddess of love." Few writers have sought to trace out the effects of Venusia to this day. Prof. Wolfe has found them in Shakespeare [59]. Profs. Greenberg and Sizemore have found them in the traditions and practices of Judaism and Christianity [60]; the instructed student can find them indeed everywhere. To this day, the social institutions, religious practices, symbolism, literature, music, sexual practices, and expectations of humanity -- not to mention the very ground

beneath our feet -- reflect the centuries under sway of the great comet.

MARTIA

In a passage that is perilously close to the truth, E. Richardson writes of the ancient Etruscans of present day Tuscany :

> The last quarter of the eighth and the first half of the seventh centuries were evidently lively times in the Near East...Farther West, in Central Italy, the Oriental style broke like a tidal wave over the simple, if competent, civilization of the Villanovans. Here, it was not a question of occasional Villanovan traders or mercenaries coming home with new goods in a new style, not even a question of Greek traders sailing west.. but there must have been an actual shift of population from the old world of the East to the relatively uncluttered new world of the West. Almost any of the events we have chronicled above, or something we have yet to discover might have caused such a shift during those turbulent seventy-five years [61].

The “something we have yet to discover” was shared by East and West, a state of affairs sometimes unbeknown to the uprooted ones -- the “something” that Rilli found mysterious in the ashes piled upon Etruscan settlements, and the ancient encyclopedist Pliny had reported as a bolt of Jupiter destroying the rich city of Volsinium -- was the work of cosmic forces [62].

Vesuvius exploded in the eighth century and Etna in the seventh century B.C. The Sicani fled Eastern Sicily because of seismism and volcanism. Italy was rent by fissure seismism connecting with volcanoes along its entire length. The number of rivers reported to have disappeared was far beyond the record of later solarian times. (Semple cites some of the cases.) Many Phoenician and Greek colonies were founded in the western Mediterranean, especially in Sicily, during the Martian period. It is possible, too, that the Etruscans settled in Italy not long before the Romans, carrying a highly developed culture from Asia Minor where, traditionally, they had been forced out by a great famine. Their blood type is similar to the Urartu people of Lake Van; their mostly undeciphered language is found upon Lemnos, favorite island of Hephaistos, and is related to the Hittite; and they are distinguishable from their Villanovan predecessors in culture and separated from them by a layer of catastrophic debris

[63]. The Etruscans were especial worshippers of Jupiter and lightning *par excellence*, to the point where they could be mistaken for Yahwah-sect descendants of Noah [64].

Planet Mars, already long known to mankind as a moving star, was precipitated onto its disastrous course lasting nearly a century (-776 B.C. to -687 B.C.) when proto-planet Venus spiralled near to it [65]. Spectacular celestial events were observed from Earth. The unsettled body invaded the orbit of Earth, and repeatedly, roughly at fifteen years intervals, it approached Earth closely, causing new disasters.

The highly developed Etruscan and rude Latin civilizations were devastated. Although Rome was born amidst the turmoil (753 B.C.?), it gloried in the planetary god that bore the name Mars. Mycenaean civilization in Greece was largely destroyed through the same agency, there called Ares, God of War and embodiment of sheer destruction. Herakles seem to have represented the planet as well and classicists will recall that the Heraclids were identified with the Dorian invasion of Greece [66].

CARPENTER'S "SOFT" CATASTROPHISM

In his study of *Discontinuities in Greek Civilization*, Carpenter helps one across the dizzying chasm between evolutionary and quantavolutionary though. The Dorians were the Heraclids who were "professed linear descendents of tribal followers of the legendary hero-god Herakles..."[67]

> They came upon a destroyed civilization, "the greatest still unsolved problem in Mediterranean history.[68]… The calendar time is 1200 B.C." [In fact, it is not, It is around 700 B.C.] "and Mediterranean man has begun to suffer the most severe cultural recession which history records or archaeology can determine. Great kingdoms have collapsed without apparent adequate reason; and the eastern sea shores are overrun by fugitives seeking to force their way into lands less smitten by disaster. In Greece the well-fortified Mycenaean palaces are burned and abandoned; but none seems to know who burned them."
>
> [And more and worse, but Carpenter has an answer] "*famine*... And by famine I do not mean an occasional failure of several consecutive harvests, but such an enduring

> and disastrous destruction of the annual yield as only a drastic climatic change could have occasioned."

He then proves famine, which is usually part of a catastrophe, we have noted. The Edomite bedouin were even then migrating into Egypt "to avoid famine," says Bimson [69]. A change in the prevailing winds is given as a cause : African wet winds changed to African dry winds. But what changes prevailing winds? And around the world? We recognize today a growing belief of meteorologists that great changes in climate originate in the celestial sphere. One Greek civilization was destroyed and another took its place. Climatic change was part of the action, and the transition period probably lasted one century -- 776 to around 650 B.C. -- not five centuries. Carpenter believed in the Dark Ages.

NERGAL, THE "TREACHEROUS DEALER"

Mesopotamia suffered greatly, too; in the typical collective madness, delusion, and psychological projection that gave birth to all astral gods, the Babylonians elevated and celebrated Nergal. Nergal was Era who was Ares who was Mars. The insane human devastator of the Middle East, King Nebuchadnezzar, called himself by its name: "I am Nergal. I destroy, I burn, I demolish, leaving nothing behind me."[70]

Again the gods in heaven carry on their wars through their human agents. It was Ares versus Athene again, Mars against Venus, in his march into Palestine. "From the philological, theological, and historical data, there is no question that, in both name and substance, Jerusalem was indeed the 'City of Venus.' The reign of the 'Queen of Heaven' was an uneasy one, however, and did not go unchallenged. In the end, the Venus Star yielded to a resuscitated Yahwism and relinquished its hierarchical position, but only after centuries of protracted politico-religious struggle and not until Jerusalem itself lay trampled and ruined beneath the Chaldean war-machine of Nebuchadnezzar."[71]

The Jews commemorated the new active agency in the cosmos by the appellation Kesil Maadin, and Gabriel, and typically rendered these as inspired by their single divinity [72]. So in the days of Uzziah there was a grand commotion (-747 B.C.) and

also when Ahaz was buried in -717 B.C. On the same day the sun dial changed about 10° (*ca* 40 minutes). According to Velikovsky, the Earth's axis shifted and twilight was hastened. This story, writes Velikovsky, "is related also in the records and told in the traditions of many peoples. It appears that a heavenly body passed very close to the Earth, moving, as it seem, in the same direction as the Earth on its nocturnal side."[73]

The prophet Isaiah preached about 701 B.C. It was he who said (22:13), in the midst of the Martian terrors, "Let us eat and drink, for tomorrow we shall die." "According to *Isaiah* XXI.8, the heavens were most anxiously scanned at the conjunction times, by day and by night, for the 'grievous vision' of a 'treacherous dealer' and 'destructive spoiler' (*Isa* XXI.2) According to *Jer*. I.13f, the dreaded phenomenon looked somewhat like a 'seething pot', and when it appeared in the heavens 'an evil broke forth out of the north upon all the inhabitants of the land." These calamities happened periodically. Thus (*Jer*. L1,146) 'in one year, and after that in another year, and then there was always violence in the land, and ruler fought against ruler.'"[74] In -687 B.C., the restless Earth wobbled on its axis, electrical exchanges occurred, and the army of Sennacherib was destroyed by a great blast of gas.

