

**CHAOS AND CREATION**  
**AN INTRODUCTION TO**  
**QUANTAVOLUTION**  
**IN HUMAN AND NATURAL HISTORY**

by  
**ALFRED DE GRAZIA**

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*To Ami Hueber*

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*I cannot without great wonder, nay more, disbelief, hear it being attributed to natural bodies as a great honour and perfection that they are impassable, immutable, inalterable, etc.: as, conversely, I hear it esteemed a great imperfection to be alterable, generable, mutable etc. It is my opinion that the Earth is very noble and admirable by reason of the many and different alterations, mutations, generations, etc., which incessantly occur in it...I say the same concerning the Moon, Jupiter and all the other globes of the Universe.... These men who so extol incorruptibility, inalterability, etc., speak thus, I believe, out of the great desire they have to live long and for fear of death....*

GALILEO GALILEI

*Dialogue on the Great World Systems*

*The real actors on the stage of the universe are very few if their adventures are many. The most "ancient treasure" -in Aristotle's words-that was left to us by our predecessors of the High and Far-Off Times was the idea that the gods are really stars, and that there are no others. The forces reside in the starry heavens, and all the stories, characters and adventures narrated by mythology concentrate on the active powers among the stars, who are planets. A prodigious assignment it may seem for those planets to account for all those stories and also to run the affairs of the whole universe.*

GIORGIO DI SANTILLANA HERTHA  
VON DECHEND

*Hamlet's Mill*

## FOREWORD

The scientific community of today is in part a community of myth and ideology. This has always been, and most likely, must always be. Every body of ideas and practices must gather upon a raft in order to float upon the ocean of “absolute reality.” When a raft is leaking, construction must begin on a new one. At that moment new designs can be introduced.

This book is designed to show that a typical scientist may hold untenable positions on five major issues: the ordering of the solar system; the genesis of God; the fashioning of the surface of the earth; the evolution of mankind; and the origins of culture. The chapters that are to come assert that all of these processes may have occurred in a short interval of time in association with a set of natural catastrophes. The world has changed by great abrupt movements. with far-ranging effects. This story, and the theory used to organize it, are here called “quantavolution” and “revolutionary primevalogy.” They contrast with “evolutionary primevalogy.”

In terms of scientific method, quantavolution is a model or image of what might have happened in natural and human history. As such, it is one way of approaching truth in cosmogony-those remote causes of our real world. It offers a truth that may do better than the next best truth, or it may serve until a better truth is offered, helping to orient other searchers, even to assist in its own replacement.

Our so-called “Age of Science” is a patchwork of different mentalities. Most people around the world would dispute the beliefs of science on the above five issues, but do not practice a scientific method. Most scientists of the age share fundamental beliefs on these issues, but too often they do not practice their scientific method with regard to them; they simply carry on at their special tasks. I subscribe to the methods of science, but yet am putting forward a challenge to the beliefs. This sets me among a small minority of scholars, but permits me to draw support from the traditions of a great many people, the

specialized studies of many scientists, and the sympathetic efforts of a certain few.

Many scientists pay close attention on their leading men who are building upon “realities,” but ignore their philosophers of scientific method, who warn them not to arrogate “The Truth” to themselves. When their raft begins to leak, then, they must tolerate the effects of presumption: mistrust, disbelief, and annoying criticism. And they may not solve some problems that they have set their hearts upon solving.

ALFRED DE GRAZIA

*London*

*May 1, 1980*

## *INTRODUCTION*

### **QUANTAVOLUTION VS. EVOLUTION**

Some millions of persons have lately begun to read about ancient catastrophes. In this, they have been recapturing a habit of their ancestors who had been schooled, whatever their religion, to believe that once upon a time, in the beginning of mankind, terrible disasters of earth, air, fire and water engulfed the world.

As so often happens, what interests the public coincides with what interests scientists. Impelled by an intuition that is common to both the multitude of persons and the body of scholars, the human mind today is moving into an area “where the action is”. For perhaps no more exciting and important a set of problems is to be found anywhere in the realms of science and scholarship.

Every discipline is implicated in the theory of ancient catastrophes - psychology, sociology, linguistics, archaeology, biology, physics, chemistry, astronomy, and geology, together with their many subdivisions down to special and new sciences, such as plasma physics, dendrochronology, and mega-vitamin therapy [1]. It has something to say about “the Jupiter Effect,” “the Ion Effect,” and “the Bermuda Triangle,” not to mention “Ancient Astronauts,” and the hominids of Olduvai Gorge. Every bite of the archaeologist’s spade, every oceanographer’s deep coring of the sea bottom, every penetration of outer spaces seems capable of attracting the attention of the catastrophist - that is, the potential quantavolutionist of natural history and human origins.

#### *THE UNIFORMITARIAN RESISTANCE*

The history of science took a sharp turn around 150 years ago [2]. Before then it was assumed that life on earth had originated recently and was wracked by natural disasters. Although this

was believed largely on the “say-so” of ancient theologians and scientists, fresh evidence was being unearthed by famous scientists such as Georges Cuvier and William Buckland.(Figure 1 gives the names and main positions of some prominent catastrophists.)

Cuvier, who is sometimes called “the father of paleontology,” divided the history of the world into four epochs, each with its own animals, each ended by great flood. In only the last of these ages, the present epoch, were men and living mammals present, stated Cuvier [3]. He was here mistaken; hardly had he laid down his pen, when human remains were found alongside the bones of extinct mammoths.

By contrast, the upcoming scientists of the last century argued that the world’s history was long and evolutionary. On their side were those who were to become the treasured ancestors of science today - Charles Lyell (1795-1875) in geology, Charles Darwin (1809-1882) in biology, Pierre-Simon Laplace (1749-1827) in astronomy, and Lewis H. Morgan (1818-1881) as well as the versatile communist, Friedrich Engels (1820-1895), in sociology and anthropology.

The new group came to dominate scientific circles and scientific thought. The catastrophists disappeared from the scientific mind save as an old enemy. The victors advanced the principle of uniformitarianism. Their minions scorned the catastrophists.

In the words of Charles Lyell, “the ancient changes of the animate and inanimate world, of which we find memorials in the Earth’s crust, may be similar both in kind and degree to those which are now in progress.”[4] Given time, the forces of nature that we experience today would have caused everything in life and nature that greets our senses. The tallest mountains and the most bizarre fish would have come about gradually, over a long time and by small increments of change.

Indeed, asserted the uniformitarians, the short span of time demanded by the catastrophists was absurdly incapable of bringing forth the great variety of nature; a reader will sometimes encounter, as a ludicrous target, the date proposed by

Archbishop James Ussher (1581-1656), which set the creation of the world by God at 9 a.m. on October 26, 4004 B.C.

Figure 1

**PROMINENT CATASTROPHISTS  
(QUANTAVOLUTIONISTS)  
SINCE THE BEGINNINGS OF MODERN SCIENCE\***

	Signifi- cant publi- cation date	Requires divine action	Short-term for recon- structed earth	Intrusion of extra- terrestrial forces	Mankind was catastro- phized
Giordano Bruno	1584			x	x
William Whiston	1719	x	x	x	x
Giambattista Vico	1730		x	x	x
Nich.-Ant. Boulanger	1766		x	x	x
Giov. R. Carli-Rubbi	1780		x	x	x
Georges Cuvier	1826		x		
William Buckland	1824	x	x		
Ignatius Donnelly	1883		x	x	
Isaac Vail	1905		x	x	
Hans Hoerbiger	1913		x	x	
George McCr. Price	1926	x	x		
W. Comyns Beaumont	1932		x	x	
Howard B. Baker	1932		x	x	
Hans Bellamy	1936		x	x	
Claude Schaeffer	1948				
Immanuel Velikovsky	1950		x	x	x
A. Kelly & F. Dachille	1953		x	x	
Hugh A. Brown	1967		x		
Melvin Cook	1966	x	x		
Donald Patten	1966		x	x	
Charles Hapgood	1970		x		

\* The list excludes the work of lesser-known and mostly younger quantavolutionists. I. Velikovsky, Ralph Juergens, Livio Stecchini, Gilbert Davidowitz, and Zvi Rix have recently died, leaving many unpublished manuscripts. A few of the scholars who are currently active are Robert Bass, John Bimson, Dwardu Cardona, William Corliss, Eric Crew, Frank Dachille, Eva Danelius, Ragnar Forshufvud, Brendan O'Gheoghan, Stephen

Gould, Lewis Greenberg, George Grinnell. Peter James, Julian Jaynes, Frederic Jueneman. Allan Kelly, Alexander Kondratov, Malcolm Lowery, Christoph Marx. Earl Milton, Brian Moore, William Mullen, G. van Oosterhout, Alan Parry, C. J. Ransom, M. G. Reade, Lynn Rose, Eddie Schorr, Martin Sieff, Warner Sizemore, David Talbott, S. K. Vsekhsvyatskii, Robert Wescott, Irving Wolfe, and Jerry Ziegler; *j'en passe et des meilleurs*. Also the *Creation Research Quarterly* group (Ann Arbor, Mich.); the group of the Society for the Study of Interdisciplinary issues (England); the *Kronos* group (Glassboro College, N.J.); the Lethbridge University, Canada, group (E. R. Milton). and the *Catasirophist Geology* group (Rio de Janeiro, H. Kloostermann). Nor does the table include the "Ancient Astronaut" school (Robert Temple, Erich von Däneken) or "life on other planets" students (Carl Sagan), or contemporary "flying saucer" discussants, or "biblical literalists." Furthermore, the list does not include many scientists. such as C. E. R. Bruce, D. Ager, H. Urey, J. Lamar Worzel., or C. Emiliani, who use catastrophe to explain important episodes of natural history. It may be of interest to place C. Lyell, C. Darwin, S. Freud, A. Wegener, and A. Einstein in the chart: all would vote "No" on all questions. Yet interesting passages and events in the lives of all of them have to do with catastrophic episodes and anomalies.

---

Actually, when pressed on the matter today, a uniformitarian will say that he is pursuing a method, not assuming an absolute reality [5]. He is saying: I can explain almost everything I see very well by assuming at the start that, whether a mountain or man, it came about gradually, in increments, point by point. That is, he uses a *uniformitarian model* to frame what he discovers.

### *QUANTAVOLUTION BY CATASTROPHE*

By the same token, in this book, I advance a catastrophic model. It, too, is a method. By using the idea that great forces can cause great changes in a short time, I am enabled to achieve a fairly consistent and defensible reconstruction of natural history and human history.

I use new terms in referring to this point of view. I call it "quantavolution", for in contrast to evolution, it considers "quanta-jumps" to be the main feature of change (volution). "Primeval quantavolution," then, would be the saltatory evolutionary science characterizing the first ages (primeval) of nature and humanity.

From time to time, I also use the new term, "revolutionary" primevalogy, to stand for the science of catastrophe. For the theory presented and discussed is much more powerful in its range and effects than is conveyed by the idea of a great flood or fire. "Revolutionary" stands in contrast to "evolutionary" and "uniformitarian"; these last words imply small changes occurring over vast periods of time under conditions that have not basically altered over a billion years and more. By contrast, "revolutionary" means intense, abrupt, large-scale change (the same meaning as it has in politics). "A comet produced the last revolution of our globe," wrote G. R. Carli, an early scientific catastrophist, in his *American Letters* of 1780 [6]. And it is the meaning that Georges Cuvier had in mind when, a halfcentury afterwards, he used the phrase "revolutions of the globe" in his discussion of fossil paleontology.

Much that we admire and respect in this world, including our very being as humans, must logically be thought of as the "good" side of the catastrophes of which we speak. Humanity, art, institutions and science are products of the most ancient catastrophes. So, again, the words "quantavolution" and "revolution" may be preferable, or at least useful to remember, in connection with the wholly negative word "catastrophe".

Many quantavolutionists, unlike myself, may refuse to set down a base line of time. Some quantavolutionists may set a single clock of the ages ticking at four billion years ago, and introduce a great leap every million or hundred million years. As one of them, geologist Derek Ager, has concluded, "the history of any one part of the earth, like the life of a soldier, consists of long periods of boredom and short periods of terror." [7] Generally, the farther back a quantavolutionary sets his events, the more he is accepted by the scientific community; for the idea that

contemporary scientists can least tolerate is the idea that the world has been catastrophized recently.

Nevertheless, after years of attempting to bridge the vast chasm between a quantavolution that uses the long time-scale of astronomy and geology and that which adopts the short timescale asserted by the unanimous traditions of humankind, I decided to try to reconcile the two scales to the brief period demanded by the early human voices. Only then could the model of natural and human history be integrated.

Consequently, as this book progresses, I shall be suggesting, with some reason, that human accounts provide a baseline for the age of catastrophes at 14,000 years ago. Also, in my opinion, the nature which offers itself to view-including the solar system, earth, and biosphere-may have assumed its present form in a series of recent sudden leaps. The holocene epoch, to which I allot the 14,000 years, has witnessed a connected set of catastrophes, these can be divided into nine periods, each characterized by natural outbursts but containing tranquil passages as well. I shall soon explain this

The original source of the saltatory changes of the earth and man has been in the skies, in disorders among the heavenly bodies. The celestial disturbances wrecked and reconstituted the atmosphere, rocks, and waters of the world. All combined to reorder the plant and animal kingdoms. Finally they created and molded modern humankind. In brief, forces of extra-terrestrial origin have recently catastrophized and transformed nature and mankind. Many ways in which nature and life behave today are best understood as tailing-off effects of the catastrophes of ancient times.

### **Notes (Introduction)**

1. A. de Grazia (1975).
2. Gillispie (1951).
3. Cuvier (1831).
4. Lyell (1831-4), quoted by Albritton (1974) 857.
5. *Ibid.*, 859.
6. Carli (1780) 329.

7. Ager (1973) 100.

## CHAPTER ONE

### COSMIC INSTABILITY

The once preposterous idea is now a commonplace: worlds have collided. Even the naive image of colliding worlds—two huge globes smashing, into one another—is realized. The very event may be observed daily in the great telescopes of science. Furthermore, galaxies composed of millions of stars are in collision. Any unfortunate beings dwelling in those regions of the universe would not consider the word "collision" to be an exaggeration.

The "discovery of the existence, almost omnipresence of a high-energy, explosive universe" is accredited to the 1960's by the Astronomy Survey Committee of the National Academy of Sciences. "The previously well-organized universe ... exploded into a bewildering universe of new types of objects, large and small, with exotic new names and marvelous new natures." [1]

Some thousands of planetesimals of varied shapes and sizes, and much plain dust, orbit between planet Mars and planet Jupiter. These nameless fragments and bits were once part of a planet-, it is scientifically respectable now to think so. Ovenden estimated the mass of the planet to have been ninety times that of the Earth [2]. This implies logically the belief that within our family of planets, a monstrous direct collision once occurred. Ovenden assigns the, explosion to an encounter with a hypothetical intruder passing through the solar system.

Even before Ovenden, scientists such as Kuiper, Bobrovnikoff, Whipple, and Tombaugh lent their authority, too, to the idea that comets and planets collided in the asteroid belt. Whipple went so far as to talk of collisions in that area only 4200 and -1500 years ago, in 1950, the same year in which Velikovsky published *Worlds in Collision*. But Whipple immediately became a dedicated crusader against Velikovsky [3].

### *IMPACTS ON EARTH*

It is also known that comets disappear into the sun, and that comets have hit planets. And that they will continue to strike planets, and that meteoroids, that is, fragments of unknown or eccentric paths, also strike planets, even Earth [4]. They can be, and have been, large.

At Ishim, Kazakhstan, U.S.S.R. is a meteoroid impact crater, recently demonstrated and said to be aged 350 million years. The initial impact penetrated to a depth of 12 km and amounted to 350 km in diameter. The rebound explosion and the collapsed rim enlarged the crater to a diameter of 700 km. The estimated kinetic energy of the event was ten billion times greater than that of the San Francisco earthquake of 1906, the Alaska earthquake of 1964 or the Chinese earthquake of 1976 [5]. The fall, in a different time and place, could have obliterated France or Germany. And from the explosion would have emerged a catastrophic typhoon that would have towered into outer space. It would have darkened the globe with dust, caused universal seismism, and brought worldwide floods from the concussion and from the tilting and/or rotational interruption of the Earth.

In the course of its encounters in space, the Earth has gained gases, rocks, metals and minerals, possibly even some forms of life, and mechanical motions and electrical charges. It has lost gases and rocks and life, motions and charges. It has changed greatly its surface, its atmosphere, and its life forms in the encounters. Examples of all of these occurrences will be found in the pages to follow. Many processes that still continue, such as the cutting back of Niagara Falls, the adaptation of species to desert conditions, earthquakes and volcanism, not to mention various mental processes of humans, can be interpreted as dying effects of the encounters.

Quantavolutional thought is often said to be unable to explain the fantastic amount of energy that must be present and converted in changing large-body motions [6]. After all, to account for an orbital change in distance between the Sun and the Earth requires a power which, if it were expressed as dynamite, would

be sufficient, when properly placed, to blow the Earth to smithereens.

However, such images can be unrealistic, balancing forces operate. Warlow (1978) has, exhibited a wide range of data. and mechanisms -- legends, massive faunal destructions, abrupt salinity changes, tektite falls, then spinning top experiments and mathematical calculations -- relating to reversals of the Earth's magnetic field. He argues that the Earth is easily destabilized and can even turn over repeatedly in response to external influences. If the axis of the Earth tilts when an intruder approaches, the Earth's angular moments of rotation and revolution can respond less radically to the strange forces; the total sphere responds and there is less strain on its parts. Or if the Earth's rotation is interrupted, a fracture of the Earth's crust will reduce the energy of the braking and increase the time given to it.

Every day thousands of airplanes take off and land that would disintegrate if their acceleration or deceleration were in seconds instead of minutes; the rate of slow-down is all-important in the difference between an explosion and a glide, whatever the ergcount.

The damping of the rotation of the Earth from a four-hour to a twenty-four hour cycle would require the disposal of  $1.2 \times 10^{10}$  erg/grams, or a heat equivalent to raising the temperature of the globe  $1000^\circ$ ; but obviously the time factor here is ignored and is therefore instantaneous. Half the Earth gives up some degrees of heat every night, and a slowly decelerating Earth might do the same, night and day.

There is literally all the difference in the world between an earth slowing in a day and an earth ceasing abruptly to rotate. Indeed, it is impossible for a sudden stop to occur. Even if an errant great body were to collide with the Earth, days before the explosive moment the Earth's rotation would have come to a halt, and its surface and atmosphere would be erupting in flames and lightning.

Finally, electrical adjustments are a form of energy disposal and can change a hot transaction into a cool one, and *vice versa*.

Many a meteor that would scorch the atmosphere and bum itself up, or perhaps explode in great heat, is repelled by a like charge of the upper atmosphere and skips off into outer space.

Vast stretches of astronomical and geological time are not required by the delicacy of organized matter. Only small amounts of time may be needed in which to accumulate and dissipate great heat and pressures. From a molten mass, the Earth could have acquired a hard crust in a thousand years (if radioactive internal heating is ignored) [7]. Both electricity and water increase greatly the metamorphosis of rocks and facilitate volcanic activity [8].

That the Moon and Mars and Mercury are devastated and biologically dead, that Venus is rotating backwards and burning hot, that a ghost planet which should perhaps be called “Apollo” is represented by a host of asteroids flying between Mars and Jupiter - all these give one to suspect that the Earth has also suffered, but escaped the worst.

#### *THE CLEAVAGE OF MARS A PARTICULAR CASE*

The planet Mars became a horror and great god to the people of 2700 years ago. Mesopotamians might well chant:

“Shine of horror, god Nergal, prince of battle,  
Thy face is glare, thy mouth is fire,  
Raging flame-god, god Nergal.”[9]

Nergal is god-Mars and planet-Mars. Only a god could fearlessly assault a god. And that is what Pallas Athene, goddess of the planet Venus, did to Mars-Ares-Nergal. It is the famous scene of the battle of the gods in Homer’s *Iliad* [10]. Athene, with the blessing of Zeus drove her chariot towards Ares, “the bane of mortals,” and drove her spear “mightily against his nether-most belly.” A great black cloud arose from him, he “bellowed like ten thousand warriors,” and fled into the high heavens.

Planet Mars is small compared with Venus and Earth, though larger than the Moon. It has a very thin atmosphere. In 1976, American’s spacecraft landed upon it, sensing for signs of life,

finding neither proof nor disproof, but ambiguous evidence. It is wracked by wind and storms of dust. It has changing polar caps of “dry ice”. Most of all it has been bruised and battered [11].

The most revealing feature of Mars is its Coprates canyon complex, photographed by Mariner IX (see Figure 2 with 1997 upgrade). The Coprates complex, as Alan Kelly has related, is a 7500 miles long line of volcanoes and canyon that are the “product of the same event, when some very large comet or other massive intruder from space passed too close to Mars.... This intruder literally sucked the lava from the interior of Mars to form the huge volcanoes.... As it came closer it caused a tremendous bulge, miles high, that burst open along the top and spewed out lava and great chunks of Martian crust, much of this material following the intruder into space.”[12] Two million cubic miles of lava disappeared into space within a few hours [13].



Figure 2: THE RIPPING OF THE SURFACE OF MARS. (Click on the picture to get an enlarged view. *Caution: Image files are large.*)

Kelly marks the following: the 2200 miles length of the canyon proper is more than 300 miles wide near its center and over 20,000 feet deep. The disturbed surface, however, marked by great mountain peaks such as Nix Olympica, begins before the rupture and continues far beyond it, giving a total length of 7500 miles, which is over half the equatorial circumference that it follows. Nix Olympica is over 300 miles at its base and over 15 miles high. All but one of the 20 volcano-like structures on Mars are along this same line of destruction. The walls of the canyon

are slumped or subsided in a series of stair-steps. No evidence meets the eye of water erosion, sedimentation, delta fans, or eroded stream channels cutting across the surrounding plateaus (the expanded bulge of the gravitational attraction). Hence the canyon is not, nor was it ever a water system, nor ever transported water. Mars or Ares was assaulted and ripped open from space.

“ONE OR TWO CENTURIES” OF “ETERNAL ORDER”

The educated public has long held, as an article of faith, that Isaac Newton discovered the laws of planetary movements and that Laplace (1749-1827) mathematically expressed their practically eternal stability [14]. Yet here I have suggested that the planetary movements are not so stable, nor have they been.

Lately astronomers have begun to reconsider the dogma of celestial stability. Ransom and Milton have collected studies of instability in the skies [15]. In 1953, W. M. Smart, Professor of Glasgow University, wrote in his book, *Celestial Mechanics*, that the maximum time-interval over which stability calculations of the type presented by Laplace, Lagrange, and Poisson can be trusted is 300 current solar years [16]. The words “one or two centuries” occur elsewhere as the time limit of validity.

Moving back, in 1931, E. W. Brown that the President of the American Astronomical Society, wrote that the mathematical statement of the stability of the mean distances, of the eccentricities, and of the inclinations of the planets “can only be regarded as valid over a limited interval of time of the order of  $10^6$  or perhaps  $10^7$  years at most.”[17] Thus 10 million to 100 million years of stability.

Brown stated elsewhere in the same year that there were no logical or mathematical reasons to doubt that certain of the terrestrial planets might have interchanged their mean distances from the Sun. He felt that this interchange was unlikely, and believed the planets were probably in their initial order, “though the relative magnitudes of some of their distances may have been considerably changed.”[18]

Back again, in 1961 Arnol'd and before him, in general, Poincaré in 1899, proved that Simon Newcomb's 1895 mathematics providing 100 billion years of stability were wrong in form, but especially in not accounting for perturbing (possibly non-gravitational, said Brown) resonances [19].

Newcomb had been attempting to bolster Poisson, Lagrange, and Laplace (1773) in their attempts to show that the mean planetary distance would always stay within bounds and that collisions were nearly impossible. Laplace (1749-1827) in 1784 declared that planetary inclinations and eccentricities must remain small [20].

Laplace had guessed 10 million years as the duration of the present stability, a soothing enough figure to unleash the uniformitarians to pursue time enough on Earth for sedimentation, surface changes, and evolution of life to occur. Or so they thought. With a present Earth-age estimate of some 5 billion years, 500 times greater than his 10 million years, there might have been 500 world collisions in Earth history, and another may be just around the corner.

Astrophysicist Robert W. Bass has related this story much more fully elsewhere [21]. If anything can be added to his account, it may be that Laplace, the mathematical godfather of the stability of the heavens (with Newton as father), had himself expressed original doubts on their stability despite his mathematical proofs. Stecchini has published Laplace's doubts [22].

It develops that Laplace was more sinned against than sinner, by those who made a uniformitarian religious dogma out of his mathematics of stability. For the same Laplace had written: "The sky itself, despite the orderliness of its movements, is not inalterable." Further the stability of the present order "is disturbed by various causes that can be ascertained by careful analysis, but which are impossible to frame within a calculation." [23]

Laplace warned that he had not taken comets and meteoroids into account, and encouraged the study of history, however brief, for enlightenment on such experiences. He also wondered, Stecchini declares, "whether heavenly bodies might not be

affected by forces other than gravitation, such as electric and magnetic forces.”[24] And he even presented a cometary collision scenario, following evidence from mechanics, geology, natural and human history. Thus Laplace may be placed in the company of Giordano Bruno, Galileo Galilei, William Whiston, Nicholas Antoine Boulanger, and perhaps even Isaac Newton, when he strongly supported Whiston, his younger colleague.

Nevertheless, Bass is correct in his account of how Laplace was used in history by scientists who were fighting for uniformitarianism and against the need for any divine intervention in world affairs. He has shown how the successors of Laplace expressed themselves in intuitive language, supposedly the bane of the conventional astronomers. “Whenever these allegedly authoritative statements about time intervals of validity [of calculations of celestial stability] have been made, they are without exception accompanied by words like ‘supposed’, ‘appeared’, ‘hope’, ‘seems’, ‘might’, and ‘think’, revealing clearly that the writer was relying on his personal intuition rather than quantitative evidence [25]. It is ironic that Harlow Shapley, the famous astronomer, admonished the Macmillan company for considering a venture into the “Black Arts” with the publication of Velikovsky’s *Worlds in Collision* [26].

A review of cases such as that the comet Oterma III may be in order, for both the solar system and beyond. A report on Oterma III was presented by A. V. Folcin of the U.S.S.R. in 1958. Before 1938, this comet has an orbit lying entirely between the orbits of Jupiter and Saturn. In that year, it approached near to Jupiter and then swung around so that it acquired a new orbit entirely between Mars and Jupiter. Bass points out that “for Venus one can, with negligible error substitute any smaller mass.”[27] That is, what happened to Oterma could also happen to Venus, to Mars, or to Mercury, for all are of the same minute order in comparison with Jupiter.

In sum, this brief chapter has intimated several conclusions. Astronomers often have fallen victim to the myth of the eternal order of the heavens. The mathematics of the classics writers concerning immutable motions are vulnerable. The “guaranteed” stability of the solar system, when recalculated in their own

terms, may be uncomfortably short. Recent events such as Oterma III encourage a review of theories of celestial order.

As Professor John A. Simpson expressed the new mood, writing while Pioneer XII was speeding towards Jupiter: “Much of the new astrophysics is based on non-equilibrium - even explosive - phenomena, rather than the steady state thermal phenomena which have been the primary concerns of astrophysics in the past. It is the violence of the phenomena discovered in the astrophysics of the past fifteen years that has changed dramatically our current view of the universe.”

Changing celestial behavior excites great forces to work upon Earth. After assembling the evidence for the quantavolution of life forms, the Russian paleontologist and geologist, L. J. Salop concludes: “The Earth, together with the life it supports, is not a closed self-developing system but constitutes an integral part of the cosmos.”[28]

**Notes (Chapter One: Cosmic Instability)**

1. *Astronomy and Astrophysics for the 1970's* (1972).
2. Ovenden (1973).
3. Velikovsky (1955) 288-9; Juergens, 30 and de Grazia 212-3 in de Grazia *et al* (1966).
4. In addition to the older writers, Whiston, Boulanger, Carli, Donnelly, and Beaumont, see Velikovsky (1950); and entries in A. Miller (1977); Ransom (1976) 73-9; Kugler (1927); Patten (1973); Kelly and Dachille; *Pensée*, nos I-X; *Kronos*, vol. I-III; Richter; Rix (1975); Vsekhsvyatskii (1976).
5. Dachille (1975) 51.
6. Rose and Vaughan (1974); Michelson (1974).
7. Cook (1966).
8. Kelly and Dachille, 67; Velikovsky (1950) 91-2; (1955) 133.
9. Velikovsky (1950) 261, quoting Böllenrucker, 19.
10. Iliad, Book V; here the quoted words are from the Murray translation. Loeb Classical Library (1925), *Cf.* Velikovsky (1950) 245 ff.
11. Pollack (1975); Woronow (1972).
12. Kelly (1974).
13. Some of the huge duststorms of Mars may be of this material too. *Cf.* Vsekhsvyatskii (1967) on loss of material by planets. The solar system envelope contains a great deal of "meteoric" dust (Van Allen, 1975).
14. Stecchini (1966) 80 ff.
15. Ransom (1972); Milton (1975).

16. 4, 94-5, 198 discussed in Bass (1976) 39-40.
17. *Ibid.*, 39.
18. *Ibid.*, 37 quoting from E. W. Brown's Presidential Address; cf. p.30.
19. *Ibid.*, 31-5 and Bass (1974) 8-20.
20. *Ibid.*
21. (1974), (1976).
22. (1966) 105-9.
23. *Oeuvres Completes*, VII, 121, quoted *Ibid.*, 107.
24. Stecchini (1966), 108, citing Laplace VI. 347.
25. Bass (1976).
26. Juergens (1966), 20.
27. (1974), 15.
28. (1977), 40.