WORSHIP OF MARS

Mars appeared as lean, wolfish, foolhardy, hot, fiery, and ardent among widely dispersed people. Mars had many names, newly coined, around the world. It was called the "wolf-star" by the Chinese, Scandinavians, and others [75]. The Mars-obsessed Romans believed that a wolf bitch had suckled the foundling twins, Romulus and Remus, who esablished Rome. Mars was the "sword-star" to the Scythians, and the Romans made their new short swords integral to the equipment and maneuvers of the invincible legion. It was Marut and Rama to the Hindus, and Huitzilopochtli, high god of the Aztecs. In dispersed parts of the world occur myths that the Moon is chased by dogs or wolves and, upon eclipses, they desperately beat drums and raise a tumult to frighten off the devourer of the Moon. [76]

The Aztec Huitzilopochtli appears to have held also the names Tetzahuitl and Tezcatlipoca. Quetzalcoatl, the Plumed Serpent god, "wise and sympathetic," was "vanquished in the struggle

with his contrary and enemy, Tezcatlipoco, the god who carried on his forehead a smoking mirror, who spread discord and transformed mankind into monkeys, just as Quetzalcoatl changed them into birds."

"Expelled from his city, he took the road to Yucatan, announcing, however, that he would return to his homeland. Arriving at the shore of the sea, he erected a pyre and offered himself to the flames. A few days later he reappeared transformed into the planet Venus." Thus goes the principal Mexican story pertaining to planet Mars and planet Venus in celestial combat [77].

The Romans worshipped their first ruler, Romulus, for having joined his father, Mars, in heaven on the occasion of a cyclonic outburst. That the Romans had a longer history somewhere, perhaps indeed at Troy, is indicated by their adoration of the whole Olympic family, and the impregnation of their institutions by them. For instance, the Roman consuls served for a Venusian-length year.

Greeks who survived the disorders of sky and planet chanted of the battle of the gods, in the language of Homer. Among the principal figures who engaged in conflict at Troy under the aegis of Zeus were Athena-Odysseus-Venus, Ares-Paris-Mars, and Aphrodite-Helen-Moon. Troy was only one of the many cities destroyed in this period, nor was this the first destruction of that city over the millennia. The Spartans made human sacrifices to Ares, and sacrificed dogs as well, in nocturnal offerings, to his *alter ego*, Enyalius.

As happened in climactic celestial events of earlier times, the Martian period brought a change of calendars around the world [78]. Nabonassar, an obscure king of Babylon, gave his name to a new era of the calendar in the year 747 B.C. The first Olympic Games marked a reassembly of Greeks and may have occurred in 776 B.C. The founder of the games was reputedly none other than Hercules, *alter ago* of planet Mars. Romulus, says Ovid, brought the Romans a calendar of 10 months which made the year just the length of a woman's pregnancy, that is, 280 days [79]. But shortly thereafter, about 715 B.C., two months were added. Bentley, reporting on India, connects the end of the war

of gods and giant there with the war of the gods in the *Iliad* of Homer and with the Era of Nabonassar [80].

Two Dutch scientists have reviewed the radiocarbon, tree ring, and varve studies of this period and conclude that the statistics point to a considerable lengthening of the solar year, from perhaps 280 to 365 days, around 780 B.C.[81] This is the century, too, when Seuss' carbondating research suggested shifts in the magnetic poles and abrupt changes of climate [82].

Carli, the early scientific catastrophist (1780), believes (I think mistakenly) that Italy was covered by swamps for millennia after the flood of Ogyges (approx. 4000 B.C. in his estimation). He quotes a report by Denis of Halicarnassos that Oenotrus, son of Lycaon, having gone to settle in Italy with a colony, found the country deserted and uncultivated and was obliged to search for habitation on the mountains [83]. Great swamps persisted in the north until the time of Hannibal. Taken together with the desolate situation of the South and Sicily in the early period of Greek colonialization, with the evidence of the destruction of the high Etruscan civilization and the coming of the Romans, this would seem to be the aftermath of the war of the gods.

The Spartans were among the most disciplined and dedicated warriors of the classical world, but whenever the earth trembled they would scuttle for home. Said Ellen Churchill Semple, "If earthquakes would break the nerve and nullify the life-long training of Spartan troops, there must have been abundant reason."[84] She sets forth the exceptional seismicity of Laconia and much of the known world then, but in true uniformitarian fashion, never ventures that natural disasters were worse then, or had been unbelievably worse a couple of centuries earlier, when all the settlements of the Mycenaeans were wiped out, and the Spartans, as Dorian survivors and sons of Herakles, took over the area.

THE WOUNDS OF PLANET MARS

Like Venus and the Moon, Mars shows the severe effects of its recent space encounters. The geological evidence for large-body encounters with Mars in a recent time can be summed up in nine points :

1. Argon, an important ingredient of Mars' atmosphere, is also found in unexpectedly large amounts in the clouds of Venus and in the Moon's surface rocks [85].

2. The surface of Mars is rent by canyons and craters of prodigious size. exhibiting both gravitational and electrical disruption [86].

3. The polar caps of Mars are composed of solid carbon dioxide (CO_2) and possibly ice [87]. This must be a very recent freeze, following acquisition of CO_2 from Venus.

4. Sets of laminated spherical caps lay near the polar areas. These are meltings of the surface. They are irregularly laminated, one upon another [88]. They occurred perhaps when the polar axes heated up from interplanetary encounters with Earth or Venus, involving electrical discharges. The near side of the Moon and the surface of Mercury evidence the same type of molten-looking splotches.

5. The present poles of Mars are far off the laminated electric melts of the old poles (or the old magnetic poles when Mars rotated within the magnetic tube). This would indicate an axial tilt.

6. Hot spots, perhaps of volcanism, surface contortion and radioactivity may exist. These are signs of recent externally produced disturbances [89].

7. No erosion has occurred on the many great cracks, rilles and canyons of the surface. These are electrical in origin, therefore, and not products of turbulent water (although E. J. Opik thinks that they may be radiating lines of craters exploded from external agents.)[90]

8. A complex of a canyon, Coprates, exists that is 2000 miles long, up to 300 miles wide, and over 4 miles deep. As described, in Chapter One, it is a product of a single instant unzippering of the surface by a passing body, possibly Venus.

9. The crater Nix Olympica is 300 miles wide and has a 100-mile-high peak. It is not volcanic but the result of an electrical-gravitational explosion [91].

The historical evidence may also be summarized :
Hebrew, Roman, Mexican, Greek, Hindu, Babylonian and other nations and tribes report heavy natural disturbances throughout the period 776 to 687 B.C. All of the high-energy forces of catastrophism were involved.

Mars (Ares) is then newly worshipped everywhere, with great intensity. The god is identified with the planet in many places.

The behavior of the god corresponds to that of the planet. For example, in the *Iliad* which I have elsewhere assigned, not alone, to the turn of the Seventh Century [92], Pallas Athene (Venus) "cast her spear mightily against his nethermost belly" upon which "the brazen Ares bellowed loud as nine thousand or ten thousand warriors cry in battle, when they join in the strife of the Wargod."[93] This may conceivably have been the occasion for the tearing open of the Coprates canyon on Mars.

Hamon, in Hebrew, means "noise" and is a name for Gabriel (Mars). "Assyrians of the host of Sennacherib, before they died, were permitted by Gabriel to hear 'the song of the celestials,' which can be interpreted as the sound caused by a close approach of the planet." The god Hemen elsewhere in the Near East, is the god of Noise [94].

THE GREEK "DARK AGES"

With the affixing of the Mycenaeans to the events of the Eighth and Seventh centuries, a major question arises concerning the "Greek Dark Ages" that are supposed to have occupied the years between the Thirteenth and Seventh centuries, between the fall of the Mycenaean cities and the advent of the archaic Greeks. An answer to this question will conclude this chapter.