## CHAPTER TWO

### HIGH ENERGY FROM SPACE

In the train of the great deluge that ended the reign of the god Saturn-Osiris, mankind suffered from hideous monster-forces. So said the Egyptians. These were Briareux: loss of serenity; Othus: the succession of seasons; Ephialtes: horrendous clouds; Encelade: ravaging waters; Porphyryon: fracturing of the earth; Mimas: the downpours of water; Rhaecus: the great wing. Horus, son of Osiris, helped his mother as much as he could to restore man to his happier pursuits [1]. The original cause was a huge celestial body. It was an age-breaking period, one of the two worst, but the high energy forces were always the same, in all the periods of chaos and creation.

The first chapter offered grounds to doubt the stability of the solar system in the past. The present chapter introduces - but only for recognition and as a prelude to extensive discussion in later chapters and volumes - the heavy, sky-provoked forces that can cause immense changes upon Earth in a short time. If the solar system may have been unstable and if the Earth can be transformed by high energy forces, then all is ready for the third chapter, which radically challenges a long-time history of the present world. Once that is done, a new short-time calendar of the holocene epoch is in order. Thereafter, the goal will be to prove the calendar - or if not to prove it, to establish it upon a basis worthy of intelligent discussion.

Comets have been invariably a source of terror to humanity and linked to all manner of evil (see Figure 3). The many apparitions have been accompanied in all too many cases by the reality of collision. Planet Earth may have endured more than a score of space encounters with large bodies during the holocene epoch. The most recent occurred around the founding of Rome. Mars approached on several occasions, at 15-years intervals. Venus also intruded upon the Earth's sphere, then and before then, at least several times, on a half-century cycle. Velikovsky (1950) depicted these latter events.



Figure 3. FEAR OF COMETS AND THE CONQUEST OF 1066. (Click on the picture to get an enlarged view. *Caution: Image files are large.*)

The Bayeux Tapestry on the Comet of 1066. On the eve of The Battle of Hasting, a comet lit up the sky. The crowds gaze up in awe at the comet, and a courtier tells King Harold of this terrible omen. Below are seen the ghostly invasion ships which Harold now fears will follow. The tapestry was produced only decades after the event.

Earlier, planet Mercury appears to have been a familiar figure of several pass-bys. Saturn, Jupiter and other heavenly bodies give the impression of having loomed large in the sky during their own great times. The moon has been a continuous interactor with Earth but for long has been in stable relationship; I would only mention here that the original great body to have encountered Earth, which I shall be calling “Uranus-Minor”, may have made only a single pass at our globe but that the Moon owes its very existence to it.

Large-body encounters bring hundreds of damaging adjustments of short and long duration, when the effects of an initial encounter are being dissipated. It would always take some time for the winds, waters, and land to settle down and for a new electrical balance to be struck throughout the system. An equatorial bulge and flattening of the poles would have to occur after a change in the Earth’s geographical axis, that is, after a shift of the location of the poles. The strains of this adjustment would carry over thousands of years.

To be added to the bill tendered by catastrophes are some minor disasters. These might be Jovian “bolts from the blue” across immense spatial distances. Or they might be showers of gases, rock, or dust. Or the penetration of the Earth’s defenses by a small or heavy meteoroid. I shall be arguing later on that a heavy bombardment of the Earth preceded the pass-by of Uranus Minor from which emerged the Moon. Further, the fall-back of lunar material would have been like a rain of meteoroids.

It is difficult in these more stable years of solar dominance, or Solaria, to imagine ancestral conditions. People suffered from catastrophic activity in one way or another during much of the holocene: perhaps one-third of human history, or 5000 out of the 14,000 years that I estimate as the duration of “full human-ness”. For one-third of its existence, the human being has been in a struggle against annihilation by nature, or, more exactly, has been caught up in a battle of annihilation among the forces of nature, a “war among the gods”.

When the Earth and any large intruder approach each other, their motions are affected and surface breakdown occurs on both bodies. The affected motions, such as angle of approach, speed of rotation and orbital speed, may be numerous. Their magnetic fields may be altered and even reversed. The crust or shell of the bodies, affected more directly from “above” tends to slow down or accelerate faster than the denser and hotter mantle and core of the bodies. These continue their speed almost unabated. Heat is generated upwards within the bodies. Explosive exchanges of atmosphere, water, soil, and rock occur. The shells crinkle, raising hills and mountains. One is reminded of the Revolt of the Giants in Greek myth wherein the giants piled mountain upon mountain, “Ossa upon Pelion,” in their attempt to assault the heavenly fastnesses of the gods. Great gravitational and electrical forces are levied and act destructively throughout upon air, earth and water.

### *ELECTRICAL FORCES*

Entities from the size of an atom to that of a galaxy can hold electrical charges, and carry free positive or negative charges that can move through a field under repulsion or attraction with

great energy, depending upon the distances involved. Eric Crew has recently commented that “one of the most striking and yet most neglected aspects of electricity in astronomy is the enormous forces which can be produced by accumulation of electron charges.”[2]

The potential difference of charges that can be theoretically accumulated on even microscopic particle is describable in millions of tons.

For instance, the number of free electrons in  $1 \text{ cm}^3$  of copper is  $5 \times 10^{22}$ , giving a charge of 8000 coulombs. If so charged alike, two cubes of 1 cm that were one meter apart would repel each other with a force of 79 trillion tons. (This earth-cracking force could not really occur because the copper would fly asunder long before it could be charged to 8000 coulombs.) The example serves to alert one to the possible electrical transactions that may occur in astronomical space, where distances between bodies are great but the size of the bodies, too, is great. Planets can be charged to potentials differing from their near space, with catastrophic result should a discharge occur. Furthermore, great electrical exchanges can occur both between bodies of opposite charges, and between bodies of similar charges of different sums, that is, subject to a voltage gradient between them.

A nova - and we shall assert that two or more have occurred merely in the time span covered by this book - is largely an electrical phenomenon. Surely it is part of an interacting celestial system, but the form of the interaction occurs internally and in the near space of a body. Stars are prone to nova, not planets, we say, but that only means that a planet is defined as a more stable (dense) arrangement of matter. When a star novas, writes Bruce, the principal event is the dispersion of its atmosphere leaving the nucleus practically unaffected [3]. A nova is the catastrophic electrical neutralization of the entire charged atmosphere of a star.

A complicated natural system of sheaths surrounds bodies in space. It grades, balances, and neutralizes charges to keep cosmic bodies in the state which we come to regard as “normal,” that is, where time is lengthened and geological and biological

processes, such as our very existence, can occur. Ralph Juergens has described the space-sheath system in connection with the encounters of the Earth and Mars [4], and it will be explained below. In all the “amazing” observations that we make about the “world,” surely the continuous series of electrical relations that extend from the universe, through the galaxy and sun and planets and space, through the atmosphere, through the rocks, throughout our bodies down to the extreme interior of every cell, must be among the most astonishing.

### *HEAVY-BODY IMPACTS*

Neither Venus nor Moon nor any other large body could actually pass through the Earth’s near atmosphere without the annihilation of both bodies. At some 30,000 miles distance, a large body such as Venus would draw up tides of the atmosphere and oceans with 35,000 times the tidal attraction of the Moon, and hump up the rocks in places. The gravitational attraction would be 25 times that between the Sun and Earth. Something like this may have occurred not only with regard to Venus but also during the Uranus Minor and Saturn Flood episodes, soon to be discussed.

However, any small extra-terrestrial body, a rock meteoroid, say, of half-mile diameter, would cause great damage in passing through our atmosphere. It would blast, burn, deafen, terrorize and transmute materials over its line of travel, in a tube with a radius of a hundred miles or so. A body of 100,000 tons<sup>3</sup> has a speed at impact anywhere from 5 to 50 miles per second, and its ambient temperatures as it passes through the air rise to 2000 degrees centigrade or more. When it strikes, a crater of several kilometers in diameter would be excavated.

Atmospheric shock-waves, capable of blowing down Manhattan, would occur, but if that would not suffice to destroy it, the heat would vitrify the city and the earthquake would shake it down. The remainder would be ravaged several times over by crosscutting tsunamis.

The Siberian Tunguska body of 1908 that penetrated the atmosphere and exploded just short of contact would have done

this kind of job at St. Petersburg, the capital of Czarist Russia, if it had continued to travel for a few hours longer. At Tunguska, it killed the biosphere for miles around, blew down 80,000,000 trees, sent blasts of wind and earth tremors over hundreds of squares miles, engendered a flourishing forest growth, and may have mutated and created new plant species [5]. A new Soviet expedition departed in 1976 to investigate the locale.

Far greater in destructiveness than either the hypothetical case or the Tunguska incident was the Phaeton (Typhon) explosion of about 1453 B.C. The mythical Phaeton was such a larger meteoroid or was a falling portion of cometary Venus itself. Child of the Sun, he was let drive his father's chariot, but could not control the horses and burned up much of the world. Zeus finally dispatched him with a thunderbolt to save the rest. Many stories are told, too, of a monster Typhon being struck down in the same time period; probably Phaeton and Typhon are identical; they are certainly related [6]. About fifty years after the first great incursion of the comet definitely referred to as Typhon, a second incursion came and was seen as a horse-drawn chariot and driver in the near East [7]; the image would correspond closely to the Phaeton myth and the time interval would have been small enough that, together with the destruction and confusion, the two encounters would later be treated as one. When Phaeton (Typhon) struck the earth and penetrated the atmosphere the effects were severely destructive. The location of the fall of Typhon is unknown. Kelly and Dachille guessed it might be at Bermuda. The Ishim meteoroid, described in chapter I, may have been implicated, despite the much greater assigned age.

The great pass-bys may be more important to history and more thoroughly destructive, but small and medium-sized meteoroid impact explosions, such as the Ishim, Tunguska, and Phaeton, are heavily damaging. Geologists Kelly and Dachille have calculated the effects of an explosion of a 200-mile diameter "Intruder", somewhat smaller than one which they believed fell at "Bermuda" within recent times, possibly in the Jovean or Mercurian period.

Approaching tangentially the Intruder would have scorched through 1100 miles of atmospheres at a speed of 20+ miles per

second at temperatures (~7500° c+) greater than the Sun's surface. From 8 to 60 second seconds' exposure would be suffered below its path. It would occupy at an 80-mile elevation over 100 degrees of the total dome of the sky (180°). It would theoretically generate then and upon impact biosphere residues enough to produce all of the known coal and oil reserve in the world.

The temperature at the moment of impact would rise to over 200,000° C.

“An actual collision would raise a column of vapor and debris that easily could measure one thousand miles in diameter at the base, and possibly larger at the top after the fashion of the atom bomb explosions. This column might tower something like five thousand miles above the earth, the higher particles doomed to float out beyond the reach of gravity... This catastrophic column would be “a gigantic chemical laboratory,” arranged in levels downwards, outwards and upwards. Its pyrolysis would continue for some time to “add to the generation of coal beds, oil crudes, baked shales, sand-stones, firerock, hard pan, and to many specific, but generally unexplained mineral forms. At ‘zero point,’ conditions being so extreme, it is not unreasonable to suppose that actual transformation and the very synthesis of elements would take place.”[8]

Fundamental dissociation would occur and rearrangements of protons and electrons forced into being. Heavy metals such as uranium and thorium might be formed, with their radioactive properties. In a breathtaking sentence, the authors ask whether we can “see in the radioactive elements one course taken by nature to absorb and store a portion of the high energy of the impact, with the energy escaping gradually due to an imperfect storage structure within the nuclei of these elements.”[9] Grading away from “Point Zero” would be ionic and elemental fabricating zones and zones where more stable compounds are generated. Rock salt would descend from intensely heated bodies of water blown from their basins, or it would form soon after the landing and evaporation of the waters.

Shearing, folding, fracturing would occur on a large scale in an area of over a thousand miles in diameter. Biosphere mutations at the edges of the catastrophized area would be exceedingly

numerous. They may be disregarded for the moment, my purpose here being to stress the probable role of the “catastrophic column” or typhoon among the mega-forces that shorten the time needed to change the world.

### *SEISMISM AND VOLCANISM*

Chapter 7 will portray the world-wide cleavage and ramified fracture system originating in the large-body encounter of 11,500 years ago, and the subject of earthquakes will be further treated in a forthcoming volume. Therefore, I need not here dwell upon the seismic effects of celestial encounters. When catastrophic seismism occurs, owing to crustal slippage, the rocks of the Earth move not locally but over long distances. Different layers of the crust may move at different speeds and for some miles down. The Alberta Canadian Rockies are thrust and folded sedimentary rock propelled from a long distance away and piled up many thousands of feet. These sediments left behind them the basic shield rock [10].

The number of extinct volcanoes far exceeds the number that are active. Iceland has 107 active volcanoes, but thousand of craters, most of them definitely extinct, all young. Of its great network of fissure volcanoes, some have erupted disastrously in recent history. Lava beds not only line the ocean basins but are interlarded among pebble, rock, and sand beds in many parts of the world. The lava beds laid down in the last two thousand years are as nothing compared with those found in all the continents of the world from earlier times. These were laid down mainly by fissure, not cone, eruptions. A large-body encounter would excite such volcanic activity in many places.

### *FIRE AND GASES*

When the Earth changes motion, fires break out. When meteoroids fall, fires break out. When lightning strikes, fires erupt. When gases penetrate the atmosphere, fires explode. All of these accompany and occur in the aftermath of large-body encounters and significant meteoric fall-out. Persuasive accounts come down from legends of many peoples concerning the burning of the world. One of the most astonishing groups of legends, set forth by Velikovsky and others, treats of rains of

burning oil [11]. It is difficult to put aside these reports, which are associated with the cometary tail of Venus in the fifteenth century B.C. The falling substances are both in flames and unburned, they have the stickiness, the flammability, the noxiousness, the denseness of petroleum and bitumens. They could not have been lofted by volcanoes or exploded by local pressures of oil reservoirs underground. They might be manufactured, however, in the “chemical factory” of a meteoroid impact.

The account of the destruction of the army of Sennacherib before Jerusalem in 687 B.C., synchronized as it is with other disastrous events elsewhere, indicates strongly a poisonous gassing of the multitude waiting to assault the eminences of the walled city [12]. Donnelly lays responsibility for the immense Pestigo (Wisconsin) Fire, and the Chicago Fire upon pockets of gas broken away from Biela’s Comet that had earlier disintegrated but whose fragments and gases were making an anniversary rendezvous with Earth [13]. Thousands of people were killed and millions of acres burned down in three states [14]. He extends the condition and consequences exponentially in his discussion of the great comet of *Ragnarok* times.

The famous case of the frozen mammoths is related to sudden atmospheric change. To freeze a large mammal so quickly and completely that even the mouth and stomach contents contain half-chewed and undigested plants requires quick-freeze conditions found today only in freezer-factories processing fresh foods for indefinite cold storage [15]. So indeed the mammoths have been preserved up to this time. Quite possibly, the cold front introducing an abrupt climatic change penetrated first as pockets of space gas at temperatures found only in outer space. A related possibility is a vacuum-chill incident; the congested lungs of one mammoth implies this. The most likely time for the death of the great animals would be during the early Jovean age, about 3500 B.C. There, both deluge and temperature conditions were extreme. The several writers who have advocated a sudden axial tilt as the sole and sufficient cause cannot be correct [16].

### *DENSE FALL-OUT*

In all large-body encounters and minor extra-terrestrial invasions there will occur fall-outs of dense material. Dust, stones, brimstone, ash, micro-tektites, oils, and other material will descend with or without water. All will bury or devastate the biosphere by poisoning and asphyxiation. A geologic column will reveal some extra-terrestrial or at least catastrophic element of fall-out of one or more of these materials. A recent study, by Woods Hole oceanographers, of American land and shallow sea cores shows the presence in the soil of ancient polycyclic aromatic hydrocarbons, which are carcinogenic [17].

Extraterrestrial and explosive fall-out includes radioactive material along with the dense material product. Some of the radioactivity will enter because the bars are let down to the intrusion of “normal” cosmic and solar particles. Much will be “a la carte,” produced by the peculiar invading agency and the destruction of its materials in the atmosphere of the Earth.

### *HURRICANES*

In the large-body encounters and in many derivative or minor intrusions upon Earth. there will be hurricanes and typhoons of large diameter and immense energies. The hurricanes will be operating at speeds upwards of 200 miles per hour and raising catastrophic columns of all kind of material far into the stratosphere if not into outer space. They can scrape the surface -- clean down to bedrock, eradicating all trace of biosphere and human settlement. They can transport the biosphere over long distances, and drop it or raise it into the skies. They can even make away with rocks of 1000 or more tons; they can suck up or lay down lakes of waters [18].

### *PANDEMONIUM AND DARKNESS*

With such forces in operation, the sights and noises are terrible and maddening. When the “dormant” Krakatoa volcano exploded in 1883 (following, incidentally, by a year the passage of the Earth through the tail of a comet), the thunderous noise was heard a thousand miles away. The noise of the eruption of Cosaguena, Nicaragua, on January 30, 1935 was heard in

Jamaica 850 miles away. The fright was so severe that in one village “300 of those who lived in a state of concubinage were married at once.”[19] Jupiter was the planet of “Thunder”, Saturn was called the “Thunderer” too; Mars was called the “god of Noise.” The full consequences are reserved for treatment in a subsequent volume, but I would mention here the knowledge that we newly possess -- that sights and sounds can have not only far-reaching psychological effects; they can compete with radio-activity in the production of biological, hence ecological effects [20]. The meteorological, geological and astrophysical sciences are as yet scarcely positioned methodologically to attend to or even discern such effects.

Comets, and to a lesser extent meteoroids, can take many shapes. Several illustrations are given on the adjoining page from astronomical drawing and photographs. Many basic human objects and experiences can be obviously symbolized by a comet: violence, instruments such as swords, chariots, boats, wings, birds, cows, sexual organs, heads, hands, flowers, etc. These apparitions are so suggestive, compelling, and terrorizing that whatever on Earth is associated with them will never again be ordinary, and the ways in which these objects and experiences enter culture will be pathologically or at least illogically affected (see Figure 4 on pp. 26-27).

A final effect, when considering the consequence of large-body encounters, whether atmospheric pass-throughs or impact explosions, is that a stygian darkness would occur. A reduction to zero-visibility at night and near-zero visibility in daytime has most formidable psychological and physical consequences [21]. The Jews in Exodus wandered in darkness or gloom for many years. Their survival was only through the fall-out of manna, a sweet tasting starch, whose deposit from the skies is reported from Greece, India, Scandinavia, and Mexico -- from all around the world, it appears [22].

Styx itself was the gloomy hell of the Greeks, whence stygian darkness. *Götterdämmerung* was the twilight of the gods of Nordic mythology, a similar cosmic darkness. After the explosion of Krakatoa in 1883, the sunsets of the world were more sombre and beautiful for years. After the Alaskan volcanic eruption of 1912, some 20% of the Sun's radiance was

interrupted. There is nothing at all unbelievable in the ancient's accounts of years of darkness.

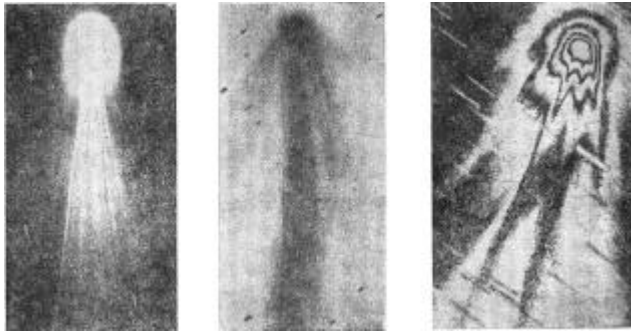


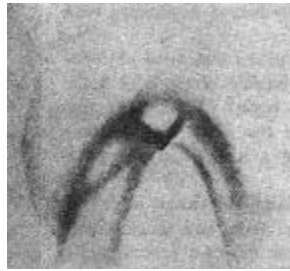
Figure 4. SOME SHAPES TAKEN BY RECENT COMETS. From left to right: (a) Tailed Sun, (b) Widow-Witch, (c) Monster



4 (d) Flying bird



4 (e) Scorpion



4 (f) vulva



4 (g) Phallus



4(h) Quetzalcoatl Bird

(Click on the picture to get an enlarged view. *Caution: Image files are large.*)

“Comets are individual objects and .. a truly representative comet does not exist.” (Rahe *et al.*, *infra.* vii). Hundreds of different figures can be (and have been) associated with comet in science, legend, and journalism. See our Figs. iv, 3, 17, 31, 32. Photographs and drawing by astronomers: a. Daniel 1907 IV M. Wolf (photo); b. Morehouse 1908 III (photo); c. Morehouse 1908 III (isodensitometer photo); d. Swift-Tuttle Aug. 29, 1862 (drawing by Secchi); e. Daniel 1907 IV M. Wolf (drawing); f. Swift-Tuttle Aug. 27, 1862 (drawing by Schmidt); g. Tebbutt July 4, 1861 II (drawing by Schmidt); h. Tebbutt July 1, 1861 (drawing by Secchi).

Source: Jürgen Rahe, B.Donn, and K. Wurts, *Atlas of Cometary Forms* (SP-198- NASA, Washington D.C. 1962), pages (in order): (a) 40 Fig. 1; (b) 73 Fig 22a; (c) 63 Fig. 14; (d) 29 Fig. 47; (e) 40 Fig. 2; (f) 25 Fig. 15; (g) 17 Fig. 9; (h) Fig 21.

Some day, when the fractures and craters of the Earth are counted and synchronized, even approximately, the most astonishing images will be forced upon us by the calculation of times, not once but often, when mankind had to live for extended periods -- days, months, years, a whole generation -- deprived of light to hunt by or to see even a cloudy sky. These would be times when the natural and human fires would be the living light, and the sky lights would be in memory, yearning, dreams and utmost ritual pleas.

### *THE BATTLE OVER TIME*

No doubt that in the darkness, the human being thought of time. "When will it end...?" and course, "How long has it been going on...?" which means "When did it begin...?" The *Veda* pleads: "Hide the hideous darkness, make the light which we long for." [23] Time has from its human beginnings been subjective.

Still, human capability has stretched to the utmost to objectify time. The aim is to place the world outside of reach of fickle minds and to ask "When did it really begin? What is its real measure?" So that there have become two kinds of time, subjective time and objective time. And neither is clean, pure, separate from the other.

But few question the dominating claim of science, which is this: "Never mind how suffering and pleasure and shock affect the human mind. Outside of man, there moves a process quite out of control of his wish or will. That is time. Now how do the two relate to each other?"

Scientific time strives to go beyond human time. When we think of a microsecond, we imagine it or we simply calculate it mechanically. We do the same with a billion years. We take a time to which we can relate psychologically -- a solar year -- and

reduce or expand it to where we must deal with it mechanically, without feeling it in our guts.

We do the same with energy. We feel a heat in some measure and then extend its measures to degrees of cold and heat that are astronomical. But these extremes are also mechanical extensions of ourselves.

In both time and energy measurements, therefore, we are working within realms of the human that are extended into the inhuman. Both catastrophists and uniformitarians are human, feeling time and heat; both are working with inhuman extremities.

Each looks at a range of “mountain”: the one says that it was raised in years by unimaginable forces, the other that it was raised unimaginable millions of years ago. It should be possible to say who is correct. Although both are dealing with absolutes raised out of relatives, both share and understand the relatives. Hence, sooner or later, one will be proven right or wrong in terms that the other must accept.

Why, under such circumstances, cannot the quantavolutionist and evolutionist come to terms? One reason is that they need not come to terms. A quantavolutionary can be just as good a geologist, historian, astronomer, biologist, or philosopher as an evolutionary. One will find fewer instructional materials, true, because practically all educational establishments are in the hands of evolutionists. But, if persistent or clever, one will make up one’s own materials from those of the opposition. I do not see how pragmatic skills of the kind that earn a livelihood, whether in teaching, research, or professional practice, will be affected adversely. But I can see how such an allegation can be used as a form of invidious discrimination against revolutionaries.

Another reason for not coming to terms is already implied. “Nature” likes ambiguity. The historical record of nature is dim, irregular, and requires assumptions that are logically vulnerable in interpreting it. The parties might be forced to come to terms if “nature” offered itself as arbitrator. But time after time, it refuses to arbitrate; now a scientist will approach with a carbon-14 test

for precise dating and evolutionaries will exult: “It is all over but the shouting!” Other scholars will claim that the test is not fair, constant, or valid, so the controversy is only beginning. Again a scientist will appear with a “proof” (e.g., Bode’s Law) that the planets must occupy their present order and intervals, and another scientist will step up to show that a) another formula will express a different order equally well and b) there is no empirical theory behind the seeming order [24]. Or again, scientists are persuaded of the fact and age of continental drift by the bands of magnetic reversal found on the rocks of the ocean bottom, but they will be told that the magnetic bands could be much younger (and therefore reversals more frequent) if the ocean bottom were being expanded and paved more quickly [25].

Nevertheless, both the quantavolutionary and evolutionary are driven to woo “Nature” for a direct clear reply and perhaps one day someone will succeed. Meanwhile the quantavolutionary will continually step forward to offer the unimaginable forces of ancient times--the killers of time, the stoppers of clocks.

Geologist Derek Ager estimates that 2000 heavily destructive tsunamis have struck the continental coasts during the present era (Solaria) and wonders at their great cumulative effect [26]. The convinced quantavolutionary says that the total effect of these 2000 tsunamis would have been exceeded by a single close passage of planet Mars between 766 and 687 B.C. Or by a meteoritic fall of the same time. “The terrible ones,” and “the Maruts” are two of many personalized and divine epithets given to the bursts of meteoroids and thunderbolts from Mars that struck in many places [27]. We find Hindu prayers imploring them to “be far from us and far the stone which you hurl.”[28]

### *THE QUANTAVOLUTIONARY COLUMN*

Wherever one stands on earth, there exists some record of history above and below. A fully intelligent mind should be able to observe and write it. Lacking full intelligence, but also in order to generalize, one can still construct a model. Hence we conjure a quantavolutionary column, that by telling of present conditions, gives form to our history.

In the memories of the days of chaos and creation, in the annals of pre-Solarian mankind, and in the textbooks of science today are described numerous floods, shocks, and explosions, of dimensions too great for modern measure. Working as causes and effects, and as effects that become causes, they have made of any place on earth a Quantavolutionary Column:

*Any cube of one kilometer diameter circumscribed anywhere on the surface of the earth, which reaches as high as the end of the magnetosphere hundreds of miles upwards, and as low as the upper mantle some thirty kilometers down, will have endured within the past 14,000 years radical changes in its absolute and relative orientations, its atmosphere, its rocks and its biosphere, including any long-lived human cultures.*

The revolutionary column is thus about 500 kilometers tall but if the magnetosphere is traced to its farthest reaches, it extends about 4 million miles into space away from the solar windside of earth. The variety of radical changes in this column has been such that every science must be affected by a new knowledge and conception of them.

### *THE EXPONENTIAL PRINCIPLE*

The premise that every spot on earth exists within a quantavolutionary or catastrophic column is basic to primevalogy. A second principle is the exponential behaviour of high energy expressions. The winds, floods, and lightning we have spoken of earlier arise with little warning (it may be seconds or years) rise to a peak swiftly, inflict crushing blows, subside quickly and tail off their effects over a long period of time.

The exponential principle needs stressing. Where the evolutionaries say “uniformitarian”, the quantavolutionaries say “exponential.” Catastrophic events behave exponentially: they typically arise and increase their effects with extreme rapidity and decline in their effects almost as precipitously. Then, of course, the decline trails off and becomes near zero, where the uniformitarian usually picks it out for extrapolating backwards in time.

For example, is Mt. Everest, in the Himalayas, the world's highest mountain, still rising? If it were undergoing the kind of uplift measured at Cajon Pass (near Los Angeles) in relation to its surroundings, which amounts to 0.45 feet per century, then, allowing for erosion at the rate of 2 feet for every 3 feet of uplift, Mt. Everest would be produced in 9 million years, by Shelton's estimate [29]. But if this 0.45 feet per century is the trailing effect of a negative exponential curve, Mt. Everest might have evolved in only several thousand years.

Everest is 29,000 feet high; the Indian subcontinent rammed up into South Asia and in the collision the two bodies forced up the Himalayan mountains. Let us suppose that this impact, which is accepted widely now to explain the Himalayas, happened in the early Lunarian period of 11,000 years ago. If the collision were forceful enough to raise the land in the first year of contact by a few hundred feet and to continue on at some diminishing rate thereafter, the mountain would be raised to its present height in a couple of thousand years. Taking the present rate of uplift at 0.45 feet per century and increasing it by a factor of 1.1 so that 100 years ago it would presumably be 0.495 feet/century and 200 years ago 0.544 per century, Everest would have been emplaced before the age ended.

Certain lunar heat spots and moonquakes, for example, may be the fossil or ghost remnants of Aphrodite's "love affair" with Mars [30] in the late seventh century B.C. Similarly, volcanism has been declining for a long time in comparison with its incidence in ancient times and prehistory. Too, the measurable inching of the Arabian peninsula towards Asia is the dying impulsion of its recent amputation from Africa: the Red Sea is the surgical scar marking the line of severance [31]. Indeed the phenomenon of "erosion" that is basic to uniformitarian geology is largely derivative. It is an attenuated effect of the catastrophes that carved canyons and raised mountains. All of these statements will be clearer in the light of later chapters.

It would appear in passages from Velikovsky and from an inspection of Schaeffer's data that seismism was heavier throughout the Bronze Ages and Iron Age down to the Christian era. Ambraseys has attacked the job of counting earthquakes for the past 2000 years and hesitantly concluded that earthquakes

have been uniformly experienced in the Near East over the period [32]. In this study of 3000 quakes in generally accurate, the enormous seismism recorded by Schaeffer for the Bronze Ages marks catastrophic periods.

Michael Chinnery and Robert G. North have analyzed the techniques used for reporting seismic events today and warn that earthquakes, exceeding in intensity the present scales, may have quite recently occurred although knowledge of them is lacking [33]. It is well to mark this study, inasmuch as professionals and laymen alike are often of the opinion that the top calibrations of the Mercalli and Richter scales represent the maximum tremors that are today possible. In fact, there exists a dogmatic view that the Earth for a long time has not had within it the means of exceeding these scales. D. Vitaliano [34] and her predecessors have maintained that legends and ancient reports were exaggerated and have to be translated into current scales of events. It is possible to reconcile the two views by opining that earthquakes have been diminishing over time as a tailing-out effect of much greater, earlier upheavals (in accord with the exponential principle). However, records are too few and analysis not theoretically enough advanced to predict that intracyclical fluctuations of the curve of long-time decline will not be of hitherto unregistered high intensity.

The exponential principle is crucial to biological quantavolution as well. Exponentialism marks the rise and fall of species. A recent example will help to clarify the point. Muskrats abound in America; ten millions are trapped annually. But muskrats did not exist in the vast Soviet Union, despite a similar potential habitat, the high mobility of the animal, and its aquatic skills. Either recent biological catastrophe is to be suspected, or else the species originated in the past several thousand years: both hypotheses indicate quantavolution. In 1928-33, several thousand muskrats were introduced at hundreds of points in the U.S.S.R. Within forty years, their number was estimated at 100 millions, twice as many as exist in America [35]. Given a niche, a species fills it quickly.

*REVOLUTIONARY INTEGRATION OF THE COSMOS*

Everything is connected with everything else: the most ancient people thought so, and modern scientific philosophy agrees. The teachers of natural science to the young repeat interminably, "Inside the atom are locked the secrets of the universe." The microscopic related to the macroscopic, the microscope to the telescope.

Yet the mind scuttles for its own hole. It does not want to be part of the infinite interconnected web of reality. It makes isolates of all other persons. It studies the small apart from the large. It stretches out time endlessly so that things do not happen together. Voices assemble and amplify themselves in politics, science, the press, the street-corner hang-outs: "We are spared the fate of the whole. What happened once happened to others. They are not us. What is happening elsewhere is not happening to us. We are spared. What will happen to the future is again not us. Again we are spared." So it goes -- an endless litany to express the feeling, as Einstein wrote ironically to Velikovsky: "Holy St. Florian, spare thee my house. Set fire to the others." [36]

The greatest lesson of the unity and interconnection of person and person, and of person and nature, finds its destructive and creative climax in the quantavolutionary explosion. Recall only one recent memory, before we move into the primeval ages of mankind. What was the great lesson of the explosion of Hiroshima? That a new age had broken upon mankind. That in the giant column of fire carrying upwards a Japanese city was the fate of man and nature, inextricably bound. The single act of destruction called forth the essential forces of nature and the amazement of human beings, friends and foes alike, all over the world.

Yet this was a small force compared with those being discussed. True, there was no force in earliest times that is unknown today. But modern man must look with sinking heart upon his earliest experience because the forces of nature then expressed themselves in exponentially greater measure than they do today and seemed to have as their target, as their favored creature, and as their responsive audience, the developing human being. The

earliest events brought forward the revolutionary calendar. So it came about finally that mankind today experiences by his own hand an imitation of the state of nature that brought about his very existence as the deluded "wise man," *homo sapiens*. Standing in the Solarian Age, he can for the first time do what only natural forces once do -- bring the curtain of catastrophe crashing down upon the end of an epoch.

**Notes (Chapter Two: High Energy from Space)**

1. Boulanger (1794), V. 220 ff.
2. (1977) n°4, 24.
3. Bruce (1944).
4. Juergens (1974-5); In a general statement Piddington (1960) writes: “Magnetic fields are almost ubiquitous and it is rapidly becoming clearer that they play a dominant role in the evolution of the universe. It is likely that without these fields the planets would not have formed and even galaxies or protogalaxies may never have developed from the more tenuous primeval gas.” Magnetoplasma makes up practically all of the Universe that is not of rigid or non-conducting bodies.
5. Krinov (1966) 125-65; Glass (1969); Rich (1978).
6. Lowery, *Kronos* (1977); Velikovsky (1950) 143-5, 148-9, 159-60, 169, 301; Bimson (1977) 9; Ovid, Book II; Fontenrose (1959); and *cf.* Index below.
7. Velikovsky (1950), 141.
8. Kelly and Dachille, 203; *cf.* Gallant (1964).
9. *Ibid.*, 204.
10. Cook (1966) 183-4.
11. Velikovsky (1950) 53-8.
12. *Ibid.*, 227-35.
13. (1833),ch. 5. Furneaux (1964) mentions cometary phenomena the year before Krakatoa exploded.
14. Schroeder (1964) 492.

15. Patten (1960) 104-9; Cardona (1976); Velikovsky (1950) 326-9.
16. Cardona (1976) reviews the 14C dates; they extend over thousands of years, impossibly, although they generally fall within the age I suggest.
17. Blumer and Youngblood (1975).
18. Lane (1965), "Hurricanes."
19. Furneaux (1964) 203.
20. Juenemann, 112.
21. Velikovsky (1950), 58-62, 126-38 *et passim*; (1952) 28-9, 46-7; (1964), 175-6.
22. Reade (1977).
23. Velikovsky (1950), 285.
24. Nieto (1974) with Ransom comment, p. 7; Bass (1974) 11-12.
25. *Cf.* below pp. 155-59, Barnes, Milson (1977) and Cook (1966).
26. See also Coleman (1968).
27. J. Ziegler (1978); Velikovsky (1950) 282-9
28. Velikovsky (1950).
29. 416-8.
30. *Cf.* Homer's *Odyssey*, Bk. VIII, the "Song of Demodocus;" Juergens (1974-5).
31. Sullivan (1974) 214.
32. (1971) 379.

33. Chinnery and North (1975).
34. Vitaliano (1973) makes a major thesis of the reduction of legends to the commonplace.
35. Igor Akimushkin, *Animal Travellers*, Moscow: Mir Publ., 1970, 208-9.
36. Einstein (1955).

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## CHAPTER THREE

### COLLAPSING TESTS OF TIME

It would appear that someone has stolen the rocks of the Earth. In North America, 35 epochs, comprised in 250 rock formations which are formed of a great many less thick and distinct strata, have been recognized as composing the geologic column back to the “beginning of life,” the Paleozoic of 570 million years ago [1]. [Lately a billion years.] The Pre-Cambrian before this is thought to have consumed 2,000 or perhaps even 4,000 million years [2].

But the formations are never present for inspection in one place. If every different stratum that was ever labelled were heaped up in its maximum deposited thickness, the pile would tower into the stratosphere. According to the accounts rendered of the world Geologic Column, there should be 400,000 feet or 80 miles thick of sediments [3]. Furthermore, the heap should cover the whole globe, unless somebody else has been digging rock from the oceans and carrying it up the continental shelves. For the ocean bottoms are scarcely sedimented [4]. And they are of a different rock than the continents. “In the whole of geophysics there is no other law of such clarity and certainty as...that there exist two preferred levels in the Earth’s crust.”[5] Or perhaps someone has been burning sediments to make granites for the sial. The origins of granite are mysterious [6].

If this seems to be nonsense, the nonsense may be in the idea, not in the telling. There is no such heap, no complete geologic column. And a geologist would be foolhardy to defend its historical presence.

Eighty miles up is 75 miles above Mt. Everest. Eighty miles down probably everywhere on Earth, one has passed through the plutonic rocks, is well beyond the critical Moho discontinuity, and is deep into the molten mantle.

To account for all such presumed material, one would have to be an extreme catastrophist. For, allowing that continental land (or sial) covers only 40% of the globe and the sediments lay on the average only 4 miles thick upon the 20 mile thick sial, which is one-fourth of 80 miles, then  $4/80$  of  $40/100 =$  two per cent. Ninety-eight per cent of the Earth's sediments have disappeared.

There is a kind of saving argument which is, however, self-defeating. The layers added together to reach 80 miles are of known maximum deposits, not average ones. Sheer guessing might halve the maxima, making the total column 40, not 80, miles in height. So the 2% would become 4%. Then 96% of the sediments are missing. Adding abyssal sediment would hardly matter.

These crude estimates are perhaps adequate to solve the mystery of the great land robbery. Half of the stolen sediments were never there. Great forces, operating in short periods of time, have fluxed the crust of the Earth so thoroughly that a great many strata of false identity and false age have been created. The other half of the sediments was stolen by "Uranus Minor" and stashed away on the Moon: the method will be explained in Chapter 7.

### *RAPID SEDIMENTATION*

Rates of sedimentation are usually estimated on the basis of contemporary rates. Allowances are made for demonstrable past events but these are interpreted on gradualist lines. If the Grand Canyon's age is calculated as an eroded river channel, its age is great. But if it is regarded as a transverse branch of the fissure-fracture of the East Pacific followed by deluge and tidal erosion, then it could be of holocene age [7].

Ocean sedimentation recently examined under conventional premises (with the "help" of potassium-argon techniques), have dated the present ocean basins at nowhere more than 200 million years, incomparably younger than by former calculations [8]. The sediments were found to be astonishingly meager.

Yet, contrary even to this new dating, the ocean sediments could be provided readily from catastrophic sources in a thousand years after the basins formed, as Chapter Seven will show. Furthermore, the ocean bottom, which is under enormous pressure, contains only unconsolidated sediments, a sign of newness [9]. And if the oceans had once been land and the land ocean, then certainly great rock formations should line the bottoms.

In addition, at the rate at which uranium is now flowing into the oceans, the oceans and their sediments have accumulated a supply representing less than 100,000 years of flow, and when the flow off the continents is calculated as a negative exponential curve, the age of the ocean becomes holocene [10]. For most sediments would have been dropped or transported in the earliest years.

Sedimentary rocks are given very great ages in part because the “normal” visible rates of deposit are slow. But a single cometary train might lay down a “hundred million years” of till or detritus-clay and gravel-in a day [11]. A coal deposit can be launched by a high-energy “bulldozer” in a matter of hours, covered over the next day by clay and baked until ready; it does not need the “millions” of years of development insisted upon by uniformitarian sedimentary calculations [12]. Petroleum deposits are not proof of long ages, whether terrestrial or extra-terrestrial [13].

Geologist E. M. Larrabee studied a deposit of maximum thickness of one meter [14]. It was laid down by the Shenandoah and Potomac Rivers at Harper’s Ferry (Va.) between 1861-64. Over 100 strata could be identified. Historical research suggested that two or three floods, each lasting a few days, produced them.

In the history of geology anomalous discoveries in supposedly old sedimentary deposits are numerous: a Roman coin ploughed up from the prairie of Illinois [15]; a doll sucked from under till and lava in Idaho [16]; a fossil fish below hundreds of feet of Wyoming shale pirouhetted among many layers of annual varves [17]; a “4000 year-old” log ensconced in a “billion year-old iron deposit of Labrador;”[18] a fossil 80-foot skeleton whale poised

upright amidst some “million years” of diatomaceous (organic) deposits [19]; a fossilized set of startled extinct “bullheads” in English lower Old Redstone marking millions of years [20]; a 100-foot diameter boulder nestling in a large pure clay deposit in Timor [21]; a house-high muck of smashed bones in Alaska [22]; human bones and sophisticated artifacts amidst extinct animal remains and Tertiary fauna under California lava [23]; and so on. Each one warns: “Stop the clock!” All together, they say, “Question all deposits as alternatively quantavolved and evolved.”

Shelton’s marvelous, though uniformitarian, photographic book of geology should be quoted here. After remarking that laminated clay deposits (varves) can permit a time estimate of each layer, he says

“For the common sediments... we have no accurate knowledge of how long individual beds took to accumulate or of how much time elapsed between the deposition of each...Some thick beds accumulate in a short time, some thin ones take much longer, and in all probability the period of nondeposition that separate most layers represent far more time than is represented by the strata. As Charles Darwin pointed out over a hundred years ago, with far fewer facts to go on than we have today, from the standpoint of time, the sedimentary record is very incomplete - just an entry now and then with long pauses between.”[24]

How did Darwin know the pauses were long? How long is long? Indeed Darwin’s idea of “long” is “short” according to today’s scientists.

Again I quote Shelton: “Unfortunately most sediments do not contain reliable clues to how fast they were deposited---or to the duration of intervals between layers... Observed rates of sedimentation range from almost immeasurably small fractions of an inch per century to many feet per hour and make it almost impossible to estimate the average for my large deposit...”[25]

### *CORAL REEFS*

Among the most complex challenges to quantavolutional geologists, uniquely related to sediments, would appear to be the

coral reefs of the world, both living and fossil. An ordinary statement of the conventional case in the following:

“Because the coral polyp’s existence is tied to that of the algae, coral reefs can grow at depths no greater than around 180 feet -- below this not enough light penetrates to permit algae to carry on the process of photosynthesis. The brittle material we call coral is the polyps’ protective external skeleton. The tiny animals absorb calcium salts from the ocean, allowing them to build these calcium carbonate structures around their bodies. New generations of coral polyps attach themselves to the skeletons of dead polyps. In this way the coral reef grow larger - layer upon layer, generation upon generation. Expanding at the rate of only few centimeters a year, some present-day reefs have been developing for 100,000 years and more.”[26]

The author does not mention fossil coral found at considerable depths beyond 180 feet. One must suppose a land-sinking or that the water level was rising as the coral grew; the lower coral would die, the higher would grow faster. Suppose the water temperatures were higher; the coral might grow faster; Suppose the amount of calcium salts in the water increased; the polyps would flourish. The opaqueness of sea-water is not an absolute, nor, for that matter, is the radiance at the surface. The algae supply has many variables determining it, including species adaptations and mutations that may cause greater or lesser light requirements. Can coral polyps feed upon bluegreen algae? Do shallow warm lava bottoms and new limestone accelerate coral growth? All those questions can make the coral reef an “anomaly” in short-time reckoning, reminding one of the “anomalies” that are similarly handled by uniformitarians in regard to apparently catastrophic phenomena such as vast “river-formed plains” or the “gradual” erosion of the Grand Canyon.

Even by conventional dating, long-term and carbonating-assisted, the seas are supposed to have been over 100 meters lower 20,000 years ago, before the “great ice melt”, and, before then, the sea-level was abruptly higher and the coral could not have survived [27]. Hence a continuous coral reef vertical development “for 100,000 years” would be highly improbable. Further, the 180-foot live-depth figure may be more nearly half that -- or 80 feet maximum live depth [28]. The vertical growth rate of coral can be from 1 to 12 meters per thousand years. The

lower limit is actually zero, depending upon thermal, chemical, nutritional, wave-energy, and pollution conditions. The highest rate, for all we know, may be limited only by the speed with which the sea-level is rising.

Fossil coral, not heretofore mentioned whether beneath coral growth of the past eleven thousand years, or separately discoverable, as in the Arctic Circle, or at depths of hundreds of meters elsewhere may have originated in the swamps and shallow seas of Pangea, the wholly continental Earth-crust that we postulate in this book. Some of the fossil coral beds may, like the continents, have been displaced and rafted to new locations.

Much of the reasoning employed in the case of coral growth here may also be used to argue the case of limestone caves and their stalactites. That is, subject to discussion in a forthcoming volume, the limestone caves of the world may be taken to be largely new, a product of large-scale electrical discharge of the Earth, water-accelerated. Arguments may be advanced farther, to wit, that the drip-formed stalactites and stalagmites can be grown in short times under non-uniformitarian conditions and yet be strong enough to stand against heavy seismic shock [29].

### *RADIODATING*

William Thomson (Lord Kelvin, 1824-1907) estimated in 1899 that the Earth might be no older than 24 million years if its matter were chemically inert and its heat only the primordial remnant. Other scientists disagreed, opting for longer durations to accomplish evolutionary processes.

How uncertain were the stratigraphic estimates of time that geologists relied upon before new radiometric techniques came into use a generation ago is revealed in their quick surrender to radiometry: it is common joke that the earth has aged a billion years per decade for several decades, all owing to new tests of time by radiochronometry [30].

Certain elements, such as potassium-40 and uranium-238, which are to be found in rocks of the crust of the Earth, especially at or near surface levels, are radioactive. They are sometimes called

“parent elements” insofar as they decay into “daughter” elements by giving up electrons or by other means [31]. They began their decay as soon as they were formed. One calculates their life-span by figuring backwards from today’s rate of decay as witnessed in a sample of the element. A rock matrix presumably will contain the parent element and the daughter element in proportion to its age, unless it had undergone some exceptional experience. The dozen or so transformations used for dating purposes include uranium-238 decaying into lead-206, of potassium-40 decaying into argon-40, and of rubidium-87 decaying into strontium-87 [32].

None of these methods is useful directly for the period since 14,000 B.P. because the decay into daughter elements is too slow to detect over the short time. However, radiodating challenges our model of quantavolution indirectly when it produces long-term dates where short-term dates are expected. For example if, by potassium-40 argon-40 dating, the ocean floor appears to be 100 to 200 million years old, then it cannot have been formed between 13,000 B.P. and 9,000 B.P. Also, when igneous rocks associated with hominid bones of the Olduvai gorge, dated by the same technique, produce an age of about 1.75 million years, then the bones cannot be of the holocene epoch.

Major problems occur with radiodating. One is in the setting of a rate of decay and therefore setting a date for “time zero” within a reasonable margin of error. Regarding the “time zero” problem, the radio “clocks” work on vast ages, from one billion to five billion years of age. Adjustments in the so-called decay constant may move all tested rocks up and down the time scale by many millions of years. Although such adjustment never approach a short-term position, they cause doubts as to whether there is in fact a constant rate of decay to be discovered.

A second kind of difficulty deals with high-energy events. Radio-chemical methods of determining pre-historic age are extensions of the uniformitarian premise that the chosen chemical elements have remained unchanged in a closed system, save for the decay process, since the clock started to tick. They assume that nothing would affect the parent or daughter element, apart from the expected normal decay from one to the other;

nothing could tamper with the clock. Recent studies cast doubt upon this theory; high forces can break and enter the clock.

The concept of “half-life” is used in radioactive decay time measurements. The half-life of an aggregate of an element is the length of time required for half the atoms of the aggregate to decay into the new element. The half-life of uranium-238 is 4.5 billion years, calculated backwards from presents rates of decay. Can the process of decay be so regular [33] ? Decay is the losing of an electron from an atom that is unstable; it therefore amounts to a transmutation. The occasion of the decay is a force. The force is another particle from another statistical aggregate. This force is regularly and randomly applied to the “A” aggregate causing a regular rate of loss. Each “A” atom has an equal chance of being hit in the bombardment. Hence whatever affects the bombarding aggregate will affect the rate of decay of “A”.

And all “A’s” may not be identical. Some “A’s” may be “harder to hit,” “resist cleavage,” or “repel the projectiles.” Still, as an aggregate, ”A” might respond uniformly to the force causing is transmutation.

Radiation physicist H.C. Dudley [34] has insisted that the equations describing radioactive decay rates were crudely derived long ago: “Bluntly, they are incorrect; but they nonetheless appear in our latest textbooks...Studies have varied the decay characteristics of 12 other radionuclides [besides  ${}^7\text{Be}$  and  ${}^{90}\text{Nb}$ ] with changes in the energy state of the orbital electrons; by pressure, temperature, electric and magnetic fields, stress in molecular layers etc.,” citing G. T. Emery.

Dudley further asserts that in certain cases, the “decay event A is causally related to decay event B occurring later, such that the time distributions of all decay events were no longer truly random, as required by current theory. There appears to be a chain type reaction operating...similar to that observed in neutron induced sustained nuclear fission,” here citing chemists J. L. Anderson and G. W. Spangler.

Dudley asks for the incorporating in decay theory of “the energy state of the entire atom [not just the nucleus] and on parameters of interaction with an energy-rich subquantic medium.”

The work of Anderson Spangler and Dudley implies this for revolutionary primevalogy: decay rates for radioactive elements are dependent upon high-energy forces in the environment, and may be varied little or much. Radioactive decay can be compared with chain reactions in nuclear fission. Hence, at certain points in time, especially when the phenomenon of the catastrophic tube occurred, time pressures (based on today’s retrojections) would have been instantly and completely disrupted.

### *RADIATION TURBULENCE*

We are conjecturing further, here, that major disturbances in the parent-daughter relationship may occur as a result of radiation storms and typhonic impact explosions. Lesser and more localized in effect, and often inter-connected with radiation storms are jovian bolts, phaetonic atmospheric penetration, titanic large body encounters, and dense material fall-outs. These operate as follows:

Cosmic radiation consists of high-energy particles that bombard the earth sufficiently at the present time to permit the presence in the atmosphere of atoms of all chemical elements. Both the particles striking earth and the transmutations of particles are varied. When, according to quantavolutionary theory, age-making and age-breaking episodes occurred, the earth passed near to heavily radiating bodies and was also subjected to heavy radiation storms from a distance. In fact, every change in the earth’s atmosphere lessened or increased the reception of radiation: the cloud canopies, the lowering or dropping of canopies, the rising of exploded vapors, the destruction of biospheres and the loss or gain of atmosphere from comets, meteors and planets.

In all of this, the parent and daughter elements involved in radio clocks have experienced a turbulent history. No pair of elements can be granted to have remained locked in their crystallized rock interior since the beginning of its time. There is no way of

commencing the history of potassium and argon at the bottom of the sea. The bottom formed in a turbulent atmosphere and hydrosphere, first wet, then drowned shallowly. then deeply submerged but all the while actively spreading. The waters that poured in came directly from the skies, through skies via the sea and earth evaporation, and through runoffs loaded with detritus.

Under such circumstances the clocks might be deemed invalid. They were set wrongly to begin with. They have maintained a semblance of agreement of very old ages by first of all having had similar recent experiences within their rocks, and through laboratory fudging of tests and samples back and forth.

Yet even “normal” experience of today’s solar system presents a severe problem. Nitrogen contained in air and in radioactive mineral undergoes a considerable transmutation of isotropic elements. Lead undergoes the same. The cause is neutron-promoted transmutations. As a result, the decay process of uranium into lead is paralleled by neutron-to-lead activity. When as in certain Katanga and Canadian ore bodies, a neutron-promoted corrective factor is introduced into the uranium-to-lead decay process, the daughter element that is owed to uranium decay is so reduced as to produce a zero age result [35].

This kind of problem is rendered even more difficult under solarian conditions by problems of selecting and sampling rocks, by the fluxing and painting of the surfaces of rocks where trace elements aggregate, and by the need to transfer (with dubious validity) the findings of a test in one part of the lithosphere to conclusions about tests in other parts.

Problems of leaching and fluxing are severe. Rivers carry an estimated average of  $6 \times 10^{10}$  grams per year of uranium down to the oceans. If the lead is left behind in the rocks this escaping uranium is effectively turning back the clock [36]. Parents are leaving their daughters, and the remaining parents are being charged with their existence. The amount of uranium in the ocean, moreover, is so small (10 to the 17th power grams) as to have been produced even under non-exponential solarian conditions within about 10 million years. With quantavolutionary

theory, the exponential rate of deposit would eradicate even this time calculation.

Helium in the atmosphere is originated radioactively from the uranium and thorium in the lithosphere and from cosmic rays from the galaxy and beyond. Conventional ages of the lithosphere require that  $10^{20}$  grams of helium should have been released into the atmosphere whereupon some of it would escape into outer space. However, the rate of escape is too slow under solarian conditions to explain why so little helium exists in the atmosphere. Given the amount of helium present there, it has been calculated that the age of the atmosphere must be only 12,000 years [37]. That is, some 12,000 years ago, the atmosphere was reconstituted.

Radioactivity was discovered a century ago but time-measures of radioactivity are largely a post-World War II development. Despite the shortness of its life, changes in the field have been numerous and radical. Its leaders turn quickly in new directions whenever problems are encountered, introducing new half-lives, slicing experimental rocks differently, and giving their favor now to one, and again to another technique.

#### *POTASSIUM-ARGON DATING*

Potassium-argon dating has become highly favored recently, for reasons too byzantine to develop here. For, the criticisms that can be addressed to uranium-lead dating hold also against 40K/40A dating. Indeed, argon (one of the “noble gases” whose exclusiveness or slipperiness gave them their name) is generally to be suspected of vagrancy. Also, the stability of potassium is in question. “Potassium can be made to diverge widely from conventional abundance by countercurrent electromigration.”[38]

Argon-40 will be present in a rock if potassium-40 is present and has had time to decay. Only igneous, and certain types of once-melted metamorphic rock, can be tested. Sediments cannot. The half-life of 40K is so long (1.3 billion years for half the decay to occur) that almost no argon-40 is to be found in a young rock, and therefore tests are not yet considered valid for less than 100,000 years.

Dates produced by related tests are often discordant. Material taken from the Salt Lake Crater on Oahu, Hawaii, dated from 200 to 3,300 million years [39]; the Moon has been dated as older than the universe [40]; and 200-year old lavas, that should show zero Argon, produced enough to allow 12 and 20 million-year old dates at Kilauea, Hawaii [41]. I shall only mention that, under such circumstances, in other cases, the problems of full and open reporting may become serious in the field of chronometric science; as in public affairs, there arises a temptation to dismiss, “fudge” or even conceal some of the evidence [42].

Argon, like uranium and radioactive trace elements generally, tends to rise to the surface of the Earth. Hence surface rocks (and these include all that have been measured) will be high in argon content. Argon also can be infused into hot rocks from the air and kept there as the rocks cool. This could have happened to Earth if Mars, thought now to be rich in atmospheric argon, encountered Earth 2,700 years ago; the same Martian argon may be what is making Moon samples, so young in some respects, so old by 40K - 40A dating [43]. The U.S. Venus probe of 1978 found astonishing quantities of argon-36 and possibly argon-40 in the burning atmosphere.

Argon, being “exclusive,” “slippery,” and “noble,” leaks. It escapes into the atmosphere; it flows horizontally. It prefers rocks of certain types to other rocks. On the Island of Naxos, Greece, Poul Andriessen found side by side metamorphic rocks which, in tests performed in his Dutch laboratory, produced ages of 5 to 15 million, and of 200 million years (amphibolite ultrabasic rock) [44]. Australian tektites have given 700,000 to 860,000 years by the 40K - 40A method in 7 to 20 thousand-year-old strata [45].

Funkhauser and Naughton, faced by the Hawaiian incongruities, speculated that excess argon could be held in crystal irregularities and imperfections such as grain boundaries and dislocations in the rocks. This likely theory would appear to throw the K-A ratio upon the mercy of petrology rather than chronology.

Granted argon is more abundant in rocks nearer the surface, a lava flow will erupt melted surface rock first, than lower rock, then still lower rock. This may falsely date a set of lavas, although the law of superposition is correct. As the law demands, the strata of lava on top will be younger (and hold less argon) than the strata below (with more argon); moreover all will be very old for the reasons given above. As matters stand, it would be a grave risk for geology to rearrange the phanerozoic scale according to 40K - 40A dating principles.

### *THE RADIO-HALO PROBLEM*

Radio-chronometricians pass restlessly from one measure to another, despite their elaborate equipment, which critics have alleged to be too burdensome to discount and abandon (over 100 laboratories exist today for carbon dating alone). While continuously asserting the validity of the great time intervals they have discovered - and indeed imposing this belief upon the geologists and anthropologists - nevertheless they are engaged in a quest for improvements and for new tests that are less vulnerable to complaint.

There are at least a dozen parent-daughter, radioactive decay tests, each with its problems of the type already displayed in the discussion of 40K-40A tests. Discordant time readings within and among individual tests, demonstrable leaking and leaching of elements, and proven possibilities of elements being created under catastrophic heats and pressures are vexing problems, even more than the problems of sampling and contamination.

If, to this time, the restlessness of chronometricians has been excused as a search for technical perfection, that excuse has now worn out its acceptance. The reduction of the uniformitarian ideology is permitting a clear view that elements in varied isotopic forms can and have been engendered by natural and human forces.

The implications of various studies, writes Melvin Cook, are that “apparently all the elements are available in cosmic radiation at very high energies as bombarding particles, and that the synthesis of high mass atoms in large decrements of mass increase is possible. It is therefore only necessary for our earth

(or its accretion materials) to come close enough to the source of cosmic radiation to effect a complete equilibrium distribution of atoms. At present, the earth itself is too far away from the source of cosmic radiation (owing possibly only to the protecting influence of its atmosphere and magnetic field) to maintain nuclear equilibrium in respect to U, Th, K<sup>40</sup>, Rb<sup>87</sup>, and other radioactive atoms [46].

These remarks should be taken in connection with the possibilities of catastrophic typhoons or tubes, described in the last chapter, and fluctuations in solar activity recently discovered.

The studies of R. V. Gentry are especially threatening to radiochronometry [47]. He examined over 100,000 radiohalos in the decade just ended. A radiohalo (or pleochroic halo) is a spherical colored ring around a radioactive nucleus denoting the escape of an alpha-particle and its ionizing of a surrounding zone. The ring's size is determined by the speed of escape. When uranium (U238) decays, it does not decay immediately into lead (Pb 206) but produces seven other isotopes *en route*, from thorium, radium, radon and polonium. There occur, then, with decayed U238 eight concentric rings, of which five are distinguishable.