I. Isaacson, an associate of Veilkovsky, has driven nails into the coffin of the Greek "Dark Ages" that Velikovsky designed [95]. Velovsky's own work on the subject awaits publication. He has shown how Mycenaean civilization moved directly into the archaic and classical Greek culture without much lapse of time. The centuries hitherto assigned to the Dark Ages are fictions aimed at accommodating an incorrectly dated Egyptian chronology to a Greek chronology that is only correctly figured

after the seventh century. Mycenaean ruins and art, as with the remains of all of the Near East civilizations, have been tied to the Egyptian dating, which, for reasons exposed fully by Velikovsky with contributions by independent scholars such as Courville and Dayton, is made out to be far too old.

It is noteworthy that the collapse of Mycenaean civilization around the Aegean Sea has been believed to correspond in time to the "Invasions of the Sea Peoples" throughout the Near East, that is, the 13th century B.C. In fact, both the Mycenaean collapse and the Near East ruination are events of the same period. It is not the 13th century but the 8th and 7th centuries. The cause is not "the Sea Peoples," who did not exist as such, but the raging sky-god Mars, and his antagonist, Venus.

Once the reconceptualization of the events and time is accomplished, the reconstruction of the separate pieces of near East history, including its mysteries, becomes routine. Thus when the newest edition of the *Cambridge Ancient History* publishes tablets inscribed on the doomsday of Pylos, the city of old King Nestor on the western Peloponnesus, it reports that a tablet, apparently the last, written in haste, "immediately before the destruction which baked them and rendered them durable." details how troops were sent to watch the sea [96]. Again, far to the East, the last documents of Boghazköi and Ugarit, reported by M. C. Astour and J. T. Hooker, appear to describe defense preparations, after which there is nothing but destruction and ruins to await the modern excavator [97].

The revision in these cases, and in many excavation reports, is simple : for "invaders" or "people of the sea," read Mars-Ares-Nergal etc. For defense preparations, read universal portents, alerts, rescue parties, mobilization, sacrifices, propitiations, exodus. A people in readiness for cosmic catastrophe behave, at least in the prejudiced eyes of an archaeologist, like people organized to defend themselves against foreign enemies.

Claude Schaeffer, famed excavator of Ugarit and practically the sole systematic and clear-sighted surveyor of Bronze Age reports in the archaeological profession, published as early as 1948 his findings. Absolute and complete, they showed the set of disasters as I have labeled them in Figure 33. In 1968, Prof. Schaeffer was impelled to point out to his still uncomprehending

colleagues that no trace of "sea peoples" were to be found in certain cities [98]. Yet, in 1948, he had been required, by the authoritatively accepted chronologists of Egypt, to mark a limit to the latest excavations of many sites of the Near East at about 1200, labelling them as destruction by "Peoples of the Sea."

In 1977, Velikovsky published *Peoples of the Sea*. But here the iconoclast was undertaking one task and that alone -- of showing that Ramses III, and certain successors were of the time of the Persian conquests, that is, of the fourth century B.C. instead of the conventionally dated thirteenth century. An absolute and authoritative chronology was off by 800 years!

In 1977, Velikovsky published *Ramses II*, whereupon a large chunk of the pseudo-historical plastering covering the "Dark Ages" -- that connected with the "Hittite" Empire -- cracked. The Hittites evidently were Chaldeans, and their time was of the beginning of Martia. The Greek "Dark Ages" plaster, too, will soon fall in another volume of evidence. Meanwhile, should the scholar wish to premeditate the reconstructed history, a number of cracks in the plaster can be discovered simply by reviewing old "discredited" studies. In Krickenhaus' work on Tyrens, for example, fire destroys the Mycenaean palace and a new temple of Greek style is promptly built over it [99]. No five centuries of "Dark Ages" in between!

What Velikovsky did not delve into were the many other "Peoples of the Sea" cases. These, as stated above, fell not into the thirteenth century, not into the fourth century, but into the eighth and seventh century Martian catastrophes. That is why, on Schaeffer's early studies, it can be observed that following this period of disasters, settlements were either absent or, if present, of proto-classic or even classic type.

Extensive systematically presented documentation is available in Schaeffer's work. Below one meter of Troy's soil, all remains are prehistoric except a "few Roman sherds fallen from above."[100] Below begins Troy VII B prehistorically with ruins caused by "Peoples of the Sea," dated at about 1150 B.C. Archaeological science has taught its students for generations that the site of Troy, which Mireaux said was a source of violent contention for many centuries because of its position to command the commerce between Asia and Europe passing

through the Dardanelles [101], was abandoned. Even a catastrophist becomes a uniformitarian in the face of such long-term desolations : it cannot be.

Yet we find the same disconsolate conclusions reached at the many other sites [102]: Ras Shamra, nothing after -1200; Byblos, final destruction -1200; Chagar Bazar, nothing from -1350 onwards; Hama, Mycenaean at -1300 and nothing thereafter; Beit Mirsim, Jericho, Beisan, Megiddo, Tell el Hesy, Tarse -- all finished by the "Peoples of the Sea," *ca* -1200; Alaca Huyuk; first level of culture begins at -1300; Alishar Huyak, -1150; Cyprus, Iron Age at -1150, then nothing; Tepe Giyan, last level ends at -1200; Talyche, Agha-Evlar, etc. in Persia, end at -1150; the Caucasus sites, no beginning after -1200; Luristan, nothing after Recent Bronze set at -1450. No man-made catastrophe then could be so bad as all this. The uniformitarian chronologists, unwittingly leagued with the mistaken Egyptian chronologues, have produced a 500-year artificial extension of catastrophe throughout the Old World.

The New or Late Bronze Age did not end because of some new use of metal, or the advent of some enlightened monarch, or the desire of some people to intrude upon another people's habitat. It marked a new celestial stage. A cosmic catastrophe destroyed cultures to the extent that the newly created cultures were distinctive. The world moved into the so-called age of Mars, during which the fortunes of the Earth and human race followed a path of exponentially declining destruction, violence and madness. Finally, that which is here called the Solarian age begins.

We mentioned the cyclical theory of history in Chapter 3 and said we were helicalists. Egyptian priests told Herodotus that this was our Fifth Sun after four destructions of the celestial order. The Aztecs told the Spanish priests the same. The Hindu *Bhagavata Purana* puts us in the fifth age also. But the Buddhist *Visuddhi-Magga* allows seven destructions. Rabbinical authorities claimed six reconstructions, placing us in the seventh.

Many cyclic systems exist [103]. Why do they never (perhaps) exceed ten; why are they never one or even two? Or even three, the favorite categorial fixation of scholarship since Plato? Tentatively, for convenience, we place ourselves today in the

eighth destructive period of the Holocene epoch and seventh age of humanity, following six great quantavolutions.

Notes (Chapter Ten: Venus and Mars)

1. "Hymn to Athena" in Homeric Poems of Hesiod volume. On Athena/Venus identification with the Hindu Devi see Isenberg (1976). The dynamic problems of such an explosion have been mentioned above, see Index, "Encounters."

2. Rose (1977) 110-1.

3. In addition to Velikovsky (1950), (1972a), (1973-4a) on the Venus question, *cf*. A. de Grazia, Ralph Juergens and Livio Stecchini (1966); ten special issues of *Pensée* magazine, Vols. II-IV; the *Review of the Society for the Study of Interdisciplinary Issues* (England) 1976-present; *Kronos* (1977); Ransom (1976); E. Milton (1978); and Asimov *et al*. (1977). All contain mainly material pertinent to the controversy over the natural history of Venus.