Gentry discovered, however, that many halo systems *begin* with polonium; they exhibit no uranium or other supposedly preceding halos. And polonium 210, the longest lived of the polonium isotopes, has a half-life of 140 days. If some of the oldest rocks of the world contain this isotope, without a uranium-thorium predecessor, it follows that the host rocks must have been formed in days. Promptly, then, one would have to drop a billion years from the history of the Earth, for the original rocks are supposed to have taken a billion years to crystallize.

Parentless polonium atoms may be primordial, as are uranium-238 and thorium-232 atoms, but this would imply that polonium halos "represent evidence only a brief period between 'nucleosynthesis' and crystallization of the host rocks." [48] Incredibly, rocks would form immediately upon the synthesis of the elements in them. Reporting upon a telephone interview,

Stephen Talbott says that Gentry “finds compelling reasons to question the entire dating scheme which undergirds our concept of geological time.”[49]

Other studies of coalified wood from the Colorado Plateau, buried in rocks of the Jurassic-transition, evidenced such an abundance of uranium and lack of lead that ages of at most 100,000 years had to be assigned to the coal. Then Gentry, in examining the radiohalos, had to report that the coalification required only days, not millions of years [50].

Sykes has shown by experiment that a magnetic field of the flux density of 0.1 tesla is enough to increase the mean decay count of radioactive cobalt-60 and to skew the distribution of decay incidents from the normal. The “decay constant” was increased by about 2%; correspondingly, the half-life of cobalt-60 decreased [51].

#### *RADIOCARBON (CARBON-14) DATING*

Cosmic rays of the galaxy strike and explode atoms of the atmosphere. These give off neutrons that interact with nitrogen of the air to make carbon-14 or  $^{14}\text{C}$ . This passes into carbon dioxide and then into plants and other living organisms through their food supply. Living organisms also ingest carbon-12 which does not decay. When anything that has lived dies, it ceases to ingest radioactive carbon-14, and the carbon-14 within its cells begins to decay into nitrogen-14. Half of it might decay in 5,730 years, the other half in another 85,000 years, according to conventional theory.

Thus, any once-living organic substance can be tested for the amount of  $^{14}\text{C}$  that it now contains in relation to the amount that was originally ingested. The carbon-12 level can be used as the base of measurement. However, not all species ingest  $^{14}\text{C}$  in the same amounts, so that specific rates must be calculated for different species. More importantly, “the amount that was originally ingested” may vary [53].

All that has been said about the effects of high-energy forces upon the atmosphere applies to carbon-14. How much nitrogen was in the primeval atmosphere is unknown and is presumed on

today's measure. The carbonization (burning) of the biosphere and the sudden proliferation of flora will directly affect the rate of generation of  $^{14}\text{C}$ . Also, if carbon-14 was heavily generated in the atmosphere by electrical phenomena and radio storms, in the times when Uranus, Saturn and Jupiter were worshipped, it was ingested extensively by organisms. Matter of this period would test as "younger" today, provided that several other "constants" remained constant.

As disasters diminish in intensity following chaos, relatively less  $^{14}\text{C}$  would be created; matter would grow "older." Several disasters involved the desiccation or saline ruination of large areas of the world; this would cause less carbon dioxide to discharge from plants. During short periods of burning, great amounts of non-radioactive carbon are discharged into the air and waters, and therefore contribute to a temporary "aging" of the new life of the time that follows. Whenever both a cosmic brilliancy and a conflagration occurred, today's tests would be contradictory, and averages would mislead. (see Figure 5.)

Libby and Lukens have estimated a "perturbation of about 1%" occurring in the production of radiocarbon of tree rings by lightning bolts [54]. This represents a neutron supply added to the supply produced by cosmic rays. The estimates are based upon present-day assumptions, also upon highly varied conditions and inexact knowledge of the extent of lightning or its effects [55]. It does not consider lightning discharges occurring solely in the atmosphere, and especially the mega-bolts that can be a thousand times more powerful than the average earth-striking bolt and were recently discovered by satellites.

Aside from what is happening in the biosphere, a fixed  $^{14}\text{C}$  component of the atmosphere, upon which the test is based, depends upon a constant encounter rate between cosmic particles and nitrogen that produces  $^{14}\text{C}$ . Since radiation storms occurred and long-term radiation levels were diminished and increased from time to time, intervals of the  $^{14}\text{C}$  scale must have been rendered invalid, except for mere coincidence. Only in the years from about 500 B.C. TO A.D. 1900 might the amount taken in by organisms have acquired some constancy. Even so, strange aberrations of the  $^{14}\text{C}/^{12}\text{C}$  ratio occur, as with shellfish and coral growths.

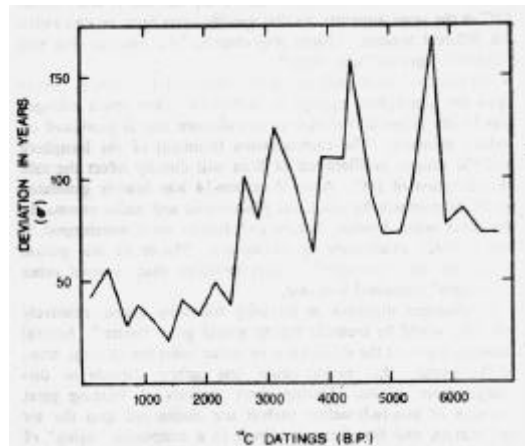


Figure 5. RADIOCARBON DATINGS AS INDICATORS OF ECOLOGICAL STRESS. (Click on the above picture to get an expanded view. *Caution: Image files are large.*)

The left-hand scale ( $\sigma$ ) registers the standard deviation of the “true” curve from the trend curve -- the number of years by which the radio carbon dates of each 250 year period deviate from the average of the whole group of dates of that period. The bottom scale represents the years before the present (taken as 1950 A.D.). As the chart shows, the dates begin to be erratic increasingly around the time of the Martian encounters (-2687 B.P. by this book’s 2000 B.P. standard). The time scale goes to - 6750, and thus carries one through the Martian, Venusian, Mercurian, and Jovean ages. However, even the erratic swings shown here do not portray the true extent of atmosphere and ecological disturbance, because, as the text asserts, a succession of quick changes in the atmosphere is possible, from low to high radiocarbon intake therefore by the biosphere, and this phenomenon would cause an evening-out of still a second and possibly much more serious form of deviation. Within a time of several years, an organism could ingest widely varying amounts of  $^{14}\text{C}$ . Hence I suggest that radiocarbon dating may be useless before about 2500 years ago and there may have been a completely different radiocarbon cycle, as M. Cook maintains, before the Lunarian catastrophes.

(Source: Damon *et al*, extended and applied [47] by G. W. Oosterhout  
Half-life is 5730 years.)

There are many anomalies in  $\text{C}^{14}$  dating, a few of which are mentioned elsewhere in this book. Artifact dating has become quite common, with most of the apparent successes occurring on artifacts and substances of the recent historical past. But it is precisely the problem of  $\text{C}^{14}$  dating that, by our theory, it is

almost surely wrong in the earlier periods when the tests are most needed.

A group of scientists recently excavated “Little Salt Spring, Florida: A Unique Underwater Site.” Among many remains they found in a lower level a tortoise carapace, which provided a date of  $13,450 \pm 190$  B.P., and a wood stake used to pry open the animal, which gave a date of  $12,030 \pm 200$ . Some 1400 years of difference. Yet this is not the only problem. The whole range of time may be in question. For a base of a carved oak mortar was discovered and dated to 9080 B.P. and then declared to be similar in style to a piece recovered at Key Marco, 130 km to the South, and dated at about 1200 years ago [56].

The quantavolutionary hypothesis is disruptive of carbon dating, as it has been conceived. An adjusted curve is impossible because the revolutions of the atmosphere in precisely the most critical millenia in primevalogy cannot be positioned and defined sufficiently well for them to be employed in weighing the scale intervals. The  $^{14}\text{C}$  method will be useful for dating the past 2,400 years, when allowances are made for short-term atmospheric fluxes owing to extraordinary cosmic, volcanic, solar, industrial, nuclear explosional, or other activity disturbing to the atmosphere.

Mysteriously, corroboration of some of our conclusions comes from a retrogressive calculation by Melvin Cook of the amount of  $^{14}\text{C}$  in the ancient atmosphere. Granted the present level of carbon-14 and the fact that it is rising slightly, he found that all the  $^{14}\text{C}$  would have had to arrive in the atmosphere within the past ten to twelve thousand years [57]. Far from being constant, prior radio-carbon was at this point wiped out statistically and theoretically a new atmospheric accumulation began. This would appear to be about the time of the climactic Lunarian catastrophe. However, this calculation, as Dr. Cook might grant is more useful as a *reductio ad absurdum* than as a plotting of the true history of atmospheric carbon.

### *TREE-RING TIME*

Dendrochronology has discovered only one tree whose rings can be used to date associated events back into periods of interest to

primevalogy. Such is the hard bristlecone pine, which may achieve 5,000 years of age by ring count. By matching fossil pine with living pine, the ages may be traced back further; perhaps 8000 years B. P. have been claimed by matching . (if conditions of fossilization were uniform millions of years of matching would be theoretically possible!) It is assumed that rings have always grown on an annual basis. Not surprisingly, quantavolutionists have adversely criticized the technique [58].

“Annual” is a relative standard, presently derived from a revolution of the tilted globe of the Earth around the Sun. Changes in astronomical motions can change the number of rings; if a “year” is shortened, the rings may be increased within the normal lifetime, something that may have caused the Methusalah phenomenon in early reported human ages of the Bible and elsewhere [59]. Also, the rings may increase or decrease if climatic conditions introduce a doubling of seasonal cycles within the same year-time.

The tree has to be matched with human or natural objects of known age, or used to calibrate radiocarbon dating. But tests cannot calibrate each other without reference to a third test. This third test is often a historical date, but such dates rarely exceed 3000 years and even before then are hotly disputed. Furthermore, there occur in the cross-matched trees gaps of rings that may correspond to revolutionary incidents in the arboreal environment. Electron microscopes can find exceedingly thin rings, but cannot explain aberrations among them.

Despite all of this, if bristlecone pines could be calibrated over a span from 5000 to 8000 years, this would mean that the solar system has existed that long in a form not radically different from its present form. Also, no important element of the atmosphere or climate affecting rather similar biological organisms would have changed. Further no major annual motion of the Earth respecting the Sun must have changed (orbital distance; orbital speed; rotational speed of the Earth); or all three motions, if changed, must have added up to the same total solar-exposure time.

### *MAGNETISM*

When rocks are near melting, they are stamped with the direction of the magnetic pole. When cooled, they keep this directional stamp. If reheated, they lose it and acquire whatever new stamp is indicated by the current magnetic pole. Also, if a rock changes its position, its magnetism will point away from the location of the magnetic pole towards which it was originally oriented. If also it is heated in a new position, the imprint will be oriented differently upon the rock. Paleomagnetism studies the changed magnetic orientation of rocks. It also judges the ages of rocks, but within severe limits [60].

Great belts of ocean basin rocks are imprinted with a polarity that is reversed from today's. Moving away from the great hot ocean ridges, alternating belts of reversed polarity occur. It is believed that these reversals occur at intervals, whether a few thousands or millions of years apart. It has been shown that the belts grow older (by fossil record, by inference from land studies, and by 40K-40A tests), as they move outwards from the ridges. It is believed that many millions of years show up in the magnetic bands.

But magnetic reorientation depends upon the last heating of the rocks that contain the imprint and upon their movement. If the ocean bottom is moving much faster than assumed, then the time between reversals is shortened in proportion. And vice versa, if the reversals occur rapidly, then the ocean bottom must be moving much faster than believed. Probably both have occurred: the ocean bottom moved rapidly and magnetic reversals occurred repeatedly, both within a period of several thousand years, probably between ten and thirteen thousand years ago, or so we shall argue in a later chapter.

Magnetic reversals occur for reasons unknown. Why they should happen at long intervals of time rather than short intervals is also unknown. Short-time intervals between reversals are probably connected with an impulse towards or an actual change of the axial inclination (now  $23^\circ+$ ) of the Earth. Impulses were frequent in revolutionary ages. I shall be proposing later, with the support of legendary and geological evidence that the Earth's

axis probably tipped on various occasions, both gradually and sharply.

After each abrupt change, the globe may have rocked for a time before stabilizing. The rocking took many years; the multiplex worldwide legends of Hamlet's Mill [61] may reflect this perceived motion. In that case, the belts of differently imprinted rocks would represent rapid growth of ocean basins, with a slowly wobbling axis of spin and a reversing magnetic field.

A prior period of wobbling of the axis could even produce, in a period of accumulating ice, a succession of seeming advances and retreats (or the illusion of the "ice ages"). But also, pluvial intervals would occur, with melting in-between. The penchant of early man and mammals for living near ice-fields is understandable only because the Earth beyond the ice was not cold (since the ice might come from above). However, it is too early here to take up a position on the "ice ages," which are dealt with in the third volume of this work.

Two terms are used to discuss magnetized rock: natural remnant magnetism and thermal remnant magnetism. Geophysicist T. Nagata of Tokyo has shown that the two are the same. Remnant magnetism, furthermore, will occur and increase with any temperature increase above 200°C.

Magnetism decays. The exact coefficient of decay is unknown. The half-life of paleomagnetism may be only 5,000 to 10,000 years; all magnetism, according to M. Cook, may be less than 70,000 years old [62]. (Nagata guesses 1 million years.) Therefore, paleomagnetic bars of the ocean bottoms or land cannot well be used to measure time. Any considerable intensity must record a young age. *A priori* paleomagnetic ocean bottom measurements showing millions of years of age must be wrong. The position here taken is that any magnetism of the crust is primordial except where the crust has suffered a melt or welled up as new crust from the interior magma.

*FOSSIL RECORD AND MUTATING TIME*

Organisms that die in a mineralizing setting may become fossils that are recognizable unless subsequently melted or crushed. Fossils are the principal means of dating sedimentary rocks, and, by inference, such igneous and metamorphic rocks as may be connected to them. If two rocks, no matter where they are found, contain the same fossils, the rocks are usually from the same period of time. The more numerous the identical species of the two fossil assemblages, the surer their common age. When the rocks appear to be in superposition, the fossils help to assign them a relative date. Once this is done, if afterwards the same rocks occur in isolation or not in superposition, the fossils which they contain enable their dates to be inferred.

A fossil may be wrongly dated. The record of its period and species may be incomplete. Or the fossil assemblage of various species may have been zoned and then have been transported to another area and placed, say, above a younger assemblage. Or the method of dating may be fallacious. For example, at the Schefferville (Canadian) iron mine, fossil wood specimens, radiocarbon dated at 4,000 years and largely unchanged chemically, were found imbedded (but not intrusively) in iron ore of pre Cambrian age (“over a billion years ago” and before trees evolved) at depths of several hundred feet [63].

Attempts at correlating results of radiodating with established fossil dating have not helped. They have thrown the phanerozoic scale into disorder. Acceptance of radiodating provides numerous anomalies in traditional fossil successions. Basic difficulties in both methods come out of high-energy processes that devastate the atmosphere, build sediments and transport life forms quickly.

Plant and animal species require time to adapt to environments (life niches), to proliferate and to become extinct. So long as high-energy expressions are absent, it is reasonable to assign long periods to these processes and long life to the species. Originally, evolutionists were composing calendars that were under 100 million years in all. The discovery of natural mutation introduced a dynamic of change, but a successful mutation

turned out to be, in theory at least, a most rare event. So more time was needed.

Now a billion years or more is allotted for the evolution of species. But quantumvolutionary theory permits short mutation intervals, quick and widespread extinction, the opening up of a great many life niches for pre-existing and new species, and the possibility of less restricted and therefore exponential growth of population. Hence all the time may not be needed to explain evolution, even as evolution is understood by neo-Darwinians today.

### *CYCLES AND ANNIVERSARIES*

That the world was created, destroyed, re-created and destroyed again, repeatedly, has never been doubted by any culture anywhere or anytime, except by the modern uniformitarian culture [64]. Five great ages are found in ancient Greece, India, Tibet, Peru and Mexico. Seven ages are put forth in another Hindu source; in Mazda; in Hebraic sources; in the Sybilline oracles; among the Mayas. The Hawaiians and Icelanders count nine; the Chinese reported ten ages up to Confucius. All may be taken as valid relative to localized definitions and experiences. All may be regarded as authentic challenges to the ages set by geochemistry and radiochronometry thus far. There occurs, nevertheless, an urge to straighten or blend cycles into a helix, even in mythologies obsessed by repetitive chaos of creation.

“The final step in Aztec speculation, as indicated by their great Stone Calendar, is to assign the four earlier world ages to the four world directions, with the satisfying result that the present age belongs to the center of the world, the place where man likes to think of himself existing...The terror of experiencing a derangement of the cardinal points is transmuted by systematization into the comfort of knowing that all resulted in placing man at the center”. [65]

Very recently, however, it has become clear that the competition for chronological veracity is going to be framed in the ancient cyclical - or, as I have termed it here, helical - mode. Natural scientists are becoming “helicalists”. Writes Umbgrove, “What creature is this that breathes so heavily every 250 million years

[66]? He refers to the Earth and to the cycles of “death and resurrection” that characterize so many earth processes. As we have seen, paleontologists, ice age specialists, solar experts, diastrophists, and electromagneticists - each in their own way - are discerning helices of the ages [67].

Also York and Farquahar, radiometricists:

“Radiometric dates obtained on rocks from a single continent tend to cluster into definite groups. Ages are not uniformly distributed in time.”

Furthermore, the timing of the groups seems to be similar over all continents. One can guess from their data that quantavolutions recur and affect the whole Earth [68].

Every cycle began with a kind of creation or rebirth. There was little of regularity on earth. Life was a continuous commotion. An obsessively fearful race projected itself into the sky. When planet Saturn became the great god, he was king of man and destroyer of man, but also bringer of wisdom and bountiful food. The Saturnalia began and have persisted to this day in jubilee days that follow days of sorrow and fasting. The Jovean anniversaries took over the Saturnalian. The Venusian and Martian came then in the spring near the vernal equinox while the old anniversaries centered around the shortest day of the year (in the northern hemisphere).

From full moon to full moon gave an easy method of counting in the Age of Saturn and it could usually be observed in the often misty nights. Moon calendars, sun calendars, and planetary calendars were often possible in the periods between changes of motion and place. A lunar month can, and does, change its length, without requiring a major social change except to revive terror and encourage religious ritual and related behaviors. Not until the last of the disasters had ended, in 2687 B.P., did a stable moon or sun calendar that was correct by present standards appear. Long afterwards and even until this day in many parts of the world, nothing in the order of skies is taken for granted, and, for calendar anniversaries, for festivals, and for public policy decisions, expert moon-watchers of the priesthood decide precisely when a moon should be termed full or new.

Practically all human constructions that have survived from earliest times are temples, temple-connected, or astronomical. The megaliths, found in many the age of surviving records, that is, the Middle Bronze (Mercurain) and Late Bronze (Venusian) Ages, scientific observations of solar, lunar, stellar, and planetary movements were recorded in several countries; they differ from the observations that scientists today would make of the same movements.

The ancients numbered scientific observers among them, and states were sometimes dominated by astronomer-theocrats. Water-clocks, that measured time by the passage of water, and sun-dials were built; specimens have been found; they mark a time, however, which differs from the present day.

These early observations were made by dedicated, highly-disciplined corps of observers and are to be trusted. If they were dedicated and disciplined, it was ultimately because the skies could not be trusted; humans, god-driven, harnessed themselves to the observation of the skies, their pragmatic distrust reinforced by the ever-present subconscious illogic: "To watch is to control."

### *58 TESTS IN DISPUTE*

The quantavolutionist offers his tests of time. They usually lack tubes, needles and gauges and require a general vision of history. The quantavolutionist looks amiably upon tests that mix human evidence with natural evidence, joining an ancient legend or an invention with a change in appearance of the Moon or Mars. To the evolutionist, the quantavolutionist appears fuzzy-minded, gullible, and fanciful. But to the quantavolutionist the evolutionist seems narrow-minded, technocratic and historically lame-brained.

The quantavolutionists say this: Consider all the great natural forces that operate today. Read the ancient myths and accounts to discover how much greater were the expressions of these forces in the beginning. Extrapolate the effects of these forces as known. Then state what must have been the condition of the skies, the earth, and life in the earliest days of human

recollection. Then, if interested, go back even farther, to what might have happened before.

The evolutionist offers his tests of time. When these tests are applied, we see time as very long and change as very slow, point-by-point, drop-by-drop.

The tests are very many. It would take an encyclopedia to discuss them properly. But on the chart of tests (Figure 6 on pp. 60-67), I have displayed four things: the test itself, a brief phrase on its unique quality, the main position of evolutionists in respect to its validity and the contrasting position of the quantavolutionists.

Although it is beyond the capacity of this book to carry explanations and analyses of the fifty-eight listed measures of time, the major objections to their evolutionary interpretation can be set forth. I shall do so, following the categories of the chart, with apologies for the necessary exaggerations and exclusions.

The main objection to accepting the evolutionary explanation of the prominent features of the Earth's surface in Category I is that they are all based upon unproven constancies in the forces working to form the surfaces. High heat and pressures, hurricane winds and tides, or movement of the Earth's crust can form all of these features in short intervals of time. One can move over the surface of the Earth and offer an alternative quantavolutionary explanation of all singular features.

The main objection to the biological measures of evolutionism is again that they may all occur through quantum jumps under high energy impulsion. Once granted that mass extinctions and arrivals of species occur in correlation with catastrophes, then it is only necessary to point out that "successful" mutations themselves are so rare that large numbers of mutations are required, which implies that atmospheric catastrophes are needed. Biological and geological quantavolutions are the basis of the ecological changes that produce the evolution of species.

The third category of radiochronometry almost entirely depends upon a constant radioactivity of certain elements over great stretches of time. Very recent studies have shown, however, that

(a) we do not know the original state of the elements and hence the history of their radioactivity, and (b) undecayed and decayed elements have become separated somehow, sometime, and their ratio cannot be now regarded as a measure of time. In the case of item 8, the uranium elements are not found in expected oceanic and atmospheric abundances for a long time record. In the case of item 11, catastrophically produced materials such as water and natural gas are found in an abundance under high pressures that long-term effects should have erased [69].

Of the astronomical motions, the fourth category, it can be said that (a) proof of constancy of motion is only available for a very short time; (b) even if the laws of motion suggested a history of motion, they do not *write* the history; (c) some motions are mysterious in origin and best explained as fossil motions from some radically different ancient motion; (d) evolutionary science has been loath to consider the history, presence, and effects of electricity in regards to star systems, solar systems, and the Earth (as to both its external and internal force fields).

### **[Click here to view Figure \(Table\) 6](#)**

In the fifth category, evolutionists have wrongly, yet persistently, defied a multitude of ancient voices even when these voices are in consensus on events and time sequences. They have blighted the growth of the science of mythology. Moreover, they have not considered catastrophes in the explanation of discontinuities of excavations, whether strata were disrupted or erased entirely. As Claude Schaeffer declared in his monumental survey of Near East excavations, “Our inquiry has often been rendered difficult by the rarity in most reports of observations on beds of destruction.... Some reporters have regarded these beds as a nuisance or of little interest.”[70]

It should be clear, therefore, that the hints given in Figure 6 can be expanded into major criticisms of each category of tests. In addition, several general criticisms may be directed at off categories.

One may object to the frequent unwarranted claim that the skies, air, waters, rocks and biosphere have changed always at the same rate and under the same conditions as we see them changing today. Inconstancy afflicts most gauges of time. The more that the quantavolutionary hypothesis is insisted upon, the more that the past processes seem to deviate from present ones - geological, biological, chemo-physical, astronomical or cultural. The planet Jupiter, for example, has become more and more of an ogre since Velikovsky predicted its radio noises in 1950, and a scientific dragnet is now out to trap all indications of its stormy past, present, and future behavior.

A second reproof is that evolutionists have committed often the same scientific misdemeanors that they accuse the quantavolutionists of. Possessed of two results, each based on a common or different debatable assumption, they claim that the results, since they agree, are certainly true. They have concealed anomalies, allowed the contamination of samples, exaggerated the certainty of their observations, generalized from insufficient data, pleaded their premises as proof, selected the evidence, used special cases as proof, and been thoughtless when it comes to larger theories.

Moreover, observations are often uncertain and unreliable in the tests of time. Significantly, progress in instrumentation many have the effect of disclosing hitherto unobserved phenomena that tend to nullify the aim of the measurement. For example, C14 dating aimed at using a constancy to establish dates, but it has helped greatly in discovering inconstancies. The brilliant and thorough attempts to perfect radiocarbon dating have already given some needed proof of the Martian and Venusian catastrophes"[71] and may paradoxically end up as a most valuable source of information on the ravaging of the atmosphere before Solarian times.

Also, the search for pure samples to test for dates has sometimes shed more light on other problems than upon time. Analysis of Thera(Aegean Sea) explosions ash samples has led to studies distinguishing earlier eruptions of Ischia (Italy) and casts doubt upon various cultural modes of dating for the Eastern Mediterranean [72]. Hydrocarbons from widespread fires have

lately been discovered in “normal” land and off-shore cores drilled in the eastern United States [73].

Frequently a lack of data hampers conclusions about time. Whole realms of nature are missing from the annals of times past. Catastrophic events not only compress time but also destroy the evidence of time. Floods, tides, and hurricanes can erase levels of the biosphere completely; it is permissible to argue that all centers of civilization of the Saturnian age to be described later were completely eliminated, that all “neolithic” discoveries are of survivors, especially of peripheries of cultures - just as the Hebrews, Sumerian, East Indian, and other legends declare. Then, too, the subsequent Bronze Ages chronology for the ancient Near East has lately been shown to be awry, largely because catastrophic premises provoked a re-examination of the domestic and international problems of the dynasties of Egypt [74].

Finally, the evolutionary theory has had the services of practically all scientists and scholars of all disciplines for 150 years. By contrast, quantavolutionary theory has survived without media or funds and only enough scholars to make rare guerrilla forays into opposition-held country. From lack of focused case studies, the revolutionary time-tables have been excessively imaginative, including that which is to come in the next chapter.

It is fair to say that the five classes of time-tests of Figure 6 include practically all techniques of telling prehistoric and ancient time. One should stress that tests on a given site or material or problem are often multiple, as they should be, to see whether the tests support one another. If they do, of course, the probability of validity is increased. It may seem appropriate to annual or ignore the results of one test on particular or general grounds such as contamination or even general theory; but it is hard to knock out several tests on the same grounds. Nevertheless, one should bear in mind the set of general problems confronting tests of time, the special problems inherent in each category, and the particular problems inherent in each testing technique as indicated in the chart. In the case of several areas - sedimentation, potassium-argon tests, radiocarbon dating, tree-ring dating, paleomagnetism and the fossil record - my

comments have been sufficiently extended to show that the debate is generally complex and ramified in respect to all types of time-testing techniques.

I have by no means exhausted the range of criticism. For instance, I credit thermoluminescence dating, involving its decay since the last high heat of its matrix, with “promise.” Yet the pioneers of the field are commonly frustrated: “There is a gross discordance between the TL age and the radiocarbon age..” of sedimentary samples baked by lava from the Massif Central’s *Chaine des Puys* (France), the one giving 26,000 years, the other about 11,000 years [75].

Still I can sympathize with the person who, after all is said and done, consults the conventional time-tables and reasons as follows:

“Thousands of scientists of many fields have worked with one or more of some fifty tests. Even if nobody is an expert in more than a couple of test areas, the scientists all lean on each other. And all agree on the long-range thrust of the many tests. Their agreement should add up to a certainty for either long-range evolutionism or long-range revolutionism. Short-range revolutionism must be wrong.”

In reply, I can only stress what has already been said above and elsewhere in the book:

“Every test has its problems of design, administration, reading, and interpretation. Fifty problems do not make a solution. I could readily declare that ancient catastrophes are absolutely proven because not 50, but 150 or 500 cultures unanimously declare that they survived universal disaster. But *more* than this proof by agreement of sources is needed, in my view.”

### *THE DISSOLUTION OF TIME*

The idea of long-range time is the bedrock of present-day intellectualism. It is ideological. It performs a great, but fundamentally non-rational, service. By extending time to inconceivable lengths, one makes of it, in effect, a constant, which need no longer be accounted for in factoring the causes of

ancient events. Nevertheless, every ideology or “ism” is at best a model, at worst a blinded mule, pacing a circle endlessly.

Of the 58 tests listed, only 1 (one) does not depend upon the empirical experiential proposition that the processes of nature have been proceeding at a constant pace with only minor lapses.

The one exception is the principle of superposition of strata (I. 3). It is a logical principle. It can only come into effect when natural and human material is laid down; it is only valid when the material is not overturned or undermined by igneous or over other intrusions.

The reluctance of “Nature” to tell her true age is perennially a frustration. In a day when even solar time is not accurate enough for some functions and tests, and when even star-time is introduced, the fact that some people must be wrong by hundreds of millions of years in telling historical time cannot help but make one wonder if the minority, at least, is not mad, or whether the whole of science is a sham. Neither is the case.