Velikovsky has produced a volume of evidence on the destructive career and nature of Venus. Less known subsequent articles and books discussing his work have added the equivalent; there have been hundreds of articles and books since 1950 that inadvertently lend support to his thesis; my purpose here is not to recite all of this work, but rather to sharpen the issues by the employment of selected studies, and to produce a theory to integrate them.

4. Velikovsky makes a critical synchronization of the Biblical Exodus with the Egyptian papyrus Ipuwer (1950) (1952); John Van Seters and W. F. Albright lend independent support: also agreeing are Sieff *et al*. (1977) and Greenberg (1975): contra *cf*. Bell.

5. Meade (1977); Kuong.

6. This Biblical image, cited by Velikovsky, reminds one of the Phaeton image, discussed below.

7. Rix (1977).

8. Tompkins (1971).

9. M. Y. Maror of Soviet Acad. Sci., quoted in 109 *Sci. News*, June 19, 1976, 388.

10. To be discussed in a later Volume of this series, but *cf*. Velikovsky (1950).

11. Sieff *et al*. (1979)787; Greenberg (1977).

12. Cardona (1975) 37.

13. Wallis (1972); Baum (1978); Ransom (1976) 76 citing Bridges *et al*.

14. Rix (1975)

15. Bimson (1977).

16. Rix (1974).

17. Barbeau 118.

18. Lowery.

19. *Epinomis* 2.99-101.

20. These matters have been developed in an unpublished manuscript of the present author, *The Disastrous Love Affair of Moon and Mars* (1972). Aphrodite, the goddess, was assigned to the Moon by Velikovsky and Suhr. James (1976, 1976a) has attacked this identification.

21. Velikovsky (1950) chap 6.

22. The owl is Athene-Minerva's symbol, probably a forcible vision of the comet.

23. Sutherland (1973-4), 50.

24. Bimson (1977).

25. (1950); Kondratov (1974).

26. Raikes (1965) (1967) (1976); Possehl (1967); A de Grazia (1977).

27. Adams (1975), Adam's discoveries drastically amend the old positions (*Encyclopedia Britannica*; vol. 18, p. 404, 1969, "Tiger-Euphrates River-System") He acknowledges conflicts between geological and archaeological evidence regarding the delta but claims no historical record of changes upriver.

28. Kondratov (1974).

29. Schaeffer (1948) 604.

30. MacKinnon (1976).

31. "Black Sea..." (1970).

32. Coe (1967).

33. Bernals (1969) 152.

34. *Cf.* Stecchini 143 quoting the Sybilline Oracles : The Morning Star fought the battle having climbed on the shoulders of Leo."

35. Isenberg 90 quoting from *The Devi-Mahatmya* (tr. S. Jagadisvarananda) [Madras, 1953], 25-178.

36. *Ibid*., 90-1.

37. (1975), 271.

38. Bernal (1969) 108.

39. *Ibid.*

40. *Ibid.*

41. Bentley (1825).

42. *Ibid.* 2, 3-5.

43. *Ibid.* xiv.

44. See Stecchini in de Grazia *et. al*. (1966) and Rose (1977).

45. (1975) 9,10.

46. 19-20.

47. Velikovsky (1950).

48. *Ibid*., 341.

49. *Ibid*., Bernal (1969) 103-4 mentions the 52-years cycle of the Mesoamericans.

50. Nancy K. Owen, 92.

51. J. Isaacson (1975).

52. Velikovsky (1955) 191.

53. (1950) 147.

54. Mowles (1973); Acta (1969); Isaacson (1975); Weinstein (1978).

55. Patten (1973) 161-2.

56. *Ibid.*

57. *Ibid.*

58. Cook (1961-2).

59. (1975-6) (1978).

60. (1978).

61. (1964) 45.

62. Rilli (1964); Pliny ii 53; Velikovsky (1950) 273; Patten 18-9, 92; Piero Leonardi, geologist at the University of Ferrara and Academia Nazionale dei Lincei, writes in a personal letter to the author of October 3, 1977, however: “Regarding the Lake of

Bolsena, one is dealing undoubtedly with a normal volcanic structure, and I do not believe at all that its origins can be attributed to extraterrestrial phenomena."

63. Wainwright on blood types; *Cambridge Ancient History II* (1973) 161 on Lemnos; Fell on the Hittite connection; Rilli on the ashes of Prato.

64. Rilli develops this theory and attaches the Saturnian Deluge to the flooding of the Tyhrennian sea area, original center of the Villanovans.

65. Velikovsky (1950) Part II, ch. III *et passim*.

66. Carpenter (1966) 47-57.

67. *Ibid*., 47.

68. *Ibid*., 18.

69. Bimson (1978) 59.

70. *Cf.* Mullen (1973) 11.

71. Greenberg and Sizemore (1978) 74.

72. Velikovsky (1978), (1950) 292. Kesil means "fool" in Hebrew.

73. *Ibid*., 216.

74. Bellamy (1948) 124-5.

75. Santillana and von Dechend (1969) 324.

76. Occidens (1888).

77. Formenti (1969) xxii.

78. Velikovsky (1950) ch. 8.

79. Van Oosterhout and van der Lek (1972) quoting Ovid, *Fasti.* 1 5, 5-7, 8-30.

80. Bentley (1825) 49.

81. Van Oosterhout and van der Lek (1972).

82. *Ibid*; see above Fig.

83. Carli (1780) 307.

84. Semple's ancient geography suits nicely the ruling formulas of the old geology (*cf*. G. Grinnell, in Milton, 1978).

85. Ransom (1976) 134-6, 146-7; on Venus, *Wash Post*, Dec. 11, 1976, A6 quoting Donahue, Mc Elory, NASA Pioneer probes.

86. Juergens (1974d, 1974c); Kelly (1974).

87. Pollack (1975) 82-3.

88. *Ibid*., and 90.

89. Ransom (1976) 132-3.

90. Opik; Juergens (147d, 197e).

91. *Ibid*., Kelly (1974).

92. In an unpublished mss, "The Disastrous Love Affair of Moon and Mars" (1972).

93. Iliad V.

94. Vikentiev (1930); Velikovsky (1950) 292.

95. Isaacson (Eddie Schorr), (1973, 1974).

96. (1973) Vol. II, Part I, p. 611.

97. James (1977).

98. Schaeffer (1968) 607-8.

99. 1, 31-40; Velikovsky (1974) 6,45.

100. Schaeffer (1948) xxxii.

101. Mireaux (1948).

102. Synoptic Table IX.

103. *Cf.* Velikovsky (1950) 29-35.

CHAPTER ELEVEN

THE DEVIL'S ADVOCATE

1 January 1980

Dear Professor de Grazia:

I have now read your manuscript, "Chaos and Creation," in its entirety and have a number of criticisms to offer. You asked me to comment upon the work as a "uniformitarian," which I suppose you can call me, but naturally I feel that I am judging the material on grounds of science and scholarship, rather than upon the basis of what is non-uniformitarian. As a matter of fact, I should say that I have found some points of agreement with your work, and, if I do not mention them here, it is because you specifically asked me for negative, not positive, criticism. So I am, as you requested, acting only as the devil's advocate.

Granted as you imply in the Foreword that you have at least one scientific or ethnological (conventional) authority supporting every significant point that you make (I haven't checked it throughout the book), this does not mean that your theory holds together. No more than the blind men could describe the real elephant when each could only feel a part of him. Your theory or model of quantavolutionary primevalogy has to make a real world, one in which people can believe and experts can work with.

As you painfully-well perceive, the most vulnerable side of your book has to do with the absolute chronology of events. I remain quite unpersuaded that the holocene period is as catastrophic and as crowded as you make it out to be. One can take 14,000 years ago as its beginning (many dates have been roughly of this order), but you are claiming to include in the period, explicitly or implicitly, the whole Paleolithic (which now means the Quaternary plus upper Tertiary) in respect to humans, the Triassic (-200 my) with respect to the Spreading of the ocean

basins and laying of the ocean bottoms, the carboniferous (-300 my) with regard to coal and oil deposits, the Cambrian (-500 my) insofar as Grand Canyon is included, and the Precambrian (-600 to -2500 + my), when it comes to atmospheric changes, the coming of the Moon, the newness of gases, uranium flux and so on. In fact, you go about placing whatever you think appropriate whenever in time your theory requires that it must have happened. About the only law of time that you seem to obey is the principle of superposition. which is only a relative ordering of times and which you appear to think can permit anything to occur in the absolute measure of time.

Surely you must be aware that even if all the conventional dates of all the events that you compress are incorrect by many millions of years, they will still not fall within your few thousand years. It would be a miraculous coincidence if half-a-dozen radioactive tests of time were all wrong, totally wrong. It is hard to conceive how hundreds of geologists and geophysicists working upon these tests have not to any degree acquired your suspicions, and you must admit that you have not yourself performed any of the tests, which require extensive laboratory facilities.

Even if all radioactive tests were wrong you would have to grant the unanimity of opinion in respect to the older methods which you have listed in the first category of your tests-of-time chart, (Chapter 3). They, too, are the word of a horde of geologists. Nowhere will you find them hesitating in putting most of your "holocene events" much further into the past. Granted that some tectonic, depositional, and climatic events are saltations of normal rates of activity, these form only a small fractions of all events that have occurred and all changes that have shaped the present surface of the globe. One anomaly or exception does not undo a rule or make a new rule; how do you know, or how does your reader know, the ratio of exceptions to the normal cases?

You make much of your revolutionary column; it is merely the geological column extended into the atmosphere. You will have as much difficulty proving a recent catastrophe in every column on Earth as geologists have in finding a real geological column with all ages represented by it. Geologists may not be able to prove that a certain discontinuity is a product of depositional slowdown, or slowly changing material of erosion, but you

cannot prove it to be a product of disastrously speeded up or cut-off erosion, or quick change in the material mix of erosion.

Fifty or more fields of science and learning say that they need lots of time to explain all the changes that have occurred in the behavior of whatever they may be studying -- genetics, birth of planets, development of human intelligence, culture, a rock system, a river valley, an ocean floor, a change of climate, and so on. You take away their time and give them explosives. You're smashing the clock. It won't work. Even if it could work it would take a couple of centuries for the large body of scientists and the public to feel comfortable with your paradigm.

I would like to point out to you what you would have to give up if your short time-scale were proven wrong:

(1) Your *homo schizo* would be looking for a new niche in time farther back and opponents would be encouraged to go back to work on their evolutionary ladders.

(2) The surface of the Earth, the atmosphere, the solar system -- would have a new lease on life (backwards life, of course). Here again, the evolutionary idea, or at the least a long-term catastrophism, would take over.

(3) Many of the anomalies that you have elevated to the dignity of data will be degraded to anomalies again.

(4) Most disastrous of all, the large body of legendary evidence would have to be discarded, since the memorial generations of the human mind can go back fourteen thousand years, but they cannot go back a hundred thousand or a million or remember events that happened before *homo sapiens* existed ten or a hundred million years ago.

What would remain then -- if the attacks upon your timescale were to succeed -- would be the general sequences and interplay of forces; a method of explaining orogeny, sea bottoms the moon emplacement, the extermination and birth of species, etc. A theory of the time-stretched solar-system as an evolution from a binary would remain hence the movements of planets, the disintegration of Super-Uranus in nova phases, the heavy

atmospheric envelope of the binary system, etc. But all of this can probably be successfully attacked too.

You coin too many words. Take your calendar of ages, now wouldn't it be better to call Urania "The Stone Age" which it is; and Lunaria "the Hunting Age"? And then Saturnia, "the Golden Age;" Jovea, Mercuria, and Venusia, "the Early Bronze, Middle Bronze, and Late Bronze Ages," and Martia "the Iron Age," and perhaps Solaria, "the Machine Age," going back, perhaps, to the first clocks and mining equipment of the European middle ages. The god names are too romantic and animistic. As for the general term "revolutionary primevalogy." well, no one will buy that. "Quantavolution" sounds a little better. I think that you are stuck with "catastrophism" even though you say that the great disasters gave us all our "goods" as well as "bads" and made us what we are.

Of course, it all starts with your Solaria Binaria electrical system. What can I say about that? The scenario you provide is simply unbelievable within the narrow time span that you have set for yourself. You say that the "straw that broke the camel's back" came about 14,000 years ago and the electrical current pulsing between Sun and Super-Uranus diminished so much that the latter big body began to fission and the small planets and magnetic tube began to spiral in towards the central axis or arc of fire. Why should it happen so fast considering that it was running for -- what? -- a billion or 5 billion years before?

As for Juergens' theory that the Sun is a dispatcher of charge obtained from galactic sources, you must know that he and you are about the only people who believe it (I hadn't ever heard of it before you used it). Here, as in so many places in the book, I felt that you were asking for more than any reader could give, that is, acceptance, or at least consideration, of a general theory that was quite unacceptable to prevailing science in every single chapter. You should perhaps concentrate on just one chapter and do a whole book on it alone.

This is how I feel about the Moon chapter, too. The topic is large and your theory about it far too big for the few pages given it. Again you are proceeding with clues that are ambiguous and faint. I cannot say that they are erroneous. It is simply that I expect, when more data comes in, that the Moon's material will

prove to be distinctly different from all possible Earth material: I expect, too, that you'll just have too much of a problem explaining away the continental-type rock found in several places in the Pacific Basin where the Moon would have erupted from.

Frankly I find it hard to imagine so much of the crust skimming into space. I won't demand calculations at this point; I know that George Darwin and others have claimed such a Moon eruption, but not so impossibly recent. The calculations of the force required to pull away the crust, the amount of interrupted Earth rotation, and the paths of the Intruder and the pursuing crustal matter would be anyone's guess; you'd probably be able to ward off attacks on these accounts. But the heat and gases released would annihilate the atmosphere (your dodge here of the Earth's atmosphere being part of the great binary tube atmosphere is just too neat).

Aren't you just like Höerbiger-Bellamy, whom you criticize for having fetched earth satellites out of thin air and then put them through all the gyrations and crashes necessary to account for all of the peculiarities of earth history and morphology? You move the planets at will in a shorter period than these men do. The "gods" fly hither and yon at your bidding. Of course you can then explain all that is asked about nature and mankind.

Even if, as seems possible, several catastrophes caused by external encounters have devastated the globe, it is more likely that one or more comets, coursing thru the solar system, have inflicted the damage and terrorized the human mind, than it is that the planets, each in turn, have done this work. This theory would allow you to keep the planets in their present location into the indeterminate long past. It would let you give up your attempt to destroy what is generally considered to be the necessary long-term dating and evolutionary process. Further, all the religious practices and beliefs associated with planets (accepting your evidence of this as sufficient) would naturally result from their being the regularly observed bodies that are most similar to comets. And, further, comets, upon passing thru the solar system, would affect and "inflame" observably planets other then Earth and would appear also to come from the planets.

The increasing evidence of the possibility of our Sun to create catastrophe -- some of which you bring out in your last chapter -- leads me to think that all of your quantavolutions could have been caused by the Sun in one or another of its aberrances. I realize that you have bricked up the door to the sunlight by showing the sun to be a weak god and the planets as great gods. Still, my position is that time is long and these disasters far away in time; therefore, it is impossible to consider these human memories as authentic. Probably the planets stand for some small special phenomena of recent years. Then the sun could carry the burden of the very great primeval disasters of millions and billions of years ago.