Knowing how wobbly and weak a grip the human mind has upon time it should come as no surprise that “Nature’s” time is disconcerted and disparate. Only by the greatest exertions and mutual discipline and only at the highest peak of group organization are we able to hold a tenuous grip upon a schedule of time; even then, the individual’s psychological as well as active deviations from the severely imposed bonds of time are very many and dominant, if one were to be brave enough to count the undisciplined vagaries of time in relation to the ordered ones.

If this temporally disordered mind has difficulty in ordering time in relation to the ordered ones time in its immediate contexts of group cooperation, it is not to be expected that its farthest expeditions into space, species, and events could establish a nice clockwork. Historians like to tell a story: God, according to Isaac Newton, had set the machinery of the world to move like a clock, but had to intervene upon occasion to make adjustments in its regularity, (an idea that reminds us forcibly of Plato’s God at the tiller of the world ship). Whereupon Leibnitz was

prompted to remark that Newton had not only made of God a clock-maker, but a poor one at that.

### *OF MAMMOTHS AND AMBER*

If, as the preceding pages imply, there may be a general failure and collapse of long-term methods of time-reckoning, a need for a radically alternative chronology arises. But where lies the possibility of such ?

Quantavolutionism brings to bear on the problem the abilities of great forces to compress astronomical, geological and biological time. By adding human testimony to anomalous current scientific findings, enriching these with new evidence, especially of an electrical nature, and integrating them within a new hypothetical structure, it can propose a new chronology of the holocene period.

There is little chance that a single technical device, a test, will calibrate the ages. A holistic method must prevail. A thing to be dated must be evaluated by every technique available, in as broad a context as possible; and, even while it is being tested, it is testing the test. For example, Carbon-14 presents us with dates between 30,000 B.P and 21,000 B.P. on three different frozen mammoths; then, for the carbon-14 dates to be acceptable, Siberia must have remained frozen for the duration of the period, else two of the carcasses would have rotted [76]. But then the mammoths would have suffered three catastrophic time-points of sudden death and sudden preservation, by asphyxiation and deep-freezing. A peculiar repetitive kind of disaster would have to characterize this long period of time. If we believe that the species was exterminated at once, then the carbon-14 method cannot be at all valid here. We must still await a definitive study of this long-discussed puzzle. Its solution is important; the utility of carbon dating hangs upon it.

Another case involves the fossilized resinous exudation of dead pine forests, amber. The Greeks cherished it for its beauty and its electrical properties; its name was "electron." At Pylos, a Mycenaean city, whose buildings collapsed under intense heat, large stores of amber were found [77]. The substance was in ancient times transported by well-known routes sacred to Apollo

from the coastal towns of the Baltic Sea [78]. There it was being washed ashore from vast sunken pine forests. Recent radiocarbon dating of pollen conflicts with conventional belief, according to which the Baltic basin was filled 70 million years ago, and places the flooding of the Baltic Sea in the middle of the second millennium [79], a catastrophic period that will be described in the tenth chapter story of Venus. Presumably, only after several hundred years was the amber fossilized, exuded, washed ashore, evaluated, and incorporated into international trade.

Isaacson has independently established the burning of Pylos in the period of cosmic perturbation involving the newly great god Mars, that is, the eighth and seventh centuries [80]. Fossils themselves tend to be proof of local or general disaster. The abandonment of a precious store of amber also indicates natural disaster, not an aftermath of a battle or accident or ordinary earthquake. Might it not be that no one was left to dig up the treasure? It would appear that all evidence can be put into a mutually supportive context that is much broader and convincing than a set of dates contributed by single technique. Reasoning from the sacred, the commercial, the behavioral elements, one has grounds for disputing the geological theory that assigns millions of years of age to the Baltic inundation; how could amber have been so abundant that it was still washing ashore in quantities sufficient to support a thriving business? The origin of the mysterious amber was carried in Greek myth: the Heliades, sisters of Phaeton, who drove uncontrollably the solar chariot and was sent crashing to Earth by a bolt of Zeus, wept amber tears in grief for their brother [81].

#### *SCHAEFFER AND VELIKOVSKY*

Still another type of reasoning can be shown in relation to Schaeffer's demonstration of widespread concurrent site destructions in the second millennium B.C. [82]. Schaeffer follows conventional Egyptian chronology and dates the periods of destruction by the association of Egyptian artifacts with the site level artifacts under scrutiny, whether at the site or elsewhere [83]. That is, the Egyptian chronology was regarded as absolute, just as the radiocarbon dates were once so regarded, and still are given significant shifts and weights.

The revision of Egyptian chronology by Velikovsky, now being completed, shifts whole centuries forward and about, and shifts the whole Greek-Near East chronology with it [84]. For the moment, confusion reigns, and there is bitter resistance. But soon it will become clear that innumerable historical and archaeological problems will be solved simply by switching to the new chronology. Thus, all that Schaeffer “automatically” consigns to the end of the Middle Bronze Age, at around 1750 B.C. I assign to the same time, but dated at about 1450 B.C. The many destructions that he consigns to 1200-1300 B.C., I assign to 800-700 B.C., granting special consideration to exceptional cases.

The results are remarkable. Suddenly, the vast “hiatus” between “13th century” destruction and 6th century proto-classical times becomes only a brief hiatus. It is clear that the vast movements of “the peoples of the seas” were a fiction [85] employed by scholars to explain the widespread natural disasters of the 8th and 7th centuries, the Mars disasters of our calendar.

It is tempting to conclude this discussion of current problems of chronology with remarks made lately about Lord Kelvin’s three methods of arriving at the age of the Earth in the 19th century. “All three methods employed unproved assumptions and very shaky estimates; nevertheless, they conveniently agreed on the age of the earth.” Geologists promptly adjusted their figures to his lead and although “it was not a case of ‘fudging’, it still took a lot of lively imagination for all those different scientists using different dubious methods to come up with the same erroneous result.”[86]

Since Kelvin’s day, chronometricians have overlept one another in their eagerness to add time. Even most catastrophists have been catapulted into the race. Long-term catastrophists heap scorn upon short-time catastrophists in order to keep in the running. They may be warned, however, that long-term catastrophism is thus asking for more and more time to do nothing. L.J. Salop [87] has discussed the effects of a 1% increase in the solar constant which causes an increase of ultra-violet, hard radiation by 100,000 times. There would occur one of the many vast destructions that mark the history of the

biosphere. A natural catastrophe may not require as rare a combination of events as is believed even by non-uniformitarians. Hence, the greater the success of the long term catastrophists in proving historical disasters, the more implausible is it that these disasters were separated by hundreds of millions of years of time. The catastrophist theory will itself demand a compression of geological and biological time.

Should the moment arrive when the far-flung outposts of time represented by radiochronometry have to be pulled back, they will probably not be able to pause at chronological defenses of the old geology; all the troops of tests would retreat to the confines of short-time chronometry.

With this, I think enough has been said in this chapter of the tests of time to obtain permission to try in this book and its successors a radical calendar that largely disregards radio chronometry; that treats carbon dating as exponentially erroneous as it moves backward in time; that subjects geological stratigraphy to catastrophic premises; and that regard human legendary reports to be correct and reliable in the large. Since all long-term measures of time have become suspect, we can proceed by using only as much time as we need for the accomplishment of the studied events. Whereupon 14,000 years delimits our temporal structure.

**Notes (Chapter Three: Collapsing Tests of Time)**

1. “Dating” (1974), V *Encyclopedia Britannica*, 490 ff.
- 2.

Figure 34\*  
A GENERALLY ACCEPTED TIME-SCALE  
Inapplicable to the present work

Age	Duration (in million years)	Cumulative Total From Present to Beginning (in million years)
<b>QUATERNARY</b>		
Recent (Holocene)		0.015
Pleistocene	1.7	1.715
<b>TERTIARY</b>		
Pliocene	13	15
Miocene (oligocene)	13	33
Eocene (paleocene)	9	42
<b>CRETACEOUS</b>	55	108
<b>JURASSIC</b>	27	135
<b>TRIASSIC</b>	23	155
<b>PERMIAN</b>	33	158
<b>CARBONIFEROUS</b>		
Pennsylvanian	41	191
Mississippian	33	232
<b>DEVONIAN</b>	390	304
<b>SILURIAN</b>	22	326
<b>ORDOVICIAN</b>	57	383
<b>CAMBRIAN</b>	92	475
PRE-CAMBRIAN (from crustal formation to first life)	2000	2475

\*Note: This table appears at the end of the printed version of this book.

3. Shelton (1966) 304.
4. Heezing, Thorp, and Ewing, 1959.
5. Jordan, quoting (chap. III) Default.
6. Juergens (Fall 1977), fn. 29, p. 17.
7. Cook (1963); (1966).
8. Heezing and Hallister, 633.
9. Sullivan, 118-9.
10. Cook (1957).
11. This is Donnelly's "Age of fire and gravel" in *Ragnarok* (1883) *cf.* Beaumont (1925) 162, 176.
12. Francis (1961) Preface, 14-17, 46,625; Francis (1972); Cook (1966); Velikovsky (1955) 44-6, 119-22, 214-19; Gentry *et al*, 194 *Science* (1976) 315.
13. Velikovsky (1950) 54-8, 67-8 *et passim*; (1955) 218-9, 261-2; Wilson (1962).
14. Larrabee (1962).
15. Corliss (1974) Vol. MI, 104.
16. Wright (1978).
17. Walworth and Sjostrom (1977) 33-4.
18. Cook (1966); (1963) letter Nov. issue, p.5.
19. "Don't rock the Ark," 68.
20. Miller (1841).

21. Ager, 37.
22. Hibben (1973).
23. Tuolumne (1981).
24. (1966) 70, 72.
25. *Ibid.*, 304.
26. Winchester (1972)c217.
27. Adey (1978) 835, fig. 4.
28. *Ibid.*, 834.
29. Williams and Herdklotz (1977).
30. The joke may be originally Knopf's 85 *Sci. Monthly* (1957), 225.
31. Cook (1966); York and Farquahar (1972); Wager (1964) for a history.
32. On rubidium-strontium see Wright (1972).
33. Anderson and Spangler (1974); Dudley (1972); Mackinnon (1977).
34. Unpublished paper, delivered at Imperial College (London) and U. Cambridge, November 1977. Cf. *Chem & Engineering News*, April 1975., "Guest comments: Radioactivity reexamined."
35. Cook (1964) 12-22; (1966) 54-5. The Katanga ore had been dated at 600 m/y, the Canadian 1650 m/y.
36. Cook (1964) 3.
37. Cook (1957).
38. Robins (1978), citing Rankama.

39. MacKinnon (1977) 11 citing Funkhauser and Naughton (1968).
40. Velikovsky (1972) 19.
41. Mackinnon (1977) citing Noble and Naughton.
42. E.g. Treash (1972); Ash (1973-4); Ransom (1976) 175-8, 200.
43. Ransom (1976) 134-6; II *Kronos* 1, 105.
44. Personal conversation, June, 1976, Naxos.
45. Chalmers (1979).
46. (1966) 26; Juergens as quoted in Ransom (1966) 183-4.
47. S. Talbott (1977); Gentry (all); MacKinnon (1977); Juergens (1977).
48. S. Talbott (1977).
49. Gentry (1975) quoted by Talbott (1977) 6.
50. MacKinnon (1976) 15, citing *et al* (1976).
51. Sykes (1978).
52. Libby (1973), Table 1, p. 8. Sea shells are notably deviant; Cook (1961-2) (1966) (1970). For discordancies, see MacKinnon (1977), fn, 39.
53. Damon (1972); Oosterhout (1976).
54. (1973), 5903.
55. Komarek (1964), (1971); “Lightning Superbolts....” (1977).
56. Clausen *et al.* (1979), 611.

57. Cook (1970).
58. Ransom (1976) 157-64; Sorenson (1973).
59. Rose (1974).
60. Sullivan (1974), ch. 6; Juergens (1978); Cook (1966), Hapgood (1970) 36.
61. *Cf. Hamlet's Mill* (Santillana & Von Dechand) where the legend is described and integrated as an ancient view of the precession of the equinoxes and its reversal over a long time, an idea which I find untenable. It does show what high skills are attributed to archaic man by two renowned scholars of ancient science and legend.
62. Cook (1966) 283.
63. Cook (1966) 332-3.
64. Campbell (1949) 261-9.
65. Mullen (1974) 41.
66. (1974).
67. See e.g. Schindewolf (1963).
68. (1972) 116; fig. 9.1.
69. Cook (1966).
70. (1948), 7.
71. *Cf.* the Oosterhout demonstration above of the indication of radiocarbon disturbances in these periods (p. 50, Fig. 5.).
72. Cadogan *et al.* (1972); Vitaliano (1969); *infra*, chap. X, p. 233.
73. Blumer and Youngblood (1975).

74. Velikovsky (1952) (1967) (1968).
75. Huxtable *et al.* (1978) 208.
76. Cardona (1976a) 82-3.
77. Graves no. 148-11, p. 222.
78. Semple, 224-7.
79. MacKinnon (1977).
80. Isaacson (1973).
81. MacKinnon (1977).
82. See Geoffrey Gammon in IV SISR (Spr. 1980), upcoming.
83. Schaeffer (1948) 19 *et passim*.
84. Velikovsky (1952); (1977); (1979, in press).
85. Vaihinger (1924).
86. Ransom (1976) 32, quoting 44 *Am. J. Physics* (May 1970) 495-6.
87. Salop (1977) 35.

## CHAPTER FOUR

### A CATASTROPHIC CALENDAR

If nature and human nature were catastrophized by events of the past 14,000 years, a calendar of the events becomes a practical necessity. Hence we conjecture that from an original primeval chaos to the world of A.D. 2,000, the human race and its natural environment passed through eight phases. They are posted on the adjoining chart, Figure 7.

The set of cases is too small for statistical treatment, but, for heuristic purposes, the typical phase may be said to have begun in general natural destruction, passed through a period of recovery and reconstruction, and then entered upon a second catastrophic set of events. Figure 8 depicts the catastrophic cycle, as it might be dealt with by the topological mathematics of catastrophism. Of the first age of Pangea, no beginning is described here; nor is any end foretold to the present age of Solaria, which began about 1,600 years ago.

This calendar takes up 14,000 years of time, and corresponds in geology to the holocene epoch. The solar system was transformed; so were in consequence the surface of the earth, the atmosphere, life and humanity. The transformations took the form of cycles, but the transformations of one era were the inheritance of the next one. Hence it might be more exact to speak of a spiral of history.

The impulses for the great changes of the world came from the skies. There the greatest forces of the universe abide and interact. In each age, celestial bodies signalled and inaugurated revolutions of the earth and life. Earth forces and life forces reacted. Humans, too, reacted, although from the beginning they dreamt of controlling the skies and earth and themselves as well. Unhappily the control was mostly managed by a set of illusions

and delusions. Human arrogance has been a reciprocal of pitiable fear.

The ages of the human earth are called, with the exception of earliest “Pangea” (all land), by astronomical names. They are named after their apparent governor in the sky. The calendar is to be construed hypothetically, not dogmatically. It will no doubt be often adjusted in the light of future discoveries. Vita-Finzi, in discussing the boundary between the Pleistocene and Holocene, praised “the one virtue of an arbitrary date, namely, its arbitrariness.”[4] I, too have this final plea in mind.

In each planetary age there were celestially provoked disasters of water, fire earth and air. Each age except Pangea developed cultures of its own, which it passed over partly to the next age. The gods were different while being the same. The Greek “Aphrodite” had traits of an original moon goddess and had many alternative names in many cultures; furthermore she later become confused with Venus, the goddess, and also the planet Venus, which had its scores of god-names too [5]. Jupiter was himself but partly Saturn too; the Chinese “Saturn” was a thunderer who announced time by great noises, whereas the Greek “Saturn” gave time and was called Kronos (Chronos) and the Greek “Jupiter” was especially Zeus, the Lightning-hurler, who was also called the Thunderer. The Calendar is but a rough path chopped through the dense thicket of early history.

### *THE NUMBER OF CATASTROPHES*

Plato in his *Politicus* paints a mythical representation of what he indeed believed to be the historical reality: that a supreme being directly controls the movement of the world ship through boundless space; that the master skipper retires from time to time, leaving the ship to founder in a sea of confusion; but then he returns to the tiller from time to time in order to save the world from complete shipwreck [6].

What can cause one to think that there was a set catastrophes rather than a single disaster, or perhaps two? And why would a baseline for the set be placed at about 14,000 years ago?

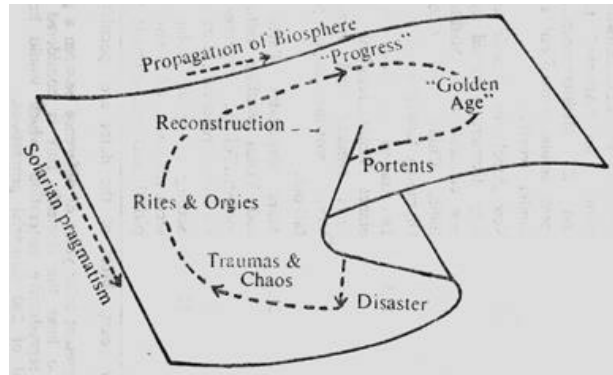
**[Click here to view Figure \(Table\) 7.](#)**

Figure 8. QUANTAVOLUTIONARY PRIMEVALOGY FITTED TO THOM'S CUSP MODEL OF CATASTROPHE. (Click on the picture to view an enlarged version. *Caution: Image files are large.*)

René Thom has been instrumental in developing a new area of topological mathematics to describe catastrophes. The above model is called the “cusp” model and is suited to portray phenomena as varied as a typical stock market cycle of “boom and bust” and the model of the historical cycle dealt with in this book, as here portrayed. Perhaps from six to twenty or more regional or global cycles will ultimately be found to fit this model. In the drawing, the dotted line pursues the course of human events from one disaster to another. After the disaster the human mind moves against the scale of solarian pragmatism, then proliferates along with the biosphere and grows confident, and enters a period of “blissful amnesia” and sublimation with many practical accomplishments; then there is a short period usually, when the environment is seen to be destabilizing, and finally there is a catastrophe. Afterwards, the survivors begin the cycle once more.”[3]

Catastrophism on a long-time basis is on its way towards acceptance in paleontology. The work of the late Professor Otto H. Schindewolf of Tübingen University is remarkable in demonstrating widespread generic and geographic destructions of phyla at the boundaries of the pre-Cambrian and Cambrian strata, the Permian-Triassic strata, and the Cretaceous-Tertiary strata [7]. A Pliocene-Pleistocene boundary catastrophe is also apparent [8], as is increasingly the Pleistocene-Holocene disasters of the “End of the Ice Ages.”[9]

The 14,000 years boundary that is a major concern of this book is, of course, the last of these - the Pleistocene-Holocene. But as the last chapter would suggest, we shall probably have to collapse the time intervals of earlier catastrophes, perhaps even back to the Permian-Triassic boundary, if we are to use some of the evidence that we think belongs in the past 14,000 years.

Further classifications of the age of mankind will need reconsideration. Today scientific conventions are given over to discussions of "Paleolithic and Neolithic Ages," "Early, Middle, and Late Ages of Bronze," and "The Iron Age". These referents are no more sophisticated in their general configuration than those of ancient scholars such as Hesiod and Ovid. These ancients furthermore introduce cycles of creation and destruction within each age and sometimes a long linear or spiral development running through the cycles reflecting "progress" or "degeneration." [10]

Although superior in detail, there is no great scientific advantage in the optimistic, linear, evolutionary schemes of Frazer, Morgan, Engels, Spencer and others who perceived a rational technological sequence moving from hominid to contemporary mankind, and whose ideas are dominant in archaeology and paleo-anthropology today. Archaeologists and historians have coined hundreds of local designations that are poorly coordinated, even after strenuous and painstaking field and museum studies. Like geologists, they have produced a surfeit of types in order to make local distinctions, and in the process have hampered theoretical integration.

All of the most ancient peoples reported that the world moved through time in a series of creations and destructions. When the Spanish explorers encountered the Aztecs of Mexico, the Aztecs were in their Age of the Fifth Sun; the earlier "suns" had ended in catastrophe [11]. There is no exception; there could be none, until the present age. This age -- which is termed here the Solarian -- combines a seemingly stable solar system with a science that has made great technological progress by following a linear or uniformitarian theory, with a general contempt for the ideas of early men.

In dividing historical time, cultural change is the most logical concept to use. Since ages must be arranged, let them be arranged by peaks of change that correlate with peaks of catastrophism. Since ages will be given names, let them perhaps be named after the sequence of great gods - those anthropomorphised expressions of disaster. For when the human race was cast down, it was by natural forces; and the forces of nature originated in the skies; and these forces were called gods and as such invaded the mind and history.

But if the scientific community, sensitive to its public image, wishes to stringently avoid any hint of association with astrologers, then an Age of Mars or an Age of Venus may be embarrassing. How to rename the ages is in itself a political and sociological problem. (There is still a U.S. cavalry long after the *cavallo* has disappeared in favor of machines.) Whereupon we may resort to Roman numerals and speak of Holocene I, Holocene II, and so forth to Holocene VIII.

Probably no two catastrophists will agree about the timing of the ages. They will agree that “energy has killed time” Some will then say “If such is granted, I ask no more. It is acceptable to me if millions of years are used to fill in the gaps between catastrophes.” No doubt this view prevails among the scientists who are first to leave the fold of uniformitarianism. Of these, certain writers ascribe the catastrophes to extraterrestrial sources, such as Urey and Ager, others to internal stresses of the Earth.

At the other extreme of catastrophism would be scientists such as Donald Patten, who holds closely to a time schedule permitted by the Bible. Calculating back from Biblical references, he hypothesizes the Universal Deluge of Noah (caused by a near passing astral body) at 2800 B.C. and then musters as much scientific evidence as he can to show that this is possible and provable. Patten also matches up other catastrophic references in the sacred scriptures to a set of dates involving planets Mercury and Mars between the Deluge and the seventh century B.C. Moreover, he adds a pre-Deluge, astrally caused catastrophe sometime within 100,000 years of the Deluge, that brought coal, oil, and other products and gases into the earth, and refers to the outer planets as their source.

Most astral or extra-terrestrial catastrophists, who see the earth as victim of intrusions from outer space, believe that at least one great catastrophe has occurred within the memory of man. Usually, like Patton, they assign this to the Great Deluge of Noah and place the Deluge in the Early Bronze Age. Terrestrially-confined catastrophists, as, in his archaeological works, Claude Schaeffer, rest simply upon the evidence of widespread destruction by fire, flood, and earthquakes during the Bronze Ages.

### *WHY 14,000 YEARS?*

The tentative date of 14,000 years ago is chosen to form the baseline of the holocene calendar because the criteria and evidence of later catastrophes, if accepted and carried back, seem to devolve into a set of catastrophes with a beginning around 14,000 years ago. Many natural disasters seem to have been concentrated around that time, some of which are lumped into a scientific fiction called “the end of the ice-ages.” True human activity began to appear in full array at this time, too, and human cultures seem to recall this period of their birth.

The calendar began with the evidence that I. Velikovsky brought to bear upon catastrophic events in the first and second millennia B.C. There appeared to be scientific value in considering the planet Mars to have been directly involved in disasters upon Earth in the period from 777 B.C. to 687 B.C. and the planet Venus to have been a direct cause of grave natural and cultural destruction in the period between 1450 and 776 B.C.

“One who mounts the tiger cannot dismount,” goes the old Chinese saying so one was compelled to reason that 1) other great gods had existed earlier, 2) practically all types of phenomena that had occurred during the Venusian and Martian ages had been reported of the times of those earlier gods, 3) a fully developed human mind and culture was indicated and implicated in these earlier times, and hence 4) a series of catastrophes had occurred. Moreover, the earth had come so close to total destruction in these episodes that the list of earlier episodes could not be indefinitely long. It had to return to a baseline of a time of systematic stability.

Therefore, if Uranus by its many names seemed to be the end of the line of gods in all religions, the system from which Uranus had originated had to be stable. This stable age before Urania could be called Pangea, meaning that all the land was together then and all the world was land -- covered [12]. Then I turned my attention to the possible physics of a stable heaven that could have preceded the sky of today. Finally a model of it seemed possible, which is described in the next chapter.

In respect to the lives of the gods, multitudinous findings of very recent physics, nuclear chemistry, geophysics, astrophysics, oceanographic and aerospace exploration have exposed an unstable basis of nature that is congenial to the catastrophic view point. These could be correlated with archaeological field work.

In the chapters to come, many revolutionary natural events can be shown to have occurred during the periods following the Uranian and Lunarian ; but a heavy and primordial concentration of disasters can be shown to have begun with the advent of the Uranian period around 14,000 B.C. Vital to the establishment of the baseline and subsequent periods is chronometry. Here, as I have shown, various fundamental weaknesses in the new highly touted radiometric dating techniques are being exposed, just when these techniques have dispossessed the old geological dating methods!

With respect to the beginnings of human nature the principle offered is one that most psychiatrists are ready to accept: that human behavior is most compulsively regular on matters that were once uncontrollably and disastrously irregular. An obvious signal of this great obsessiveness of the non-instinctual primate called man is the sky-struck calendarizing that seems to have preoccupied humans from the moment of their creation as such. All of these calendars of earliest human cultures were short in years and began with creation episodes. It is too early to assert that any revolutionary primevalogist has succeeded in organizing a system around these perspectives. Indeed, scientific reconstruction is likely to occur first as the failure of the established foundations of science, not as acceptance of a new system. Conventional and uniformitarian scientists are

overloading their camel until finally they will add the straw that breaks its back.

Obviously, there is no single experiment, no body of science, no pre-existing general theory, by which one could have proposed this schedule of events and, by so doing, could have satisfied the demands of any single science, much less any established religion. A combination of new methodological perspectives engendered the schedule.

In all of this work, one is trying to construct a new model of science on the inconsistencies and irregularities of the old. To pragmatists and instrumentalists, it is not only heartening but also easy to accept William James' often quoted remarks to the effect that from the anomalies of an old science spring the theory of a new science. "And when the science is renewed, its new formulas often have more of the voice of the exceptions in them than of what were supposed to be the rules." [13]

**Notes (Chapter Four: A Catastrophic Calendar)**

1. Temple (1976) adduces evidence of the Dogons carrying “hard” astronomical facts for thousands of years. Similarly, East Africans have distinct knowledge of iron-making techniques that stratigraphy appears to prove go back to the early solarian (present era) or before.
2. C. Wells (1964); Miller (1970); physiological generation was half the present “western” time down to modern times but most statistical studies of burial grounds show “old people” at the extreme of the distribution.
3. For discussion of Thom’s theory, see Thom (1977), Steen (1974) and Kolata (1977).
4. (1973) 47.
5. See also below, p. 178.
6. 272:3, 273:1.
7. Schindewolf (1963); Salop (1977); Lantzy *et al.* (1977); D. H. Clark *et al.*(1977); Golonetsky, *et al.* (1977); Newell (1962) (1967); Hatfield (1970). Schindewolf counters the general argument that gaps in the fossil record conceal the fact of uniformitarian changes; “the lowest percentage of gap in the strata in the whole of the history of the Earth would occur precisely on the boundary between the Permian and the Triassic.” (p.20) Thus one of the very earliest of uniformitarian and evolutionary as against quantavolutionary, defenses, proposed by Darwin himself, collapses. *Cf.* Velikovsky (1955), 237-9.
8. Salop (1977) 30-1; Ericson *et al.* (1963).
9. Velikovsky (1955); Eiseley (1943) (1946); Flint(1971).
10. *Cf.* Eliade (1963) 113 and ch. IX.
11. Mullen (1974) 41; Velikovsky (1950) 34 quoting von Humboldt *et al.*

12. Continental drift theorists, stemming from Seuss and Wegener, employ the term “Pangaea” to mean the continental crust, when it was intact and surrounded by the existing oceans. *Cf.* Sullivan.

13. William James (1896) 301.

## CHAPTER FIVE

### SOLARIA BINARIA

Searching backward for ever older memories of disasters brings one to a point where Uranus is father of the gods and corresponds to a huge heavenly body. But what kind of body is it that is close-in, luminous, draped by clouds after a period of imperceptibility, but nevertheless, from its first perception, a second glowing sun ?

Contemplation of this problem leads to a conjecture: the solar system might have been a binary system, which early humans could actually have experienced. “This is the heyday of the cataclysmic binary,” declares Cecilia Payne-Gaposchkin [1].

Among the earliest products of the human mind are certain legends, statements, and symbols that may be interpreted to support the theory that a binary system occupied the sky. Most important among these is the reported occurrence of a second “sun” that can be distinguished from the present sun, a bright star, a nova, or the moon.

As late as five thousand years ago, in Egyptian, Babylonian, Hebrew and other cosmogonies there is presented a heavenly body in the “North” that is luminescent by day and radiant by night [2]. The body is accorded divine status, and is called by dozens and perhaps hundreds of names around the world. Were it to be granted that the binary system could carry into the time of observant mankind, then much proto-history that would otherwise seem to be nonsense will appear to be probable.

The discoverable properties of star systems offer a number of indications that the solar system can be modelled as a binary system. Existing knowledge of the solar system can be regrouped around the concepts necessary to a binary model [3].

If in 14,000 B.P. our solar system was multiple, it would be in the company of perhaps half of the star systems of the universe [4]. Instead of one sun there would have been two or more suns orbiting each other. Of the nearest twelve star-systems four are multiple, three of these are binary, and three of them have dark companions that possess masses of 1% or less of the mass of the sun [5]. In this book, I am not only postulating such a binary system as our own, but also am suggesting that it persisted down to about 14,000 years ago.