Your general theory of a recent Solaria Binaria and of planetary deviations, can be rendered useless, not to say wrong, if the ancients had simply observed that the planets are moving stars, not fixed stars, that when the comet was also unfixed and wandering, and that when the comet approached from the region of a planet, it became automatically a herald emissary, representative of that planet and the planet would then be given various names and traits characteristic of the cometary behavior and its effects upon Earth.

Admittedly it is difficult to explain the origins of gods. But I would rather believe that if Uranus were the first god everywhere, it was because some fascinating phenomena in the skies made him an appealing idea and the idea had other uses, as e.g. a father substitute, and was spread by traders, warriors and other ways of cultural diffusion. I think that man had enough fears within him to use the suggestion of a god fearfully without the "god" in reality behaving catastrophically.

Here and in many other places you could have "settled for half a loaf;" man can work himself into a froth with very little help from celestial rage-makers; just watch a poor farmer shake his fist at the sky when there has been no rain!

Again on the matter of accepting "half a loaf," most scientists might today accept your description of the universe, the skies and even the solar system as more unsettled, explosive, threatening and damaging than is generally believed. But why go to extremes? There could have been solar disturbances so extensive as to cause Venus to behave strangely -- as if alive --

at one time, perhaps even light up if its rotation were slowed down. Jupiter might have exploded some brilliant gases under solar influence, too. It's quite believable from your evidence, also, that the Earth may have suffered a disaster from a comet tail on some occasion, and from a large meteoroid falling in the area of the Near East on another occasion.

You should stop at that; it is too early yet for the quantavolutionary model. Be content with bringing out the anomalies and the incidents, in all fields of knowledge, and let the pattern, if there is such, emerge with time and study. Look at Vitaliano's book, for example. She explains various cases of disaster one by one as a result, finds nothing remotely resembling a Deluge, world fire, instant cleavage of the Earth, or any of that.

How do you know what to select as truth and what to disregard as fantasy or social lies? If all of mythology including all ancient religious documents amount to, say, a hundred thousand pages, whereas your selections come to a few thousand lines, I cannot believe such selectivity is possibly valid; no matter that you are personally skilled, you just do not have any reliable method to work with. I am sure that your sampling is biased. There are no good rules for analyzing myth. Your approach is psychiatric, I would say, but with this great difference, that you go beyond Freud and Jung and the others in assigning a reality to the final objects inspiring myths and legends. I took down a copy of Robert Graves' *Greek Myths* from my shelf and find nowhere in its mass of confusing details even a hint of the kind of reconstruction you have made of Greek myth.

You do more to establish the early cloud canopy of Urania by myth than you do by hydroengineering. Canopy theory is far more complex. Practically any way you handle it, you will have immense bodies of water falling upon Earth with a destructive heat of impact. In effect it would be a gigantic meteoroid shower or at least the physically oppressive effects of an endlessly descending vapor cloud.

You regard Aphrodite as representing the Moon, at least in her earlier phase. You can see here how tricky is the game of associating gods with celestial bodies, because you quote Plato to the effect that the planet Venus is to be called Aphrodite.

Even I know that the love affair of Aphrodite and Ares is always translated as the love affair of Venus and Mars. Why do you feel that you must have Aphrodite as the Moon? Anyhow -- I don't see how it would affect your case one way or the other to give in to the general opinion, although you would have to surrender your astonishing interpretation of the *Iliad* as describing a war of the followers of Venus to recapture the Moon from her abductor, Mars.

You don't agree fully with any catastrophist, not even Velikovsky, and yet don't explain why. Perhaps it's simply a problem of limited pages. But there are some tricky cases. In all the gymnastics that you have the Earth perform, you don't have it reversing its rotation or turning upside down. Yet you must know that Velikovsky and others have quoted Herodotus quoting Egyptian priests that "the Sun, it rose in the West," and they have displayed the Senmut ceiling of late Empire days which shows the sky upside down. Now why shouldn't you accept this remarkable evidence? Why don't you discuss it? Velikovsky gives many additional examples and details in chapter five of *Worlds in Collision*. It is a crucial case for catastrophism.

In chapter after chapter you attempt to show that new gods follow old ones because new or different heavenly bodies dominate the skies. You also grant that no great new body has disturbed the skies since Mars did so in 687 B.C. Nevertheless, we have had new gods and new religions since then; Jesus. Mahomet, maybe even Buddha, and an infinite number of minor gods have arisen here and there in the world.

Furthermore you attribute the destruction of civilization to catastrophes, but the Roman the Mexican, the Inca, the Byzantine, the American, the Tibetan, and the East European capitalist civilizations have been destroyed in the Age of Solaria. It is man who changes gods and civilization, without the need for help from the skies. Nor do I believe that ancient, terror-driven catastrophized man is any better at slaughtering his kind and ruining the environment than twentieth century, westernized man.

Another effect of your revolutionary model is to my way of thought undesirable. I don't wish to censor you on grounds that by destroying the stability of the skies you will destroy the

stability of the social order. That point of view in no longer respectable, although Plato and many others, and even unconsciously, many present-day scientists would feel so, although they would not express the feeling.

But certainly your model will reduce the close relation between mathematics and celestial mechanics to a shadow exercise. I don't regard it as an accident that Laplace's theory of tides is still taught, even when it will not predict tides. Or that Newton's mechanics govern physics and astronomy. The variables and hypotheticals of your natural history are so many that even the virtuosity of such astrophysicists as Bass and others whom you cite will be strained to beyond the breaking point. We shall be left with a suppositious sequence of events.

Scientists generally believe that the progress of a science moves in step with its mathematical formulation. In the sense of this belief, you are setting the sciences back hundreds of years by taking away the empirical foundation of their mathematics. Maybe this all can be recouped; if not, natural history will become a toy for everybody's amusement.

It should not be difficult to demonstrate that your model will not work. Quantavolution, at least as you have stated it, is forthright in its challenges. These can be directly met and overcome. First we shall, in some part of the globe, discover a non-quantavolutionary geological column, that is, a pillar of earth and air that has not undergone catastrophic change in the past. Then we shall discover a human settlement older than 687 B.C. that has not suffered natural disaster in its history. We should also be able to produce fairly soon at least one test of time that can tell time for at least 30,000 years without being based upon uniformitarian premises. Also, some ethnologists or linguists or mythologists should be able to prove that none of your gods are clearly defined and therefore we do not really know whether they have had 'careers' such as you have given them.

Certainly, nobody who reads this book should become a quantavolutionist in consequence. There are too many unanswered questions in it, even if one were to accept its general theory (which I do not do). It would require a much larger volume, prolonged public discussion, and many new special

studies before one could take the unlikely step of siding with its views.

As a model of contrariness, the book may have value. I can see many a sullen student in introductory science and history courses discovering an anti-establishment enthusiasm -- which is a step forward in learning. I can also picture some instructors in the sciences and humanities using it as an imperialistic weapon to expand their subject-matter. The work is too technical for the general public, I would guess, which is just as well.

I fear that I must use a trick to conclude my comments. That is to leave you with the innuendo that additional counterarguments exist that I have not put forward. If I had more time I would take up point by point the questionable assertions in each chapter. I am confident that for every one of them, “uniformitarianism” or “evolutionism”, or whatever you wish to call the prevailing model of thought to which I belong, will have an alternative explanation that does as well or better. But it’s your book and welcome to it.