Alpha Centauri A, a three-star system which, at 4.3 light years' distance, is our nearest neighbor, has nearly the same absolute magnitude as the Sun, 4.8 as against 4.86 for sun. It is in all ways, also, an ordinary medium-sized star system. Binary components frequently have similar separations to the planet-Sun distances within the solar system.

“Has the Sun a Companion Star?” asked E.R. Harrison (1977). He wonders whether a slight acceleration of the solar system detected by pulsar observations may be due to an orbiting binary partner. “The companion star is presumably either a faint white or red dwarf in closed orbit around the Sun, or a gas-accreting nearby neutron star or black hole in open orbit.”[6] Harrison adduces Oort to say that a cloud of comets extends a distance of about  $10^5$  A.U. and this, he maintains, could envelop the Sun and its companion star.

Besides the Sun, there would have been a body that can be called Super-Uranus [7]. The postulated system is here referred to as Solaria Binaria. Between the Sun and Super-Uranus there would have to be a connection, a great axis of fire, an electrical current discharging its powerful pulses across the axis of the binary. Figure 9 shows this and other features of the system. An excessive charge on the Sun would occasion the current or arc.

### *THE MAGNETIC TUBE AND PLANETS*

Around this gigantic axial current, a magnetic field would be induced. This field was composed of ionized gases and contained a number of the chemical elements in atomic and molecular form, including especially water in its three forms.

The field rotated around the central axis. Within the outer envelope of the rotating gases were a set of planets, including the Earth. They had budded and grown there in the atmosphere of the tube.

Binaries can have planets [8]. Several binaries show exchange of significant clouds of ionized gases between the stellar components. These carry both charge and matter. In Solaria Binaria, hydrocarbons may well have been plentiful in the gases that passed from the Sun to Super-Uranus.

Nearby binaries contain dwarf companions, a situation similar to Super-Uranus in relation to the Sun. Such dwarf companions have sometimes been seen to flare up, that is, to briefly resemble a small nova [9]. This seems to have happened both to Super-Uranus around 11,500 years ago and later to Super-Saturn around 6000 years ago, when it separated from Jupiter to retire farther into space.

The inner planets rotated around the central “axis of fire” along with the gases of the tube, in a motion that remains today as their rotation around their individual axes. The outer planets were all contained in Super-Uranus. Earth, Mercury, and Mars perhaps retain this fossil motion, whereas the rotations of the outer planets -- Jupiter, Saturn, Neptune, and Uranus -- are new rotations, as is the retrograde motion of Venus.

Figure 9 pictures Solaria Binaria as a “stacked” system where the planets spin like balls in the gaseous medium that revolves around the central axis between the two binary bodies. The axis itself wheeled around the Sun, on what will become the “plane of the ecliptic.” On the other hand, the Sun was losing, and finally lost almost entirely, its tendency to orbit around its binary. Rather, it undulated “as if” it were trying to perform such a motion [10], and this motion is probably what Harrison, as indicated above, refers to.

The observed binaries of our galaxy are engaged in heavy discharge of gases among the members [11]. This type of gaseous exchange is presumed here to have constituted the magnetic tube between Sun and Super-Uranus. Since gaseous exchanges must be electrified and have direction, it may be

presumed that a current was discharging between the two binary bodies. This current would be radiant and may even be the mysterious “central fire” referred to by the ancients and specifically by Plato in his dialogue, *Timaeus* [12]. But, also, the rim of the magnetic tube would alight with cooler, slower gases, admitting a luminescence to the contents of the tube including the planets.

Figure 9 has Earth nearest the Sun and the other planets in positions unlike their present ones. The Earth itself is considered to have moved least, and of having been closely passed by other planets in recent history. The total distance between the binary bodies must have been much less in those days. This is suggested not only because observed distance between present binaries vary greatly and can be quite small but also because the ancients appear to have had a knowledge of the planets and to have suffered from interactions among them that indicate a close ingrouping. The planets would have moved outwards because of changes in the Sun as an accumulator and discharger of electricity.

### *THE BINARY PARTNER*

Like the Sun Super-Uranus was a charged gas cloud with a high density but volatile core. It might have contained about 4% of the mass of Solaria Binaria. It was not unlike the planet Jupiter of today, save that it was radiant and may have carried much more water in its high clouds. Indeed, on occasion, Jupiter has been termed a defunct or vestigial binary. Super-Uranus could not be seen by the hominids of Earth, or by whatever aware beings may have existed on its other planets if they had merely human vision. Its vast cloudy environment and the intervening atmosphere of the tube disguised its appearance.

In Solaria Binaria the Sun had 96% of the total mass and more of the angular momentum than does the presents Sun, mainly because it was rotating or, better, undulating around its partner. The remainder of the mass, 4% in Super-Uranus, accounted for most of the orbital movement within the system. The period of the binary was perhaps months long. (The earliest known calendars in Egypt and Meso-America were of 260 days.)[13] Both the Sun and Super-Uranus exhibited rotation around their

axis. In the case of the Sun, the rotation was gradually reduced by intense gaseous discharges and matter flowing from the star's equator. On Super-Uranus, the rotation was increased as the electrified particle stream impinged upon its surface, whipping it like a top. These particles arrived with great energy because they were continuously accelerated as they flowed from the sun to Super-Uranus, whose potential was less negative than that on the Sun.

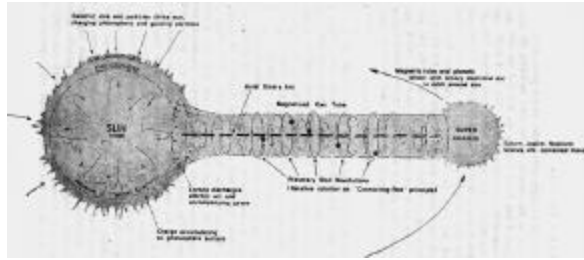


Figure 9. THE ORIGINAL STACKED BINARY SYSTEM (SOLARIA BINARIA)

(Click on the picture to view an enlarged version. *Caution: Image files are large.*)

The average separation between binary components is 20 astronomical units[14] (20 times the distance between the Earth and Sun today). However in some binaries, the partners are much further apart, in other much closer together. The division of the total mass among the components shows little pattern. “A mass ratio of about 1 to 20 could occur about 5% of the time, and under such circumstances a solar system might form.”[15]

The periods that binaries take to rotate about each other extend from the order of a day or less to upwards of thousand years. The period varies inversely with the net interaction between the two bodies. Thus, if the attraction diminishes, the period increases.

The planet Jupiter has a composition resembling that of a star much smaller than the Sun. It had more star-like traits in the past, when it was at least twice as massive. From the radiation it emits, Jupiter is thought to have a subsurface temperature somewhere between 12,000° and 50,000°C. Its chemistry

resembles more the gaseous Sun than the inner planets, or even its own satellites; it consists largely of hydrogen in various states, and holds some water [16]. Furthermore, the chemistry of planet Saturn resembles Jupiter, lending support to the theory that these two planets were once one. In Proclus, citing the *Parmenides* of Plato, occurs a statement that Jupiter separated himself from Saturn; interpreted physically, this suggests a fission.”[17] There exists, in fact, much literature on the interaction between Jupiter and Saturn, not only in Greek thought but also in other works of Near and Middle East cosmogony [18].

The high density of the inner planets suggests that they have had different careers than Jupiter and the outer planets. Venus is an exception to be discussed later, but the others probably existed long before Solaria Binaria began to disintegrate around 14,000 B.P. They each could have supported many forms of life. The chemical elements were fully represented on all of them, because the axial current of the binary circulated along the center of the gaseous tube, literally an electrico-chemical factory. All of the planets would have had similar climates.

Radioactive elements existed in great quantities, but under the electrical and magnetic conditions of the great tube atmosphere, their rates of decay into other elements were high [19]. This rapid decay, which diminished with the general de-electrification of Solaria Binaria, may account for the great ages obtained in tests of radioactive minerals today; their “decay constants” have continually and drastically slowed down.

Without recourse to the ancients, contemporary astronomers have come to the question, as D. McNally of the London University Observatory put it, “Are the Jovian Planets ‘Failed’ Stars?” “If they can be classified in this way.” writes Eric Crew, “ this means that any deductions about Jupiter are likely to apply to the other gaseous type planets, Saturn, Uranus, and Neptune. An event in one of these may also be linked to events in others, so the problem of cosmic catastrophes is that much simpler.”[20]

### *THE STACKED BINARY SYSTEM*

Up to the moment, catastrophists and uniformitarians have conducted their debate on the premise that the planets have always orbited close to the plane of the ecliptic. Whenever catastrophists have invoked planetary or cometary deviations to explain titanic encounters, they have assumed them to occur on or about the imaginary line that defines the orbit of the planet Earth about the Sun. Thus, Venus is said to have been launched into an elliptical comet-like orbit moving in or near the plane of the ecliptic when it created havoc amongst the inner planets [21]. All the collisional mishaps that might have occurred to other bodies -- the meteoroid impacts upon Mars, Mercury, Moon, and Venus, the creation of asteroids from Apollo -- were also supposedly events of a single plane.

A new developmental theory is offered here. It is compatible with quantarevolutionary theory and solves simply many important problems, so that I do not hesitate to advance it now. This possibility describes how a binary system reduces to a solar system in the time of humankind. In its primal form it was a stacked binary system where the planets ringed and revolved around the axial electric current that ran between the Sun and Super-Uranus. The magnetic forces circulated around this same axis. The axis is in its present form the plane of the ecliptic. The present planetary rotations are derived from their primeval motions around the old electrical axis. If today the planets are slightly off the axis, and stray slightly around their average position, these are probably ghost motions of their much larger historical rotational orbits.

The planetary orbits that ringed the great axis of fire descended to their centers on the axis that once linked the Sun and Super-Uranus. Thus the electrical system was transformed into what appears to us as an inertial system. I say "inertial" because explanations of motions within the solar system of today are described almost entirely as inertia (with electrical forces admixed as circumstances demand them). The laws of gravitation describe the existing motions as if they had come down unchanged from a uniformitarian past. Not "cosmos without gravitation," as Velikovsky once put it [22], but gravitational laws without gravitation.

The axial rotation orbits of the Pangean planets were proportional to their size and to the intensity of the local electromagnetic current density within the axial tube connecting the binary components. The current would everywhere be uniform. The local current density could vary. The farther from the Sun and hence the farther up the tube, the smaller the diameter of planetary rotation. The planets were enveloped in the outer gases of the magnetic tube, which also were their primordial atmospheres. Heat came from the gaseous clouds in which they were enveloped, and indirectly from the axis of fire, as well as from the great binary bodies.

The primeval human observers could see the incandescent light produced by the central current. The more dense gases near the axis glowed like a huge interrupting neon arc. The perimeter gases of the magnetic tube were probably also radiant. People could not see the Sun or its binary partner through the clouds. The axis of each planet was aligned parallel to the electrical axis; thus the equators all faced the binary axis. The axes of the Sun and Super-Uranus were perpendicular to the electrical axis; as cathode and anode they exchanged electrical current between the closest points on their equators.

### *DECLINE OF THE ELECTRICAL SYSTEM*

The source of the electricity of the system was, and is, cosmic, principally galactic, which, using a mechanism described by Juergens [23], would have charges built up in the corona of the Sun being continuously discharged along the tube to Super-Uranus, which was less negatively charged. The magnetic current whirling around the electrical current was directed oppositely. The planets within the gaseous tube shared its potential which, like Super-Uranus, was lower than that of the Sun.

The charge on the Sun had “always” been diminishing, owing to a steadily decreasing input current from the millions of other discharging bodies within the galaxy. Little by little, over a long time, its ability to radiate along the line of current thus diminished. Today the magnetic field of the Sun, carried as the “solar wind” into billions of miles of space, stretching even

beyond the planet Pluto, is a greatly diffused relic of the great Pangean binary axis current. It presently covers a wide band that strikes into space far above and below the plane on which the planets orbit, and may even be circumglobal; in any event, the band is wide enough to have at one time encompassed the axially rotating planets [24].(see Figure 10.)

The solar flares that are so important a part of solar behavior, and planetary behavior as well, occur largely between the surface and the corona of the Sun. They develop new sunspots within hours, are immensely energetic, and often penetrate the corona into over 500,000 kilometers of space. The radiation and particles they emit affect the Earth's atmosphere and possibly its motions. Gribbin and Plagemann significantly titled an article in 1973 "Discontinuous Change in Earth's spin rate following great solar storm of August 1972." Often a surge of gas accompanies a flare. Often a single flare, and many occur, has enough energy to provide theoretically a million years of electric power for the whole Earth.

"The physical causes of flares are still unknown, though it is believed that the energy released by a flare..must come from the intense magnetic or electric fields associated with the solar active region."[25] Bruce describes the Sun as sending out arc discharges continually from its photosphere [26]. The arcs fall back, in my understanding, and become the glow discharge of the chromosphere, because there is no longer an anode binary and a great enough voltage gradient to project the arc through interplanetary space. The solar behavior recited here may be sufficient to understand how I have come to construe the present solar system as a fossil binary, viewing the electricity and gases of the solar flares as "attempts" to reestablish the ancient current, transporting the radiation and elements that the original current carried.

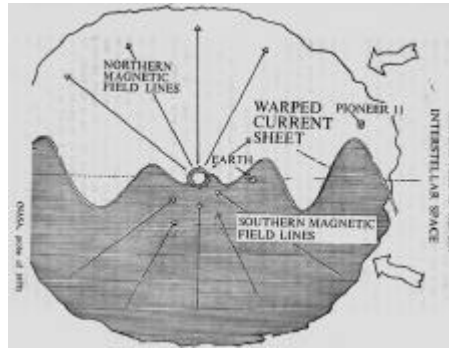


Figure 10. MAGNETIC FIELD OF THE SUN

(Click on the picture to view an enlarged version. *Caution: Image files are large.*)

Finally the motions of Super-Uranus were affected as the charge it was receiving declined. As the central current lessened, the power within the magnetic tube, which depended upon the strength of the current, also began to lessen; the planets began to convert their axial rotation into self-centered rotation. They moved toward the diminishing “central fire.” That is, their angular momentum about the central axis was converted into an angular momentum based about their planetary rotational axes.

The planetary atmospheres cleared partly because of a general lessening of density of the magnetic gases and because of deluges of water from vapors once more evenly distributed within the magnetic tube. Individual planetary atmospheres became separate. From Earth, Super-Uranus began to be seen in the North and the Sun in the South. Super-Uranus, much nearer to Earth, would, if at some 20 million kilometers distance, appear as a colorful live body twice the size of the sun or moon today.

### *THE BREAK-UP OF SUPER-URANUS*

Super-Uranus had been rotating rapidly, whipped by the charged central current like a spinning top. Now it began to slow its rotation and break apart. Great electrical disturbances resulted; meteoroids penetrated the gaseous region of the binarian axis even as they exploded into farther space. The planets moved

away from the Sun even as they were receiving more direct radiant energy from it.

Uranus Minor, a fragment produced as the larger body exploded, arched through the solar system along the plane of the ecliptic. This initiated the first of the set of catastrophes that dominated the recent post-Pangean history of Earth, the Lunarian disaster (about 11,500 B.P.). Uranus-Minor passed the Sun, lunged farther into space, then returned to the system, no longer aligned with the other planets on the axis of the binary, but orbiting along the plane now defined by the present solar system.

Super-Uranus (or “Super-Saturn” it should now be called) continued to fragment as it slowed further. In the next great catastrophe (6000 B.P.), it blew off its charged surface shell and fissioned. It became a nova. Vsekhsviatskii, Director of the Kiev Observatory, has described such an event, ascribing it to a time of 100,000 to 500,000 years ago and claiming that some  $10^{25}$  grams of material, much of it ice, was erupted into space, bombarding the planets and exciting secondary volcanism everywhere [27]. It is probably significant, that, as Shklovskii and Sagan wrote: “It now seems very possible that all novae occur in close binary systems.”[28] When novae occur luminosity increases and the expelled mass is about  $10^{-4}$  to  $10^{-5}$  of the mass of our Sun. Saturn has .02859% of the mass of the Sun [29]. The expelled minor portion of what was Super-Saturn retreated into farther space, where eventually it became the present planet Saturn [30]. The Earth was deluged with water. The major part of post-explosion Super-Saturn became Jupiter. It maintained its position at the end of the axial current of Solaria Binaria.

The new planet Jupiter’s rotation was erratic; its temperature cooled; its charging wind was drastically reduced. Yet it was still the most electrified of the planetary bodies. Jupiter attempted to reestablish its electrical line to the Sun. Sometimes discharges from the Sun and Jupiter would actually make contact across the vast spaces, but the lessened potential made the intervening gas a poor conductor. Only upon occasion did the discharge resume; when it did it wrought destruction upon the Earth, which was closing its orbit around the diminished

electrical axis. Earthlings viewed these discharges with consternation.

### *PLANETARY BEHAVIOR*

The Planets reacted to the drop in electrical power in the gaseous magnetic tube by moving inward towards the present plane of the solar system ecliptic. Their axial rotational speed changed into self-rotational motion. The hemisphere of the Earth that faced towards the disintegrating binary was increasingly illuminated as the gas clouds disappeared.

When the time came for the Earth and other dense planets to transform their minor orbits into individual rotations, they changed the tilts of their axes. The circum-current orbit of the equator described the circular motion of its minor orbit; thence the Earth's poles were perpendicular to this orbit.

But, as the Earth moved in upon the dying central current, its equator slowly shifted to the solar ecliptic. Its poles also shifted until they became nearly perpendicular to this plane, as did the poles of the other planets. Since the guiding reins of the central current were exceedingly loose now, individual axial tilts became possible, and did occur on occasion; a strict rule of perpendicularity could not be enforced.

The change from Solaria Binaria would be eased by electrical transitions, which are smoother than mechanical ones and by the quantitatively transforming binary atmosphere; hence the Earth would have been protected against sudden wrenching changes of motion and abrupt temperature changes of an utterly destructive kind.

The clearing skies brought the other planets and the binary bodies into view; they became the cynosure of the human eye in its infant self-consciousness [31]. The binary side was the boreal region, the north; there man saw first super-Uranus, then later Saturn; each in his turn ruled the world. The greatest drama of human history was observable; the birth, struggles and deaths of the gods, From the skies came fires, stones, waters, and also winds.

Why all the planets, having once lost their original circular orbit around the Sun-Super Uranus axis and having moved back and forth on the solar ecliptic plane, should then have reassumed almost circular orbits around the Sun in a plane now perpendicular to the “old” axial orbits is explainable [32]. Circular orbits, taken alone, are a mystery that conventional astrophysics has not yet considered. Even an original circularity was unexplainable under Newtonian laws of gravitational motions. My answer is speculative but all that has been said here necessitates it. The answer is dictated by electrical behavior which dominated the solar binary.

Gravitational forces can maintain stable elliptical orbits because of the interaction between orbital inertia and centripetal attraction. In a closed system electrical forces cannot. Charged bodies in an electrical field will give up to, or take from, the field whatever charges they need for electrical equilibrium, changing all motions necessary in the process. Gravitational fields are conservative. An electrical field does not yield a conservative field.

All of the movements depicted here represent the change from a highly charged electrical system to a low-charged largely inertial system. Electricity is still vital to the system and not only because it produces heat for the Earth. If the galactic electrical sources were denied the Sun, it would collapse upon itself, as would the low density planets. Neutralized, bodies of the system would continue to orbit but purely by inertial attraction, not much different from that which we now observe but without excess radiation and interplanetary plasma. Then the solar system would be truly a fossil system.

In all of these hypothetical adjustments, the Earth maintained “miraculously” smooth phasing in the transition from Solaria Binaria to the solar system (but, of course, every unpredetermined survival is a miracle). People on Earth would actually have observed all that the ancients claim to have observed and left us as myth. Earth and all other planets would have suffered damage in varying degrees at the times claimed in our analysis.

### COMPLETION OF THE TRANSFORMATION

As long ago as 1952, Otto Struve described a fast-moving series of events occurring in the Pleides star-cluster, particularly, Pleione. With unconscious irony, the article was called, "Pleione -- A Story of Cosmic Evolution." [33] By 1905, this star had been observed to lose mass, by minor fissions perhaps. It maintained a very fast rotation, 100 times the rotational speed of the Sun. Then in 1938, Pleione acquired a ring. In 1952, gaseous atoms began to flow with increasing spread outward from the photosphere and reversing layer. They filled an envelope, developed a shell, and then the whole of it disappeared into outer space. The ring had disappeared.

Struve conjectured that the observed sequence was common, and that massive material is lost in space thereby. The process is less violent than novae, Wolf-Rayet stars, P Cygni and SS Cygni stars. Payne-Gaposchkin's comments on the nova cycle make clear that although there can be discerned phases of the Pre-outburst, outburst, and decline to "normality," every nova is different. "Novae...cycles (if any) must be reckoned in centuries [34]. Even in the outburst phase, novae have observably varying behaviors. In the present transform model of Solaria Binaria, we are allowing more time; we discern several novas, and we grant the near total disappearance of the huge atmospheric tube that was the birthplace of the planets and biosphere. Only the Earth's atmosphere, the interplanetary plasma, and some vestigial planetary atmosphere remain.

There is some coherence between this scenario of events and the writings of Bruce, Velikovsky, Rose, Vaughn, Juergens, Milton, Crew, T. Gold, Eddington, Vsekhsviatskii, Ovenden, Bass, and other modern writers, not all of whom are catastrophists, much less supportive of a short-time scale. It is not of incidental significance that astronomers (for instance, Sagan, Isaacman, and Dole) [35] have calculated and published, seemingly without reason or because "the exercise is thought to be suggestive", sets of profiles for "alternative planetary systems." They line up and distribute groups of planets in altered masses and positions along the plane of the ecliptic, and exercise they are compelled to perform despite no conscious theoretical justification for engaging hours of large-computer time to make the simulations.

I would say that their results suggest that the order of planets, their masses and their evolutions vary greatly; there are many simulations to be performed, guided by an appropriate theory. One such theory is the system advanced here: that of a largely electrical binary system, transforming (under the eyes of humanity) into a largely inertial-electrical system and redistributing bodies, motions, gases and charges as it evolves.

### *THE WORLD OF PANGEA*

Life on planet Earth flourished in the binary system. The circumference of the globe was less then. The ocean basins were absent. Mountains were absent as well.

The globe was luminescent but not brightly lit, for the Sun was not visible as such. The skies were always cloudy, and the clouds dropped fresh water, usually in condensations. Occasional rains replenished shallow seas, swamps, and ponds. Hundreds of miles above, a canopy of waters diffused the celestial light. This canopy sky became part of the traits of the great god “Heaven” or “Uranus” to the first true humans, as will be detailed in the next chapter. The Moon was absent from the sky. The climate was equable and warm.

The atmosphere contained oxygen and supported a nitrogen cycle. Most of the species of today existed. So did dinosaurs and nimble hominids. Ecological development proceeded according to uniformitarian principles of a competition for survival. But the extinction of a species was a rare event. So, too, was the birth of a species. As a condition gradually changed, so changed a ratio between and among species; a biological equilibrium was maintained, without abrupt interruption.

The crust of Pangea was sial, heavy in silicon and aluminum elements, as is the crust today. Its depth was uniform; at about 30 kilometers it developed, but very gradually, into heavier silicate magnesium mixtures (sima). Great sedimentation had occurred. It amounts now to  $5 \times 10^8 \text{ km}^3$  or  $1.3 \times 10^{24} \text{ gm.}$ , [27] but twice as much was on the original crust of Pangea. All the recent vulcanism, seismism, and crustal churning has added little to the

sial, for the magma below is not provided with the materials for its manufacture.

There is no evidence that the oceans have destroyed and buried continental material, or could have, since the sial and its sediments are lighter than the sima of the ocean floor. In Rittmann's work on volcanoes, we find the following words: "Since the subcrustal magma is not capable of providing sial by differentiation, we must conclude that little has been added to the sial since the beginning of geological history." [36]

If this mass of land had been accompanied from the early assigned ages by the oceans and ocean basins, it would not have eroded into the sea, for the sea normally pushes back erosion [37]. An exception is the mouths of rivers, but river deltas explain only a small fraction of the vast continental shelves and slopes. The fossil marine beds that are found upon the land today, even high up in the Himalayas, are once-flooded land-beds or they are Pangean shallow water formations. They are the relics of deluges, tides and certain risings visited upon the world by post-Pangean catastrophes. There are few fossil marine beds laying conformably upon plutonic or basaltic sima. The ocean basins did not have to exist to explain them today. Both the uniform and equable climate and level topography of Pangea were the results of a uniform equable atmosphere and a stable solar electrical system. Both ended suddenly.

### *THE SKY-WATCHERS*

That the solar system was originally (in Pangea) a Solaria Binaria seems to be evidenced by the most ancient memories of humanity. First came the high clouds, a canopy system. Then came the "planets", actually first the dark sun primary, Super Uranus, with several nearby bodies. Then appeared the true Sun and the Moon, at roughly the same period. Finally came the stars and constellations, as the skies largely cleared.

Earliest *homo sapiens* or "intelligent human" was a sky-watcher but not a star-watcher. The stars were a later revelation. He watched first the rupture of the canopy, then the heaving off and break-up of the dark, enormous Super-Uranus, then the nearby occasionally lit up Saturn-Jupiter, then the Sun and Moon, then

the fiery all-conquering Jupiter and thereafter the stars and the progress of the constellations. The stars developed as creations of the planets and became their creatures, minions, stopping places, and mnemonic markers.

If the skies had been always as they are now, the Sun and Moon would be portrayed early and alone, they would have been the chief gods, and they would have been benignly worshipped, if worshipped at all. The Moon, inasmuch as its birth was attendant upon disaster and its presence was obvious, was more significantly worshipped than the Sun. Over time, its worship became less schizophrenic and paranoid, less brutal, than planetary worship. Still, since its origins were more startling and its apparition more varied, it has been a more powerful and disturbing divinity than the Sun.

The Sun grew upon the scene gradually. It was wreathed in gas clouds at first. The clouds let it through more and more distinctly. For a long time it could not be seen in the “Northern” hemisphere that pointed its pole at Super-Uranus.

Helios, the Greek sun god, was treated familiarly, sometimes almost with contempt. Generally he was respected, well-liked, and rarely gave offense. If the more terrible gods effaced him or displaced him, he resumed his unceasing round as soon as he could or after a period of persuasion by the gods. Unlike the planetary gods, who shone fearfully at night upon many occasions, he shone only by day. He never visibly exploded. He did not throw fits ; he did not frighten people to death. For these reasons, one must doubt the theory that the catastrophes of Earth were owing to solar inconstancies that worked upon an otherwise orderly planetary system.

If the stars would have appeared as they now appear in the clear night skies, then earliest calendars would have been sidereal. No primitive time-reckoners used the rising of a star to measure a day and a year. Yet it is easiest of all to calculate under today’s bright skies. Some scholars have sought star calendars. The Egyptians, for example, were supposed to have a Sirius calendar; more likely, Velikovsky argues well, this was a Venus calendar. The Egyptians give the earliest indications of

understanding sidereal time, but they first used a lunar, then a Venus, and then much afterwards a purely solar calendar.

The reasons for a calendar were originally to watch for bad happenings in the sky and celebrate their non-occurrence or their anniversaries as good-evil ambivalent events. Only later and secondarily were calendars applied to pragmatic ends as, for example, saying when to plant seeds or collect tribute.

Since the stars appeared dimly and with apparent irregularity, at first and until the Age of Jovea, there was no chance of developing a map of the heavens. The constellations were unknown until about 5000 B.P. Nor, therefore, could the sidereal movements be plotted against time. When, on occasion, observers exclaimed at the movements of the stars, the movements that they referred to were movements of the Earth on which they stood. The ancient late Saturnian analogies in legends of the rocking mill, the rocking churn, the ashwood rotating firestick, referred not to the precession of the ecliptic but to the wobbling to and fro of the polar axis over a short period of years upwards to a century or more, following a catastrophe.

When later the Great Pyramid of Ghiza was built (ca. 4500 B.P.), the regular movements of the stars on the celestial plane were known but not necessarily the 26,000 year precession of the equinoxes. Saturn, as god of the North, had been dethroned. The earliest navigation might follow coastal lines, and then the newly emplaced Moon would permit guidance. The stars were later used for geometry and navigation. But they were not worshipped. The Great Pyramid itself was oriented toward an apparently stable star that then marked the boreal opening, by this time correctly regarded as the North Pole. The North Pole, that is, was operationally defined as the earthly point corresponding to the celestial point marked by the stationary star.

Any boreal star might serve that did not move, and this would mark the celestial North Pole and correspond to the geographical North Pole at that moment in time. Then a structure oriented to it would change its geographical “true-north” orientation only if the ground on which it stood moved. However, the Earth could

(and did) shift afterward; and the Earth might even turn completely reversing “north” and “south”; still the geographical North would remain the same.

The Great Pyramid points, within several minutes of error, to the present geographical north pole [38]. Hence, the only possible changes of the ground on which it stands would occur (a) by an improbable sliding from one position at one time and a sliding back into about the same position later, (b) by any amount of longitudinal movement - that is, east and/or west (which would preserve the north polar orientation), and (c) by the aforesaid several minutes of deviation observable presently in the orientation of the Pyramid, which, if it happened all at one time, would have been a considerable disaster from interrupted rotation and earthquake, or as an earthquake settling the lithosphere after a past catastrophe. Subsumed under the last clause is the possibility that the Earth's shape was not yet accommodated to the approximately 1500-year-old tilt of its axis which would have required an emergence at the old poles and new equatorial region and a flattening at the new poles. However, as stated above, the chances would always be good that, if the Earth's axis tilted, some star would show up to be the “North Star” so far as the orientation of the Great Pyramid was concerned.

### *EARLY ASTRONOMICAL IDEAS*

Evidences of even earlier orientations of the first geometers to geographical north are important indicators of a boreal hole in the cloud canopy, which centered invariably upon (unless it was somewhat magnetically affected by the magnetic pole) the geographical north pole. Thus, even without stars, the skies encouraged a science of geometry, surveying, and navigation to achieve some development before the skies could be mapped.

None of this could happen before mankind had become aware, and employed symbols. The theory of Plato's *Timaeus* affords significant evidence of the thought processes that might have been employed by early human astronomers. It demonstrates the proper role to be assigned to the development of primeval mankind.

As the planets became visible and their effects forcefully experienced, their behavior was studied. It was observed that the planets, gods, that is, visited among the stars. According to the Pythagorean and Platonic theory, each human soul dwelt embodied upon a planet. If a good person, his soul would find its star. Each human should had such a star. If bad, he was reincarnated in a woman's form and successively "lower" forms until he arrived among mere turbulent elements. But, by regaining control of the turbulence through the exercise of rational faculties, he might return to his star.

Depending upon its navigational scheme, each planetary boat had its own ports of call among the stars. The stars and constellations became known by the spectacular events that occurred when one or another planet was visiting them. The planets, too, and therefore the gods, were tied in story and myth to the stars. Thus planet Mars, the "Fox star" Era (Alcor), the third deluge, the Pleiades, Ursa Major, Achilles, and the Fall of Troy are all intermingled in Greek and Near Eastern mythology. "There are, indeed, too many traditions connecting Ursa and the Pleiades, with this or that kind of catastrophe to be overlooked." [39]

Having ordered the heavens and settled the fate of man in relation to the heavens, so goes the platonic myth, the Demiurge retired and "the time machine was switched on." This would have been Super-Uranus (Ouranos, the god of Heaven) in the first age of splendid light. Then, as Taylor interprets the *Timaeus*, "the subdivision of the circle of the Other into seven, to correspond to the planetary orbits, is a fresh and subsequent procedure on the part of the Demiurge." [40] This would be the beginnings of individual planetary motions, observable by mankind, and would occur in the age of Saturn.

Hundreds of stories of the travels of gods and heroes, although they appear to take place on Earth, "actually" take place among the stars and represent planetary movements, uniform and erratic. Von Dechend learned this lesson after spending a year among 10,000 pages of Polynesian myths [41]. The bloodiest and most terrible stories deal with planetary gods when the planets are misbehaving, acting even more erratically than usual.

Myth and legend are almost always anchored in earlier world ages, if not in the dawn of mankind [42]. The contents are elaborated, obscured, even deliberately edited, but their forms and force come from the aboriginal events that they sought to report. The *Odyssey* of Homer, for example, is sung as a story of heroic travels after the Trojan Wars on an East-West Mediterranean axis. I would place its immediate events at around 695 to 675 B.C., its framework in the two centuries preceding.

A second underlying framework, however, may go back to earlier north-south travels from Scandinavia to Nigeria, when the morphology of the area was much different, that is, across low “Alps” and along a “Saharan Sea.”[43] The Arcadians, most ancient among the Greeks who had maintained a political community, “pro-Selenians” who had existed before the Moon, came from the areas of the present day Po Valley and Switzerland and may have pursued this axis of commerce.

But I have identified Odysseus as an *alter* ego of Athena, the great goddess, who is also identified with the planet Venus, as will be seen. So he is a celestial traveler too. The routes are employed by real cultures, but at the same moment they correspond to celestial travels of gods among stars. The “cosmic” ancient paths of England and other countries, that do not take short and easy routes, are probably celestially influenced, as well as electromagnetic [44].

#### *SUMMARY REFLECTIONS UPON THE CHANGING WORLD SYSTEM*

Over some ten thousand years the heavy-body motions of Solaria Binaria transformed into those of the present solar system. The composition of interplanetary space also changed. The process was begun as the breakdown of an electrical system that then took on the additional features of a gravitational disruption. Many life-forms may have existed on other planets. But except for the possible continued existence of viral and bacterial forms elsewhere, only on Earth was a rich biosphere preserved and transformed.

The “exceptional” unexplained features of the present solar system support a stacked binary system theory - the differently oriented “fossil” axes of planets: rotational differences; binary behaviors of Jupiter; certain qualities common to the group of inner planets and others common to the group of outer planets; the presence of an electrical character of the solar system today which is only partially governing but could have been fully governing; certain “librations” and eccentricities of planetary motions; the futile efforts of solar flares to establish an interplanetary arc-current, except for the solar wind which behaves like an interplanetary gas and reaches to farthest interplanetary space; the varying orbital and rotational speeds of the planets; the very existence of the plane of the ecliptic which resembles a dead wire; the small deviations from the dead wire plane; the fact that the planets do not orbit in conjunction

Comets seem to be of recent origin; so do the bodies of the meteoroid and asteroid belts; so indeed do Mercury, Venus, and Saturn and by extension perhaps all planets - features which are acceptable under the postulated model.

Ancient beliefs and observations are compatible with the postulated natural history - ancient knowledge of the physical traits of the planets; legends of the behavior of the gods; confirmation of ancient astrology and of Stoic, Platonic, and other philosophical beliefs.

Certain contemporary theories are also compatible: on the sources of and the ravaging of atmospheres; the variety of elements found on the planets; the heating and cooling of the planets; and the order of the inner planets.

Reasons are found both for resemblances and differences between the sun and the outer planets in their chemical composition, behavior, and temperatures. They may be rotating as turned-off dynamos in part.

Causes of the revolutionary mass extinction and creation of species of flora and fauna become clearer.

The history of the solar system appears to be thenceforth more in line with the gross electrical and explosive behavior of the stars,

galaxy, and universe. Concepts of gravity can describe a stable system but what disestablishes a system introduces electrical dynamics.

One can cope with the evidence that more than one comet, or planet, such as Venus was involved in disruptive behavior. The binary, theory explains why all bodies would have to move. Even the sun would have lost its undulating movement almost entirely following the dispersal of the focused binary mass.

There is no ancient comment or legend that describes the solar system as it is; there are many statements as to what it was; the binary system theory is a better reconstruction of the system as it was anciently discussed.

The presence of a heavy atmosphere - the magnetized gas tube - up to the end of the Jovian period is seen to have provided an electrified environment for many major events.

The planets moved out into space, increasing their orbital diameters gradually, as they moved nearer to the central current (now "the ecliptic," which is a motion in space) and were blown by it towards the Jupiter node. But the movements were spacing out in both directions. The ultimate spacing may not be incomprehensible; the intervals may follow "Bode's Law," or a type of the same, as the result of the expulsion of the outer planets into farther space. Bruce in 1944 asserted that when formed by fission in a nova, the separation of binary stars increases gradually [45]. The process of spacing out had begun with the original supernova of the sun, which has produced the binary system in the first place.

The idea that the planets were much more highly charged before than they are today receives support, as do the phenomena (and disasters) that occurred when they were losing their charges to other bodies and to inner and outer space.

The break-up of "Apollo" is more explainable under the present theory than before. Ovenden's proposal that a planet of 90 earth masses existed in the present asteroidal belt until some 16 million years ago invoked only a completely conjectural intruder as the cause of its explosion. More of Apollo's fate is described

below in Chapter Nine, as is the behavior of Jupiter. Jupiter still gives signs of instability in its surface features, clouds, temperatures, satellites and motions. This is in conformity with the binary theory.

Electrical “machines” operate less explosively during phase shifts than mechanical “machines”. This may help to explain the transition from one system to another without total explosion except in an outright collision. The “Principle of Least Interaction Action.” recently introduced by Bass and Ovenden to explain planetary spacing movements, has much more the connotations of electrical dynamics than gravitational dynamics in it. (The “principle” is merely definitive, not analytic; it holds that solar system bodies tend to position themselves so as to minimize possibilities of collision.)

Solaria binaria as an electromotive system resembles strikingly the human inventions of electrical motors based upon electrical principles [46]. Perhaps the solar system today can also be represented - as an electrified inertial system. Little in existing theory of the solar system and its history stands against a new binary theory. The latest discoveries about solar system behavior, as related in the final chapter of this book, seem, indeed to invite a radical change in conception.

**Notes (Chapter Five: Solaria Binaria)**

1. (1977) 669.
2. D. Talbott (1977); Gibson (1977); D. Cardona (1977); Tresman and O’Gheoghan (1977).
3. The history of the solar system before 14,000 B.P., but including as well as a thorough development of these pages, is being prepared by Earl R. Milton and the present author.
4. Batten (1973); “Binaries” *Ency. Brit.* (1969) 586-95; Jordan (1971) Appendix; Temple, 225; Ransom (1972) 16 ff; Shklovskii and Sagan, 149-50; *Scientific American*, “The Solar System” a number by now greatly exceeded.
5. Shklovskii and Sagan, 150.
6. Harrison, 325.
7. Super-Uranus is named for Ouranos (Greek) and Uranus (Latin) father of the gods, and not for Uranus, the present-day planet, accidentally named so (and discovered to have rings in 1977), but the planet Uranus is deemed here to have originated out of Super-Uranus, like the other major outer planets.
8. “Binaries” (1974) *Ency. Brit.*
9. Liller, 352. This report of the important discoveries concerning the dark primary in relation to AM Herculis (a white dwarf) pictures the gaseous exchange between stars in a way to add plausibility to the model of solaria binaria which I had drawn the year before.
10. Shklovskii and Sagan, 150 and Figure II-6 on the wavy, undulation orbiting of binary components. The Sun’s complex sections rotate variously and there seems to be no way of determining whether any parts of these movements are eccentric, anomalous motions of the gravitational-electrical barycenter. Gribbin and Plageman (1974) write (p.130): “The orbital motions of the planets, in addition to generating tides on the Sun,

also move this star in an irregular special orbit about the center of gravity of the entire solar system. This movement has a distance of twice the solar radius; it generates centrifugal or coriolis forces that may disturb convection within the Sun itself.”

11. Bruce (1975).

12. *Timaeus* and cf. L. Rose, in article to be published in *Kronos* 1980, on Philolaos.

13. Coe (1975) 14-5.

14. Kuiper, quoted Shklovskii and Sagan, 155. But *Encyclopedia Britannica* “Binaries,” (1971) 595e gives 10 A.U. as the average separation.

15. 595e.

16. But see Juergens (1976); “The bulk chemistries of both Jupiter and Venus are now unknown.” (15) Its mass could contain a rocky core of some 40 earth-masses or else would have to achieve a metallic hydrogen state in large part.

17. Proclus (1953).

18. See de Santillana and von Dechend, *seriatim*. The great astronomer-astrologists divided the major epochs of history into 800 year periods, based upon conjunctions of “fiery triplicity” of Saturn and Jupiter (399-400).

19. Sykes (1978).

20. Crew (1976), *I S.I.S.R.*, letter, 24-5.

21. Rose and Vaughan (1972).

22. Velikovsky (1946).

23. (1972).

24. NASA, News release 1977, based on data radioed from Pioneer XI. As predicted by Velikovsky in 1946 and verified by

Pioneer XI in 1977, the magnetic field of the Sun extends beyond Pluto.

25. *Ency. Brit.* v. 17, 807.

26. (1944) 6.

27. (1962) (1967).

28. 149.

29. *Ibid.* Bruce (1944) 9.

30. Shklovskii and Sagan discuss “runaway stars” that are cast into space with a “slingshot effect” when their primary body supernovas (157-8). Our theory here calls for several such “effects” over several thousand years. Anthropologically and mythically, this would be the likely source of the fundamental psychological and theological “*deus otiosus* effect,” the retired indifferent god.

31. Isaac Vail (1840-1972), at the end of the 19th century, drew the most brilliant picture of the clearing heavens and their effects upon man. His citations are unfortunately incomplete because his original manuscript was destroyed in a fire.

32. Sherrerd (1972); Williams (1971).

33. Struve (1952).

34. (1977) 672.

35. Sagan (1975) 11.

36. 265; 206.

37. Donnelly (1883, 1971) 78-9.

38. Walter Sullivan, “Study of Pyramid hints on Earth” *New York Times* (February 28, 1974); Tompkins (1976).

39. Santillana and von Dechend, 386.

40. T. Taylor, ed. and trans., *The Timaeus of Plato in re 36-d-6* of Timaeus.
41. Santillana and von Dechend, X.
42. Eliade (1954).
43. Research hypothesis recounted to the author by Livio Stecchini.
44. Michell (1969); Underwood (1969).
45. (1944) 13, presenting data from Russell, Dugan and Stewart, II *Astronomy* (1938) 703-4.
46. The electromagnetic theories of Juergens, Bruce and Crew appear to be consistent with the model of Solaria Binaria, and are to be preferred to the usual history of the solar system as a gravitational model.

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## CHAPTER SIX

### THE URANIANS

The Hindu history of Super-Uranus can be told now, the Greek history later.

In the beginning, there was Vritra, a covering and restraint upon the Earth, and later on Vritra had as allies the Vritryas, who were demons of heavenly turbulence.

Heaven, who was Varuna, lived with Earth in a common house. Varuna was an enemy of Vritra, his heavenly antagonistic principle.

Varuna and Earth gave birth to Indra. At first Indra could not be seen. He was concealed. He was fed soma until he grew so great that he finally blew heaven and earth apart forever, filling the atmosphere with his brilliant self.

Indra, with thunderbolting Danavas, and the Adityas of Varuna, defeated the Vritryas.

“When the fight was over it became apparent what the Adityas and the Danavas had been quarreling about. For out of the shattered mountains, or out of a cave, or variantly out of Vritra’s belly, emerged the cosmic Waters, motherly females who liked to escape confinement. They came out now like lowing cattle, flowing over the body of their former restrainer and lord Vritra, to acknowledge Indra as their new lord. And astonishingly, the Waters were pregnant, and their embryo was the Sun.”[1]

All took their place; “the systematization and regulation was known as *rita* (rite), which means etymologically ‘set in motion’ and has the idea in the *Rig Veda* of cosmic truth or order.” The profound meaning of the word “rite” is suddenly apparent here; religious rite is aimed at rehearsing and repeating the original cosmic order so as to support and control it by physical means.

I understand Varuna as the original benign and intimate heaven of Earth. The Vritryas are the dragon-like monsters of the falling skies. The Earth's surface is destroyed in the first struggle of the gods. But Indra appears between Heaven and Earth, the first sun, in an increasingly visible atmospheric space. Waters fall abundantly, running off the new wrinkles of the Earth. The sun arose out of southern waters. Creation was next, but humans were already created, else they would not be watching the chaos.

Now we compare this Hindu myth with an analogous but distinct Hindu myth. The world was dark and asleep until the great Demiurge appeared and scattered the shades of darkness. He then laid the seed that became the golden egg, which, when hatched, gave forth himself, Brahma. It is the same creation.

The metaphorical history of the Cosmic Egg [2] is not a different or unique event. In a close parallel to the Hindu cosmogony, the Greek heard one version of creation in Hesiod and another version in the Orphic rites. Other cultures also had two versions of creation, one of which was the Cosmic Egg. The Dogons of the Upper Niger region put twin creators within the Egg.

Before the Cosmic Egg, a universal chaos is pictured. Translucent mixtures of light and darkness are sensed in the sky; Heaven is close to Earth, if not identical with it, as an eggshell encloses its egg. The human mind sees itself as within the Egg, which is cracked open. The Demiurge who has hatched himself is Super-Uranus who presides over the now opening universe.

### *THE DESTRUCTION OF PANGEA*

According to the scenario of the last chapters, Solaria Binaria would be transforming at a rapid rate, some fourteen thousand years ago, with grave consequences to the proto-humans of Earth. The cause would have been a reduction in the particles and electrical charging that the Sun had been obtaining from its galaxy, whose expansion was proceeding then as now. The Sun's activity diminished, and with it decreased the Sun's gaseous engagement with its less luminous binary star, Super-Uranus.

The ratio of electrical motions to inertial motions working upon Super-Uranus declined. Its rotation was disturbed. Its orbital velocity diminished. It became unstable and began to fission. At least two novas occurred, one to produce Saturn, the second to bring about Jupiter. Fragments constituting of today's Uranus, Neptune and Planet "X" (should it exist) were ballooned out into farther space. By retiring they might remain intact as gaseous cold planets, whereas, if close-in to the Sun, they would have collapsed. In retiring, they disturbed the dense inner planets.

On Earth, the first period of these events is called Urania. It would perhaps occupy on the scale of present time the years 14,000 to 11,500 B.P. The geography of the Earth then is diagrammed in Figure 20 and its eventual patterning forms the matter for the accompanying table.

There would commence a bombardment of Earth material discharged from Super-Uranus. A regime of Super-energy displays would occur, occasioned by slight interruptions of Earth motions. Hot spots and explosions would develop beneath the land in place; small ranges of mountains and hills would be folded or thrust over other land, creating minor basins and many stream channels. Erratic gaseous discharges would penetrate the atmosphere and extinguish life forms in increasing numbers of localities. Great fires would be set in a world that scarcely knew fire before.

We are just at the beginning of a worldwide hunt for signs of meteoroid falls, whether small or large bodies. The amount of cosmic dust on the Earth is now known to be huge. The separation of cosmic fall-out material from volcanic material in the sedimentation of the Earth is a large task that chemical geology is now assuming. V. D. Niemann of the U.S.S.R. has calculated, from present fall-out rates, that the globe must have acquired enormous deposits of cosmic particles since Cretaceous times so that its diameter has increased by a factor of 2.6 and gravitational intensity of the Earth increased in proportion [3].

Again, the seductive idea of constancy must be contradicted; under *Solaria Binaria*, the Earth would have grown at a much faster rate, then the rate would radically diminish to its present

state when it is still considerable. However, the cosmic dust is only one type of fall-out and belts of debris around the world may turn out to be largely deposited from catastrophic fall-outs. According to B.Y. Levin. "The hydrocarbons in cometary heads must have played a part in forming petroleum and in the origin of life." [4] Meteoritic material falls in complex patterns, even in the same shower, In one Russian shower, a 343.8 kg stone struck with incomparably greater force and effect than a 440.4 kg stone [5]. A stream of giant meteoroids would probably not set up a linear spaced pattern of impacts with proportionate depths and in circumstances to permit easy discovery and survey.

After one calculation, based upon meteorite flux data and relations between meteorite mass and size of crater, it was concluded that the number of craters discovered is far below expectations. Though only 50 to 100 are known, 130,000 "should" exist from the past years. "The gross discrepancy" must be accounted for both " by erosion and by the masking effect of younger sediments and metamorphism of older terranes." [6] Or, one might add, by the admission of many new candidates to the club, such as Hudson Bay, the Bermuda deeps and Carolina bays, just as the great Ishim crater was recently described. Or that great crustal thrusts, floods, and other revolutionary events masked the craters. Or that (a) meteoroids in Pangean time were few, (b) then they were very many in the holocene, and (c) they are now much fewer.

By our theory, therefore, Urania witnessed the first chaos of the proto-human environment. As Super-Uranus prepared to fission and to retire, the magnetic tube weakened and the secondary orbits of the dense planets were reduced in diameter around the principal axis of the system. The Earth lost charge, and close-in sky vapors began to condense and fall. Also, holes were chopped in the adamantine heaven - by the creator God, Panku, says the Chinese legend. These would be extensive meteor bombardments, many of them of ice. Great lightning discharges struck between canopies, clouds and land surfaces, with sporadic deluges. The sky waters descended, gathered into clouds, and cooled the near-in atmosphere. The land waters overflowed. Heavy winds blew for the first time.

### *THE ICE DUMPS*

Where were the immense ice caps of the ice ages during this time? It will be recalled that geology is fixated on the gradual advance and decline of ice caps and many glaciers over a period of a million years. The present ice cap is usually regarded as a retreat phase of the ice that descended into the United States and Europe and regressed only some 10,000 to 20,000 years ago. However, today, one encounters fairly often the belief that the last ice age ended rapidly with destructive floods and the extermination of some species.

In a succeeding volume, I discuss the larger questions of the ice. Here two possibilities are viewed favorably. One is that the ice caps only recently appeared - during Uranian times when the heat of Super-Uranus and the binary electrical axis began to dwindle - but that before the Earth could be covered with ice, Super-Uranus novaed and the Lunarian catastrophe to be discussed soon, dumped most of the ice into the new oceanic basins.

As a second theory, the ice was dumped, not formed on the Earth, as a phase of the disintegration of Super-Uranus. It was distributed erratically in the neighborhood of the poles and on the new mountains, whence most of it descended into the hot new ocean basins, directly or from the land.

The latter speculation permits the discovery of unexpected ice-free locations. For example, Vilks and Mudies have analyzed a sedimentary core raised off the Labrador coast. In an area that has always been believed to be part of the heavy ice cover of the pleistocene, "an ice-free ocean may have occurred as early as 22,000 years before the present." Hitherto, reports "imply that the Labrador Sea was locked in year-round polar ice." Furthermore, "the pollen spectrum indicates the continuous regional presence of terrestrial vegetation during this time." Sedge, shrub and tundra were growing densely nearby [7].

The C14 dating may, of course, be basically faulty. But then the whole theory of the ice ages needs to be reviewed. Or else, the 22,000 years should be collapsed to a post-Saturnian age after 6000 B.P.

Alternatively one wonders whether the ice cap may have been a scattered set of accumulations from sky drops and brief frigid episodes. This would allow a reconciliation to some degree with those who, like Donnelly, argue that the ice ages are a myth and their “remains” are comet-deposited gravel in fact, and also with those scholars such as Cook and Hapgood who envisioned large caps, global tilt, and an avalanche of the ice perhaps ten thousand years ago.

### *THE CREATION OF MAN*

(see Figure 11 and accompanying chart)

Amidst the developing chaos, the hominids were being replaced by the human race. A growing population was being reduced even as the species itself realized its human qualities. Atmospheric conditions and the surface environment were unfavorable to survival. Inconstancies and radical changes in the air accompanied explosive seismism. Most species were greatly reduced in numbers.

The evolution of man, which Johanson, White, the Leakeys, and others have contended to occupy four million years, saw little change until it was quantavoluted by disaster [8]. The human species began the period as a stupid hominid but speedily acquired a human nature. The hominid of Pangea entered the first age of gods, the age of Urania, with a pananimistic brain. Given a merely excellent primate capability of categorizing types of reality, it could not do more than regard all the world as more or less alive, judged in relation to its own locomotive and sensory scale. It could feel well or ill, coddle and train its young, heap up protective barriers, judge and even bury its dead, and go through a variety of obsessive and non-instrumental self-appeasing and other-appeasing action, which, if viewed from the perspective of self-aware man, might appear to be spiritual, but, if seen from the zoological standpoint, would be construed in the framework of such animal behaviors as bee dances burying bones chasing one’s tail, hallucinatory dreams, or biting oneself in frustration.

The human sprang from changed radionics of the atmosphere invading its physiology and from the effects of intense prolonged

terror. A split personality was born, essentially a self-awareness. The new humans depended upon delusory projections for survival against grave anxieties. A grasp upon memory and feeling for time erupted with self-awareness. The sign and symbol spread. Systematic recollection developed. *Memoria* is daughter of Uranus and mother of the muses, including history, who is Cleo: so writes Hesiod. Group history, and therefore collective futures, commenced. Invention, creativity, planning and institutions then grew. All of this frenzied human development and activity occurred in the sight of the great god proclaimed Uranus. The *Urbild*, as the Germans call the primordial image, was Uranus, the origin of the very word.

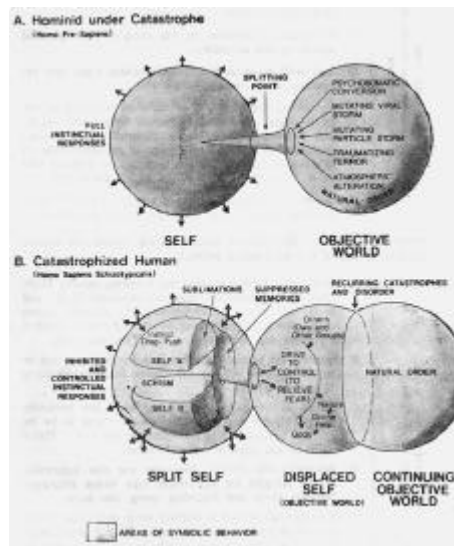


Figure 11. HUMANIZATION IN CATASTROPHE.

A. Hominid under Catastrophe

B. Catastrophized Human

(Click on the picture to view an enlarged version. *Caution: Image files are large.*)

## CHART A. THE GESTALT OF CREATION AND ITS AFTERMATH

### PRE-CREATION MIND ORGANIZATION OF THE WORLD IN HOMINID FORM

- A. Low-powered environmental forces are operative.
- B. Hominid is un-self-conscious and has fully-functioning instinctual reactions.
- C. Individual concentrates its life energies upon physical well-being and sociability.
- D. Individual possesses simple tools, makes signs, and co-operates with others.
- E. Perception, cognition and affection are governed strictly by a single coordinated instinctual being. Only rarely and temporarily are they “distorted”. No animal (hominid) no matter how bizarre or self-destructive its behavior (induced by disease, chemicals, or trainers) ever thinks to itself: “I can’t believe what I am doing!”
- F. Assume a population of bands, a reign of natural terror (massive traumas), and distraught faunal populations.

(Problem now set is: How does a human become created and survive successfully out of this pre-creation setting?)

### FIRST PHASE: GESTALT OF CREATION

- A. In a quick circular reaction the following occurs: High-powered environmental forces are unleashed in sky and earth. All senses are bombarded and radionic storms change the atmosphere and invade organisms. Physical well-being and sociability are practically destroyed.
- B. Instincts are generally blocked in a frozen terror and/or by microseconds delay in neurological transmissions along brain hemispheres.
- C. Schism of the self occurs in one or a few hominids. Effective but persistent efforts “to unite the soul”. Proto-decisions are required for self-control.

D. Memories are intense. Memories are also suppressed in the struggle for self-control (ego versus alter-ago). Selective recall and forgetting spring into being.

E. The alter-ego is used to displace terror onto other people and the threatening natural forces. (That is, the primordial being does not know whether he is “talking to himself” or “talking to others.”)

F. The ego begins to communicate with itself by displacement and projection, and having begun the process, extends it to all subjects of displacement.

## SECOND PHASE: REORGANIZATION OF THE WORLD IN SCHIZOTYPICAL FORM

A. High-powered forces continue and impress senses with destruction, chaos, and imminent return.

B. Perception, cognition, and affection are pliable (less instinctive) and are generated under conditions that mix up all kinds of phenomena of the triple-fear and triple control system of the person (fear of self, fear of others, fear of gods-nature).

C. Principle imprints on p, c, a (above) are blocking (amnesia, catatonism); compulsive repetitiveness; and orgasm (destructiveness, wild expressionism). These imprints of the new world order of the schizoid mind operate within the individual, between and among individuals, and between individuals-groups and divine or natural forces.

## THIRD PHASE: THE CONSTRUCTION OF CULTURE

A. Persons and groups, so as to control fears of self, others, and the object-world (animated),

B. And to obtain subsistence, affection and the reduction of tensions.

C. Organize their perceptions, cognitions, affects, and energies,

D. Through the mechanisms of memory (amnesia and recall), displacements (associations and ultimately sublimations), compulsive repetition (rites, rituals, rules and routines), orgasm (aggression and nihilism), and communication (by behavior, signs and symbols),

- E. To work upon materials and resources of selves, others and the object world,
- F. To set up all behavior patterns ranging from informal to rigid, including the (1) regime of language, (2) religious rites and structures, (3) compulsive modes of coping with subsistence, sex, and conflict, all of which bear the stamp of the aforesaid needs, fears, and mechanisms, but assume variegated culture-forms depending upon the “mix” of history, no matter how brief the history,
- G. And exclude or punish, “unaware,” “sinful,” or “sick” persons or groups who, in relation to a particular culture mix are deviant (i.e., have too much or too little of the key ingredients),
- H. Which deviants (e.g., “schizophrenics”) must fashion “mixes” of mechanisms and displacements, such that the number is great but represents and resembles in every case the peculiarity of the culture where it emerges.

The theology of creation everywhere holds that man was created suddenly, as he is, without previous existence. Quantavolution would also maintain that man was created suddenly, as he is, without previous existence as a human, but with a previous existence as a hominid, similar to this present physiognomy in so many respects as to be indistinguishable except for one thing. That thing is what theologians and the human race has always called a soul. But to my thinking, that soul is the inward turning of the new psychology upon itself -- self-awareness. And the link to divinity was historically inescapable. As the soul, or the split person looking at himself or herself, was born, it observed itself as born and in the company of a great active sun that was the most spectacular feature of the whole world. That form became the principle god and creator of the new human. Now here is the enduring connection between the religious world and the factual world and it explains why quantavolution in all of its previous manifestations cannot be so far from traditional religion as evolution and uniformitarianism have always been.

### *RELIGIOUS BEGINNINGS*

All new human nature came forth within a framework of time-based, terror-obsessed, and symbol-stressing behavior. Religion occurred in the human mind as the essential mediator among sky

events, Earth events and human events. But if religion was the mediator, the gods were the arbitrators and major actors.

The first manifestations of theism must satisfy the following criteria: self-awareness, deliberateness, collective memory, future-control, symbolic connectiveness with the religious object. These are closely implicated in the gestalt of creation that was described above.

The manifestations must then reflect and operate upon the condition of creation, namely, uncontrollability and rapidly intensely changing environment, and the ensuing terror brought on by the numerous expressions of high energy forces.