Sincerely yours,
Joseph Grace
Professor

CHAPTER TWELVE

VICTORY OF THE SUN

Albert Einstein once remarked. “What is inconceivable about the Universe is that it should be at all conceivable.” We have spoken of things beyond immediate belief. They seem to be miracles. But miracles are everywhere, in a true sense. Before it happens, your next sight -- whatever you next see when you lift your eyes -- is a miracle. Its every detail could never have been predicted.

Still, surprisingly, after you see it, a full report can demonstrate that the view was no miracle: it was ordinary. That is why old ladies and little boys may enjoy sitting by their windows: every few moments will bring a miracle; afterwards, every miracle can be told. If it were a miracle, it couldn’t be told.

So we say that miracles never happen; yet they happen all the time, As Bertrand Russell said, the next license plate number that you see is a miracle. The probability that you would have observed this very number is one in millions.

You may rest assured then: we are asking you to believe in miracles even as we ask you to disbelieve in them. What we say may have happened, is not at all a miracle if it did happen. And whether it happened is to be judged by evidence -- miracle or no miracle.

Cosmogony changes. Unfamiliar models become intelligible. It is anachronistic for a scientist to deny the ancient occurrence of cosmic catastrophes and biological revolutions, to accept geological and radiological chronometry as unquestionably valid, to believe that the succession of historical gods is without historical meaning, and to deny human beings any role as witnesses of epochal happenings in the history of the Earth.

Charts are drawn today that show peaks of sunspots occurring when Jupiter and Saturn are in position to exercise their maximal

tidal draw upon the Sun. We can wonder whether this is but a feeble grasping to reestablish the great electrical are that once shot out from the Sun to its binary partner [1].

It is conceivable and defensible that the suns were two, that Earth and the planets have changed their motions radically, that the atmosphere of Earth is but a ghost of an enormous electromagnetic gas tube, and that the Moon was torn from the crust of the Earth in recent memory.

The high energy forces that play upon the world collapse the time-scales of natural history and simultaneously withdraw the intellectual need for long draughts of time to explain the world. High energy forces make out of natural history a set of exponential curves resembling very old human theories that universal history runs in cycles. The set of curves represent, of course, the approach, climax and recession of revolutionizing events.

It is possible that, chained together through time, the curves exhibit a spiralling or helical history; that is, natural history may have a direction, rather than simply repeating itself. By direction is meant that the periods of the history, besides their obvious unique and eccentric qualities, may be stages of a process with an end. What is left now, as an inheritance, of a cosmic system, of the air, of the land, and of mind, may be all that we shall have to work with for a long time to come.

Humankind has not tested its inheritance fully, yet. It does not know yet what it is capable of becoming. So we are learning to dance upon the hot coals of history, daring that the coals will not flare up before the dance is learned.

SUN AND SCIENCE

In the creation period of human nature, the dominant role of the Sun was largely unrealized by mankind. Over half the period was completed before the Sun was fully visible. All of the great gods were of the Super-Uranus complex. The regularity of the Sun once it appeared in the skies, worked against its becoming a great god.

After the major physical changes had been wrought in the skies, when the visible planets moved reliably on remote cycles, and when others that had been gods had disappeared from sight, the Sun came to be a symbol of eternal security and was credited with the more stable and beneficent traits of the gods. “Old Sol” called up the affection of “Santa Claus.”

Then, from time to time, out of the welter of submerged memories and habits of mind, a penchant for mundane explanation emerged. By the year 600 B.C. (2600 B.P.), secular and scientific cosmogonies were appearing, certainly in the natural philosophy of the Greeks, probably in Asia Minor as well.

Not until another thousand years had passed, however, did any movement on a culture-wide scale offer to smooth out the cycles of ancient history, center a science as well as the fate of the Earth upon the Sun, and proceed to disentangle the knotted forms of the human mind and social practices. This has been the modern science of Solaria.

Plutarch, in full Roman imperial days, was writing on “Why the Oracles Cease to Give Answers.”[2] At about A.D. 400 we may commence Solaria. As Velikovsky writes, “With Macrobius in the fourth Christian century, there begins a tendency to see in many gods of Egyptian and Greek antiquity the personification of the sun. Macrobius compared Osiris to the sun and Isis to the moon, disregarding the opinion of earlier authors. He also interpreted Jupiter as the sun.” More generally, “not only Ra, Amon, Marduk, Phaeton, and even Zeus, but also king-heroes, like Oedipus, became solar symbols.”[3] Many more ancients were translated erroneously into sun-gods (Pharaohs, for example) or solar symbols (Odysseus, for instance). Apollo was especially favored as the sun because he had no ready planetary position and yet was a bright, shining god.

“Collective amnesia” about the old planetary gods was almost total [4]. In fact the Earth and skies had been settling down for centuries. “In those last days of classical paganism,” writes Jaquetta Hawkes, “the Sun God shone like a pharos for ships at sea, guiding them on their way or lighting them into a harbor where all conflicting ideas could anchor together in a kind of harmony and mental agreement.” The West had become

monotheistic in the sense of Solarianism before it was converted to Christ.

The mentality and behavior that was possible and promised by the Age of Solaria did not replace more than a fraction of the human nature created by 12,500 years of intermittent chaos and disaster, Indeed, the world view of Solaria cannot hope, even if granted an ultimate full success, to master the facts and fate of the Cosmos. The human experience of catastrophes is too long to be exorcized by sunbeams.

FOREBODINGS

The Sun itself is not as constant as one had been led to believe. The recent discoveries of the role that sunspots play in the Earth's weather, climate, and, possibly, its seismic movements, have been capped by the discovery that the Sun is at the least capable of withholding sunspots for most of a century.

John A. Eddy, an astronomer from the National Center for Atmospheric Research's High Altitude Observatory, upon reporting about the historical facts of the Sun's quiescence, remarked, "we've shattered the principle of uniformitarianism for the Sun."[5] Afterwards, George B. Field, Director of the Center for Astrophysics at the Smithsonian Astrophysical Observatory and the Harvard College Observatory commented to the audience, "Maybe we've heard a turning point in the history of science."

The period of quiescence, called the "Maunder Minimum," was discovered from a search of records by E. W. Maunder, an English 19th century astronomer. The Sun was not exhibiting sunspots between A.D. 1645 and 1715; the sun's corona shrank greatly. Europe suffered extreme cold and famine. The Thames froze over several times [6]. Perhaps the Earth accelerated; a debate is occurring on the thesis that the Earth decelerates in response to great sun flares [7].

Already, carbon 14 and bristlecone pine variations during this period have been verified. Moreover, three studies promptly appeared, based on notes of astronomers in the period 1611 to 1644. They concluded that there had been a dramatic acceleration of the Sun's rotation in these years leading up to the

period of sunspot minimum [8]. The speed-up was particularly marked in the regions within some 15° of the Solar Equator.

> "Until recently the character of solar differential rotation has been assumed to be constant. But in the period 1642 to 1644, "the equatorial velocity of the sun was faster by 3 to 5 per cent and the differential rotation [between the equator and high latitudes] was enhanced by a factor of 3."[9]

The variability of the Sun's various behaviors must now be taken for granted. A few years ago Carl Sagan and Andrew T. Young in studying a group of solar-type stars in the cluster of Praesepe, at about equal distances from our Sun, found that the individual stars were not uniformly bright. Their varied light would indicate periodicity, inconstancy, and fit the new evidence from the now-known history of our Sun. In the case of our Sun, further, another low sunspot period was discovered and a high sunspot period, in the same past one thousand years.

In 1978, two prominent astronomers in England, Fred Hoyle and Wickramasinghe, accused scientific research authorities of discriminating against their work in exobiology, which had postulated that plagues and diseases are derived from the debris of space, particularly the biophile environment of comet tails. There, germs are nurtured, and fall upon Earth with the dust and debris from time to time [10].

It is noteworthy, in this connection, that popular traditions around the world associate comets with sundry grave human disorders -- pestilence and war among them. In *A Journal of the Plague Year* of 1665, Daniel Defoe reported that "a blazing star or comet appeared for several months before the Plague." The renowned Bayeux tapestry (see Figure 3) presents a scene of despair in England and the premonition of King Harold that his realm will be invaded and be overthrown by the Normans in 1066. Above the scene hangs the comet, Halley's comet to the best of our knowledge.

The last six sunspot peaks have coincided with flu epidemics.[11] Birgham, a century ago, reported the discovery of organic remains in fallen meteoroids; actually Hahn and Weinland, German scientists who did the research, claimed the presence of sponges, corals, and crinoids in the stone [12].

About the same time, the American politician and writer, Ignatius Donnelly, guessed that such widely dispersed events as the great Chicago fire, the Pestigo Forest fire, and the immense volcanic explosion of Krakatoa may have been caused by an encounter with the tail of Biela's comet [13].

I hardly need speak of the occasional comets and meteors whose impact alone, should they strike Earth, can cause local devastation with worldwide effect. On August 10,1972, a meteor of perhaps 4000 tons and forty feet across, skipped through the atmosphere of the Mountain Sates of America and was by chance closely observed. Luigi Jacchia, an astrophysicist, who glimpsed by accident the passage, afterwards estimated its explosive force at four Hiroshima-type bombs [14]. The Tunguska explosion of 1908, in a remote area of Siberia, belongs to this category, and its effects were described earlier; reindeer became scabrous; unusual radioactivity is present still; the foreign matter is microscopic if it exists at all; some 80,000,000 trees were blown down; and some mutagenesis seems to have occurred [15]. The blast might have destroyed any city on Earth.

Jupiter is restless, too. Its Red Spot, a baleful eye of huge dimensions, was first reported by Cassini three centuries ago, in 1666 [16]. Its behavior has little changed. The Red Spot, by a satisfactory theory, that of R. Hide, is deemed to be a stagnant atmospheric column hovering over a very large, topographical feature of the planet's solid mantle. Some students have guessed it might be the place from which cometary Venus was wrenched some thousands of years ago.

The question suggests itself : if one Red Spot, why not more? Is Jupiter capable of further fissioning? Momentary decelerations have been noted. Vsekhsviatskii claims Jupiter as a source of comets [17]. Others see Jupiter, when in near conjunction with other bodies and Earth, as forming a mechanism that can trigger disastrous earthquakes in California and elsewhere [18]. In 1944, Bruce, unaware of the great heat of Jupiter, which was then considered a "cold body," mentioned that "Kothari and Anluck have recently concluded that the largest possible cold body will have a size comparable to that of Jupiter." The implication here is that Jupiter should perhaps have been hot, a binary star, and in fact, as we have seen, it is hot, and it probably

was a binary. But there is a further implication. If Jupiter is cooling, as it must be, then at some point, on some day, it must also become too cold to hold together. Then it will fission, or nova.

The unmanned spaceship Voyager I crossed the bow of the magnetosphere of Jupiter at a distance of 3.8 million miles (6 million Km). Photographic close-ups gave new evidence of the immense turbulence of the shut-down binary. The satellites of Jupiter were shown to be variously formed. Io, among them, might be extremely young or continuously melted, for it was seen to be relatively unblemished. Also discovered in early 1979 was a band of charged particles, glowing in ultraviolet radiation, which circled the equatorial region of Jupiter, perhaps akin to the rings of Saturn [19]. The explosion of such an outwardly poised mass into interplanetary space would not be a difficult job for the restless giant. The consequent radiation storm on Earth might be terribly effective.

All in all, two thousand years into the Solarian Age, and despite all the attempts during that time by philosophers, theologians, and scientists to discover an eternal orderliness in the skies, it is not given to us to believe that the heavens have settled down forever. In a strictly logical sense, we must however agree with the founder of uniformitarian thought, James Hutton, he who influenced Lyell and thus Charles Darwin. Writing in 1795, he declared:

“In examining things present we have data from which to reason with regard to what has been; and from what has actually been, we have data for concluding with regard to that which is to happen hereafter.”[20]

In their simple and elegant abstraction, his words are no more than both quantavolutionist and evolutionist require. For in newly “examining things present we have data” of particles and waves, turbulent heavens, mobile rocks and ocean basins, and electromagnetic-gravitational forces pervading all things. We must freshly “reason with regard to what has been.” Thereupon “we have data for concluding with regard to that which is to happen hereafter,” although it be far less data than we recently believed that we possessed, far more bewildering data, and far too little data for painting serenely a picture of the hereafter.

THE PROPENSITY TO SURVIVE

Like all the world, mankind, creature of the heavens, has not settled down. What he has learned of controlling himself has been compensated for by what he has learned of destruction. It is deeply feared that a volley of nuclear missiles will destroy the human race.

For those who are detached observers of the cosmic scene, quantavolutionary history offers a half-promise: nuclear bombs probably cannot exterminate this hardy species. In ancient times, universal deluges have driven people to the heights to survive. Sheets of fire have not reached survivors in their miles-deep caves. Tides have swept over mountains but passed over caves on the opposite slopes. The fall-out of deadly radiation had missed deep pockets of still air; also, there are humans suspected of possessing a partial immunity to radiation.

The burn-up of atmospheric oxygen has not consumed the exhalations of all crevices nor suffocated all swamps. The human race rafted upon the continents to new habitats, and rode the folding and thrusting rocks. Some of us were somewhere else, too, when half the crust of the Earth exploded into space.

The trump card that the human race has always played against catastrophic forces is its exponential reproducibility. This it still possesses. One may be a staunch supporter of the control of population -- believing with reason that overpopulation is itself a kind of catastrophe -- and, too, one may dread, with all reason again, a nuclear war. It is nevertheless of some consolation to consider that the reproducibility of the species amounts to an ultimate mechanism of escape from extinction in chaos and war.

A woman of fifteen can reproduce. Thereupon, the arithmetic of survival is simple : a surviving couple can generate a population of billions in a thousand years, under conservative theoretical assumptions. So effective is this challenge of life to the principle of entropy that one must credit somewhere in the dim past an evolutionary saltation that was based upon the presumption of catastrophes.

Furthermore, the individual human being is capable, *in extremis*, of excelling a giant programmed computer in its sensing for the possibilities of survival and can exploit any promising niche in the new world. Then and there, the human survivor will re-invent the words of Yahweh:[21]

> Here I am creating new heavens and a new earth; and the former things will not be called to mind, neither will they come up into the heart.

Notes (Chapter Twelve: Victory of The Sun)

1. Alter (1929) A2-191.

2. IV 56.

3. (1950) 301.

4. *Ibid*., 298-300; A. de Grazia (1978).

5. John A. Eddy, quoted in Frazier (1976). See Eddy (1976) (1977) *et al* (1977).

6. Mulcaster (1977).

7. 104 *Science News* (1973), 136.

8. Herr (1978).

9. 824.

10. *Times* (1978).

11. Hope-Simpson (1978).

12. Birgham (1881); *cf*. Ransom (1976) 114-5. Given the conditions of Solaria Binaria with its enduring magnetic tube and huge atmosphere, life must be presumed to have existed on other planets, such as “Apollo” and Mars.

13. (1883) 408-23.

14. *New York Times*, July 4, 1974, p.8.

15. Rich (1978).

16. Chapman (1968).

17. (1967).

18. Gribbin and Plagemann (1974).

19. *New York Times*, March 1, 1979, B20.

20. (1795) 19.

21. Isaiah 65:17.

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