In addition, since great environment changes occurred in different patterns, irregularly staggered, and over successive time-periods, the manifestations of theism must follow suit and display these identifiable events by correlated theistic events. We begin the correlations in this book, but the task is beyond our present capacities.

Finally, the manifestations, according to the theory of affective results already elaborated, must, in the religious context, as in all others result in striking developments of catatonic, obsessive, ambivalent, aversive, anhedonic, sublimatory, and orgiastic behavior - that is, a delusive schizophrenic psychology of the universe. All of this forms the subject of a volume to come.

### *PALEOLITHIC RELIGION*

It is a conventional belief, quite disproven by Marshack, that “whereas Paleolithic art provides abundant evidence of primitive man’s concern both with his own kind and with the animals which constituted his main source of food, there is apparently a complete absence of interest in the physical environment – no representations are found of the heavenly bodies, the sun, moon or stars.”[9] Of course the uniformitarian, evolutionist model of thought would prefer to believe this, but in fact the leap to humanity was for the hominid a leap directly to gods.

Marcel Baudouin, in two articles of sixty years ago, joined the paintings and the artifacts of the upper paleolithic caves of

France into a convincing demonstration of the “astralism” of their creators. We cannot expect linguistic explicitness in modern terms. As Leroi-Gourhan reminds us, “How would a visitor from another planet distinguish between the Christian lamb pierced by a sword and the bison struck by a lance?... Prehistory is a kind of clay-headed colossus, ever more intangible as one goes up from the ground to the brain.”[10] Direct sky imitations -- showing a radiant solar image - are available (see figure 12) from periods that immediately succeed the paleolithic, or perhaps are different cultures of the same time.

All the requirements of a religion can be supplied by the earliest humans. Age by age, from Urania to Solaria, the picture emerged, changed in details, and moved into the next great scene. In the middle Saturnian “Golden Age,” the later Martian age, and the Solarian age, a considerable world peace occurred, leading to the simultaneous development of humanitarian religion and free, creative and skeptical cultures of considerable extent and duration.



Figure 12. RAYED HEAVENLY BODIES. (Click on the picture to view an enlarged version. *Caution: Image files are large.*)

Definitive periodic light appeared in the age of Saturn. Circles are rare in early art. These from the Mesolithic (or Possibly Neolithic) caves of Spain (Source: Marshack, 343-4) are among the earliest that may depict a heavenly body.

The heavens had become alive. Beyond the blankets of water that had driven mankind from its vegetable swamps onto the highlands and into the caves, could be dimly perceived the giant body which was menacing the human being. The monster was alternately splendidly colourful and turbulently dark. It would rest ominously and then tear out chunks of its own body and cast them far and wide, some of them into the bowels of the Earth. It would hide itself and then descend like a great blanket upon the

trembling Earth whose sounds of dismay and protest would become deafening.

Santillana and von Dechend wonder what to make of “the baffling Mesopotamian texts dealing with gods cutting off each other’s necks and tearing out each other’s eyes.”[11] But these sane authorities would agree with all other historians of religion that wars of the gods and self-mutilation by the gods are part of every primordial cosmogony. Our preferred solution is that the high energy expressions of the world in those earliest human days wrote the first scenarios of religion.

Brandon writes [12]: “It is surprising...that the earliest recorded cosmogonies seem more concerned with accounting for the origin of the world than for that of mankind or of the animals.” To me this is a necessity, not a surprise. The origins of the quantavoluted world were inextricable from human origins.

### *BIRTH OF THE HEAVENLY HOST*

The effects of the breakup of Super-Uranus were felt throughout the globe, but the representations of the events themselves were watched best through the polar openings [13]. The primal scenes of the gods came then from the lands of the Hyperboreans, dwellers of the extreme north. However, the northern direction spoken of refers only to the geographical north, based upon the axis of spin of the Earth. The plane of the ecliptic in early primeval times was drawn between the solar equator and Super-Uranian equator; the poles of the planets-to-be were stretched along the same line. The view through the Boreal Opening revealed, in the north, the bodies of the Super-Uranian complex. At first Super-Uranus appeared casting his cloak of heaven partly aside to reveal himself. And around him were the satellites and stars.

His throne was the aura of northern lights and was imitated by earthlings down to the present day; it was also the sacred altar upon which sacrifices were forever to be offered. The altar stood also for the arch, for a four-columned portico holding up the heaven, and for a number of other ideas. The heavenly host of the Boreal Hole gave humans their holy city, Jerusalem, and started utopian planning on earth.

Visibility was sufficiently good in the early days to understand that the grotesque occurrences surrounding the throne of Ouranos were connected with the breaking of holes in the solid ceiling of the earth and the crashing explosion and burial of giants and gods upon the Earth. Divine men and women came from these bodies, many the ancestors of the surviving humans. So it seemed. In Greek legend, the children of Ouranos who were known as the Cyclops were probably named after the eye-holes that began to pierce the canopy, letting in the far Sky and each was of monstrous proportions because the holes were often the scene of large intrusions of meteoroids upon Earth. The connection of men and gods could be attested to by the observable physical facts of the sky as dealt with by symbolic projection. It was a psychological mechanism of which much is to be said later on.

The fervent wish for order brought forth the goddess Themis eldest child of Ouranos. Themis warned her sire of his approaching end, and he responded by bringing down the canopies to smother Mother Earth and by burying their children in the bowels of the Earth. Themis lived long enough to become the reluctant bride of the master of law and order, Zeus, marrying the order of the canopied age to the order of the bright skies.

Urged to revolt by his mother, Gaea, Kronos, last son of Ouranos, seized upon a flint sickle of jagged edge, resembling too the fingered arch of the enlarging boreal opening, and rallied his siblings to dethrone the father. The horrendous revolt splattered the blood of Ouranos around the world. The pillars of heavens toppled, the skies fell, and out of the prolonged explosions that filled the skies for centuries with water and dust, and through the vapory atmosphere that still encircled the globe, appeared Kronos (Saturn in ever-increasing sharpness of detail.) To the end, Saturn remained a god of the northern regions and was supposed always to dwell there in retirement, among the frozen seas that marked the new Jovean ice age. It had been his father's place before him.

### EJACULATIVE LANGUAGE

To the monster, Ouranos, who seemed to cover all the air above with its body and capes, humanity responded with terrible words seared into memory: names, imprecations, ejaculations, commands. The earliest names must have been the same among the first humans [14]. Ten thousand years later the names varied. The being later on was T'ien (heaven), to the Chinese, an active Heaven, “the Accomplisher.” He was Coelus or the Concealer, and, later, also was Uranus, (heaven), to the Latins. In Graeco-Roman myth, he is pictured with a great spreading cape of clouds, as in Figure 13. The ancient Hebrews called him Shamayim (“heaven” or “the there waters”) and Elohim. To the Scandinavians, he was Bor; to the Sumerians, Nammu; to the Hindus, Varuna (“the surrounder,” “the concealer,” the watery and fiery god of day); to the Egyptians, Nun, the primordial watery chaos of the sky (see Figure 14). And so on to other ancient peoples [15].

Carli writes [16]: “*Uranus* is the same as *Uren* a name that, divided into the two elements of *Ur* and *En*, reminds us of the word *man* and *sky*. Actually *Ur-en* signifies *Celestial-man*: that is the sense of these two celtic words. That is then how Saturn becomes son of Heaven. But Uran or Uruan has almost the same meaning in America and Ethiopia.” That is Saturn may mean “son of Uranus,” in accord with the legend.



Figure 13. TYPICAL DEPICTIONS OF URANUS AND SATURN. (Click on the picture to view an enlarged version. *Caution: Image files are large.*)

Plato gives to Ouranos the names Kosmos (the “World”) and Olymos, and says that this god gave mankind numbers. Ouranos turns about his stars, displaying his jewelry. He is the eighth god

“who moves in the opposite direction to all those [the sun, the moon, and the five planets], but not carrying the others with him, as it might seem to men who know little of these matters.”[17]

How would Super-Uranus have given mankind numbers? First of all, because humanity was created by him and spoke language owing to him. Coeval with words, or at least with drawings, may have been numbering. But I think it may especially be true because the skies opened up directly because of him. With the opening of the skies and the direction of North fixed, and the four pillars of the world defined, the purposeful orientation of humans began. By number, Plato probably means the science of numbers. Stecchini, reflecting upon his studies of ancient measures, commented that “the first problem of man was to organize the space around him.”[18] Surveying began; settlements imitated “the heavenly throne and city of Super-Uranus.” Paths were drawn on the Earth that traversed routes combining subterranean emanations with heavenly routes of the gods, giants, heroes, and animals [19].

The first god was the living sky and the bodies wrapped in and emerging from it in the perception of newly created humans. Every people had its shining heaven and regent of Solaria Binaria, a combination of rim of the magnetic tube, the central axis of fire, the unseen Sun, and the activated Super-Uranus. As Figure 15 suggests, the myth of the mating of sky and earth excited concrete images in Egyptian tombs and on Magdalenian bones. In the Greek myths of the creation following chaos, Hyperion (“Lights”) existed before Helios (“Sun”). Both the Sun and Moon are grandchildren of Ouranos and children of Hyperion and Thea [20]. Also, in genesis, light came before the sun and stars. In the Pyramid texts, the earliest extant mythological account, the moon is not prominent in the already then old cosmogony. The texts originate in the Mercurian period (*Thoth* is the Egyptian god) probably between 4480-4137 B.P. So we think that the Moon was present but cannot be identified.

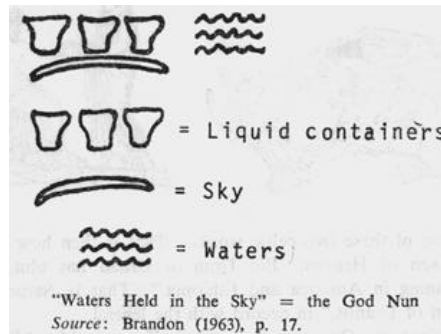


Figure 14. HIEROGLYPH OF NUN: THE EGYPTIAN FIRST GOD, THE 'ANCIENT ONE,' 'THE FATHER OF THE GODS'. (Click on the picture to view an enlarged version. *Caution: Image files are large.*)

Figure 15 THE MATING OF THE SKY AND EARTH  
(Click on Figures 15a to 15c to view enlarged versions. *Caution: Image files are large.*)



Figure 15a. The embrace of the Sky and Earth -- Nut and Geb. A widespread and long-lasting myth holds that originally heaven and earth were close lovers and ultimately were separated for various reasons that can be related to the end of an age and catastrophism. Earth is often feminine as in Hesiod's Greek Theogony, but here in the Egyptian version of about 3000 years age (Tamenill Papyrus) is masculine figures (b) and (c) are attributed to the hunters of what is today southwestern France and too some 20,000 and 17,000 years ago. Heaven is perhaps represented by bulls, a common legendary reference. The images are close, exciting the question whether they are closer in time than is believed. In any case, the preoccupation of early thought with the mating of sky and earth is seen here in art, as elsewhere frequently in legend.

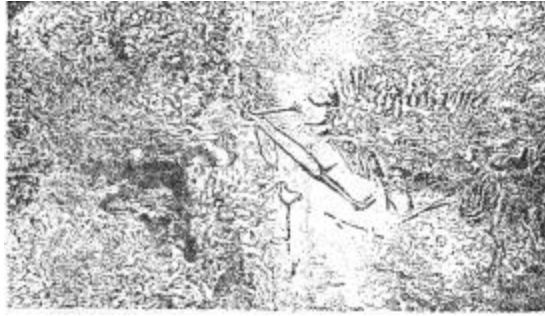


Figure 15b. Bison and Birdman Composition, Lascaux Cave, Southwest France. A Bison with a spear on or in it hovers about a prostrate semi-human, both with erect phallus; a bird on stick; possibly a broken lance. A Rhinoceros to the left has six dots behind it.

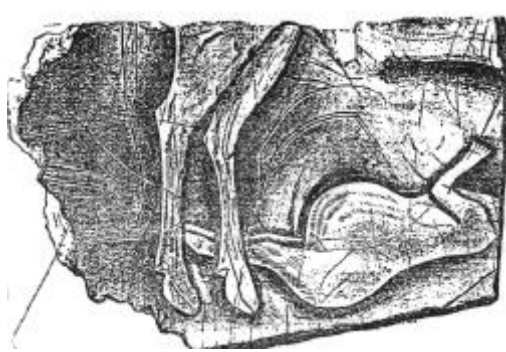


Figure 15c. Engraved Reindeer Bone of Bull and Pregnant Female, Langerie Basse, Southwest France.

The hind quarters and phallus of a bull hover over a naked pregnant women facing up. Rendering is by Piette, pictured in Marshack. Dated conventionally to Middle Magdalenian (14000 B.P.?). Marshack asks: “Does this composition depict a myth of the pregnant goddess in relation to a horned animal which may be a sky symbol. (p. 320)

Chaos itself was everywhere an undifferentiated order preceding the cracking of the heavens and the first self-awareness of humans, at which point “chaos” as it is known today, a world of horrifying disorder, began and was stamped upon the mind of man, its first perceiver on the occasion of its first perceptibility. The Exponential Principle was applied to man.

### *ECUMENICAL CULTURE*

Celestial religion began as intense preoccupation with the behavior of the gods and as the imitation of that behavior as the new humans saw and understood it. Spoken language began immediately in the band and spread quickly by breeding of the human genetic type and imitation of these by close genetic relatives.

“As we follow the clues - stars, numbers, colors, plants, forms, verse, music, structures - a huge framework of connections is revealed at many levels. One is inside an echoing manifold where everything responds and everything has a place and a time assigned to it. This is a true edifice....” So do de Santillana and von Dechend generalize the archaic ecumene [21].

There appear now to be a great idea of anthropology and its contradiction. The most ancient humans shared a world view which was too particular to be independently contrived in many places. We watch the first true humans spreading around the world rapidly. Now it is possible for the concept of diffusion to explain the archaic consensus; the original diffusionists were also the first humans. Otherwise we should have to resort like the evolutionists to some theory of independent invention of ideas and practices among humans who had been separated for hundreds of thousands if not millions of years. Or else we should have to say, with some Jungians, that our rather specific images are genetically transmitted. Furthermore, we would assert that the similar celestial occurrences of later on are seen quasi-universally and interpreted on the basis of the original ecumene.

### *THE EXPANSION OF HOMO SCHIZO*

Before the age of Urania ended, and despite frequent disasters, the original band had expanded into several millions of individuals. Crude pictographic symbols, capable of naming the objects of the world, were widespread. Sculpture and painting united the gods to humans. Like the gods, the humans were terrible and restless. They moved aggressively about the globe, like evangelists, offering an instrumental memory, symbols, discipline, tools and explanations to all creatures whom they

encountered, and death or slavery to all that were incapable of receiving tutelage from the newly created ones.

King were designated. (The Pharaoh is born in Nun, says the Pyramid text [22]. Why, we ask, in heaven and not, like Athene, from the brow of Zeus?) Thousands of settlements were founded. *Polos* (the boreal hole or axis of the cosmos), *polus* (the end of the Earth) and *polis* (a city), unite the concept of an original heavenly regime located at the polar opening, the original Heliopolis (“the City of the Sun” to later sublimated Solarians, actually the “City of Super-Uranus”) [23]. Rocks and trees were hewn into structures and tools. Animals were trapped and herded. Clothing was fashioned of skins, vines and fibers. Medicine was practiced. All of these processes were connected with religion. The distinction between ritual and pragmatic procedure was rarely made; all that was “useful” or “functional” was made part of religion and indeed, so far as the human was aware of, had never been anything else but religious.

The question arises whether the *homo sapiens schizotypicalis* of Urania quickly invented agriculture or whether our theory must follow the conventional progression of hunting and gathering, domestication of animals, and then after many thousands of years, agriculture. Unequivocally, compelled both by the logic of our quantavolutionary model and by the crescendo of new studies of early farming, we would assert the concurrency of hunting, gathering, and agriculture with the first human times.

Let us take only one very recent study for example. Christine Niederberger, basing her conclusions upon deep excavations in the basin of Mexico, on which Mexico City is presently situated, argues that agricultural development was part of the sedentary life of humanity in the highlands as early as or even earlier than it emerged in the coastal area of Mexico [24]. I would say that the contest is a pseudo-competition: humans quickly civilized and agriculturalized both highland and lowland. We have simply been unable yet to unscramble the succession of catastrophes that affected now one, now the other locale. As everywhere else in the world, the Mexican excavations are plagued by the hiatuses that occur at intervals, denoting catastrophes, an inadmissible theory to most contemporary anthropologists and archaeologists. One day, like the Nile of Egypt, the central high

basin of Mexico may become a centerpiece for pursuing the fate of Holocene humanity.

Even though much of all that is known today became known to these first people, creativity was fearfully and fanatically tied to controls, not liberties. The burst of invention came because it was an age when so many ideas were new - written upon the *tabula rasa* of human experience - rather than being changes from a settled routine or rite.

Almost nothing of the worldwide and prolific activity of earliest Uranian humankind is to be found, or if found, conclusively identified as of this Uranian ecumenical culture. Rather, one is impelled to accept its existence out of a deductive logic - that the human race had to be originally a single band, which created an inventory of myths, inventions, objects, and practices that were shared by people of subsequently different cultures.

#### *OLD AND NEW WORLD CONCORDANCES*

We begin then with a single species *homo sapiens schizotypicalis*, who is a melange of hominidal races and who develops a single ecumenical culture. It follows that this species found its way to the wide reaches of Pangea, and that the “Old World” and the “New World” as well as Oceania had once their Uranian humans and will, with luck and hard work, exhibit them as fossils. Because of the Lunarian and perhaps subsequent catastrophes, descendants in straight line may not be present everywhere. Still, it is now easier to believe that the people of the Americas are far older, in direct or in intermediate descent, than the 12,000 years that have been conventionally allotted to them. Numerous older dates are now assigned; one authority, MacNeish, would allow 100,000 years to mankind in America [25]. Stone tools dated at 100,000 years were discovered in Western Australia lately [26].

By the quantavolutionary calendar, humans everywhere show indications of having participated in the earliest Uranian culture. We need not argue dates, but only cultures. Furthermore, no matter how complete a catastrophe, every subsequent period of our calendar can encompass both people and interacting cultures everywhere in the world.

Regarding the similarities observed between American mythology and classical and Hebrew myth, Max Fauconnet writes: “Does this mean that Humanity was once upon a time reduced to a little group of individuals who later spread over the earth, bringing with them their legends which they altered through the centuries in accordance with new climates and new habits? Or, as seems more probable, are all these legends a confused account of great events on a planetary scale which were beheld in terror simultaneously by the men scattered everywhere over the world?”[27] Thus - in the New Larousse Encyclopedia of Mythology!

There would appear to be proof already of a shared culture between old worlds and new, even of cultural divergence from a possible common ecumenical culture. There is a variety of materials indicating prehistoric contact between Asia and America, little of it suggesting the conventional theory that humans arrived in the Western Hemisphere by the Bering Straits passage. For example, C.J. Riley has edited numerous essays dealing with *Man Across the Sea*, purportedly the latest wisdom on long-distance cultural diffusion to and from the Americas. In it, I. Sorenson presents a long list of probably diffused common or related general and technical traits. Relying also upon Hewes and Kroeber, he counts about 200 features of an “Old World eikoumene” (ecumenical culture of Euro-Asia). He thinks that one in eight is found in Mesoamerica, and that another 20 or so may be added when further investigated. This amounts to about 18%. Sorenson challenges advocates of independent evolution of cultures to *prove* that an item is independently evolved in two places at once, rather than, as has been the practice, of assuming independent origin, quoting Kroeber that “there is thus as much evidence needed for an assumption of independent origins as of connection: the burden of proof is equal.”[28]

Our revolutionary model requires not only the confirmation of its thesis of world-wide ecumenical culture but also the placement of the inventory of culture within the framework of the revolutionary calendar. We speculate that there was first the worldwide Uranian culture on the Pangean all-land Earth, followed by almost total destruction from crustal eruption and cleavage. Granted beginnings of cultural differentiation in Urania,

the Lunarian catastrophes would have drastically reduced and altered the ecumenical elements and promoted rapid, isolated cultural development of the major world geographical regions. Then, in Saturnia, contacts would have been resumed and, then again, chaos, reductionism, and new isolated development in the subsequent period. Then in Mercurian, Venusian, Martian and Solarian times contacts and new types of consensus appear again. The task of segregating and assigning diffused items is not impossible, but requires something like the revolutionary calendar of common world-wide experience to begin with.

### *CLIMATE CHANGES AND TIME*

Some of the problems of assigning cultural event to the Uranian period are attributable to the complexity and confusion of paleoclimatic studies. For example, our quantavolutive model of human development calls for a worldwide human race and culture existing prior to “the ice ages” and also (it should be stressed) prior to the widespread desert conditions found in many parts of the world where ice-age theory has said that ice was absent (the Siberian tundra, the Sahara, Australian. and Western American arid zones, the Gobi Desert, etc.). It becomes difficult then to handle statements by anthropologists such as Michael Coe when he writes that “men continued to live throughout the most dessicated zones of North America. Species after species of large game animal perished not long after its [the dessication’s] onset - mastodon, mammoth horse, camel, giant bison, ground sloth, deer, wolf, etc. - but the Indian survived.”[29] Or the statements of numerous experts to the effect that the Magdalenian hunters of the Late Paleolithic Age flourished next to the ice caps and glaciers but then were driven out by a betterment of climate, from which their food supply, the large cold-weather animals, fled.

Climatic change, for better or worse, it seems, can drive out men and animals. Actually, it may be better to try to allocate these self-same persisting Indians and disappearing Europeans to post-catastrophic periods, as survivors of Uranian and Lunarian disasters, most likely the latter, inasmuch as they were already racially and culturally differentiated. At least in the European case, the presence and disappearance of great ice fields is claimed which would require, according to our theory, that the

Late Paleolithic survivor-cultures of the caves were Lunarian, because they disappeared with the ice caps. Apparently, the chronology of the so-called Upper Paleolithic may be in serious disarray.

The Upper Paleolithic is put at 35,000 B.P. to 10,000 B.P. by Marshack [30]. Variant estimates are common. There are problems of overlapping, too. Neolithic-Mesolithic caves are dated at 19,000 B.P. in Greece [31]. We might well gather Upper-Paleolithic periods between the post-human Uranian and the final Lunarian periods, that is, from about 13,000(B.P) to about 9,500. That would place the Neanderthal Mousterian, and Upper Paleolithic, homo sapiens - with stone and bone kits of 26, 63 and 93 tools (by Francois Bordes' count) [32] - close to each other in time and space. But perhaps they are really so close.

Henri Breuil, who brought to light much of paleolithic art, exclaimed at the correspondence of celestial Mesopotamian human-headed "bulls" with the bison of the Southwestern European caves [33]. (See Figure 16.) He argued that they were deemed anthropomorphic because they were in fact bison-faced, not bullfaced. The bison does look human. "The identity between the 'celestial bull' and the bison is certain." [34] He believed, also, that the source of inspiration for the Chaldeans was a memory of the bison, or perhaps a contemporary experience with surviving types of the animal. In any event, the anthropomorphic trend in representing the bison occurred in both areas: the human-faced buffalo had celestial relevance perhaps less apparently in the West, where I have noted only two possibly celestial manifestations apart from the anthropomorphism that is generally to be viewed.

Granted a correspondence of animals, anthropomorphism, and celestialism, we are faced with a question that Breuil did not address: could the similarities have originated some ten thousand years apart in time and thousands of kilometers apart in space? Perhaps, but one may also entertain the hypothesis that the two cultures were much closer in time and space. In this connection, it needs be recalled that the Magdalenian Upper-Paleolithic cavepainters of the West have now been shown to have counterparts as far distant as the Caucasus, Azov, Central Asia,

Siberia and Bashkir [35]. If there is a connection, and not a ten-thousand year re-invention, Upper-Paleolithic cultures would be not Lunarian, but post-Saturnian, probably. They would be survivors of the Atlantis and other shelf flooding, according to the theory to be advanced in the coming chapter on Saturn.

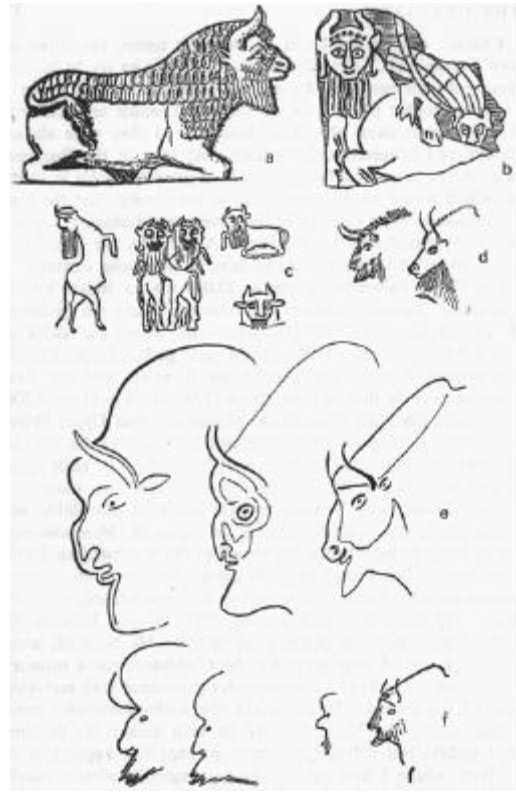


Figure 16 CELESTIAL BISON (Click on the picture to view an enlarged version. *Caution: Image files are large.*) The Bison as Real, as Human, and as Divine (Source: H. Breuil, 1909, 250-4.)

The renowned Abbe Breuil, speliologist and anthropologist brought together in 1909 the bison of the Franco-Spanish cave drawings and of archaic and ancient Chaldeans. As the drawings of the Figure demonstrate the Chaldeans knew the bison (a) and depicted it anthropomorphically as “the heavenly bull.” (b.c.). The “Upper Paleolithic” hunters appear to have done the same; perfectly capable of painting bisons, as attested by hundreds of examples, they too drew the bison anthropomorphically and, probably, sacredly and celestially (d, e and f). Once more the questions of chronological confusion arises; a gap of eight thousand years or so seems too great to bridge two sets of similar experiences and ideas.

### *PUZZLES OF TIAHUANACU*

It is barely possible that Tiahuanacu, high in the Bolivian-Peruvian Andes, south of Lake Titicaca, is the only known Uranian site that can be called a “central site” as against “survivor sites”. Poznansky says that the first period of Tiahuanacu began with “troglodytes” and flourished with large buildings of sandstone adorned with, among other features, many ordered sculptured heads, and snakes. Idols with folded arms, reminiscent of the Cycladic Aegean idols, are found (the dates seem impossibly divergent) [36]. The climate then was rainy and equatorial.

The period ended, it appears, in “great tectonic movements” which “in some way or another changed the physical aspect of the continent. These alterations on the Altiplano were perhaps the repercussion of great cataclysms and evolutions which were taking place in other locations. Moreover, the latter were perhaps the cause of the migration to the Altiplano of many tribes of the Arawaks from the East, terrified and fleeing from the places where these phenomena were being produced in all their vigor.”[37] Bellamy writes that the first period ended in deluges of salt waters, showing either that the land sank or that the sea rose and that in either event the city must have been at sea level [38].

But what sea? If Uranian there would have been floods from the many disturbances of motion and atmosphere, probably salt-floods, but no great sea basin. If Lunarian, the city would have been raised high and no doubt could have been flooded before the event by the tsunamis of the earth cleavage and lunar eruption, or after the event by continued sky deluges; but then the city is unlikely to have been built during the terrible years of Lunaria. So a third possibility occurs of its having been flooded in the end of Saturnian times and raised up then or during later catastrophes (as during the Venusian interruption). However there were four more periods and then came the Incas, according to Poznansky. Probably all of them ended catastrophically.

Conventional dating of Tiahuanacu is actually as late as the present era. Poznansky, who was the most important figure in

Tiahuanacu studies, accepted an astronomically retrocalculated dating of 15,000 B.C. for the younger, “classical” period and a much earlier date for the first period. Bellamy, on the basis of his studies of the astonishingly detailed Calendar and Idol of Tiahuanacu assigned 27,000 years to the two and to the Classical period [39]. Bellamy was pursuing the career of a postulated prelunar Satellite and believed the satellite to have collapsed shortly thereafter, with a world-wide catastrophe, and then that after a period without satellite, the Earth captured the Moon about 11,500 to 13,500 years ago this being originally the theory of Hoerbiger (and again world-wide catastrophe occurred upon capture.)

The Hoerbiger-Bellamy work is important and masterly, even if quite disbelieved by other scientists. Yet, for reasons that would require another set of chapters to explain, I would seek to collapse the two events (the pre-lunar satellite and moon itself) into the encounters between the Earth and Uranus Minor, with the Moon erupting (not captured) in consequence. Then low-lying Tiahuanacu I would be Uranian; classical Tiahuanacu II (in the high Andes) would be late Lunarian with obsessive studies and calendarizing of a changing and much different moon cycle than the present cycle. The flooding of Tiahuanacu I would have occurred as it slipped into waters at the edge of the sink from which the Moon had erupted, whereupon it would have been lifted from the deeps by the westward shoving of the South American crustal plate. The desolate site would have been occupied by Lunarian survivors and rebuilt.

### *SIGNS OF URANIAN CULTURE*

From the age of Urania, other signs of human nature that remain today are scarce representations of whole human cultures. Anthropology, supported by psychology, would rebut any attempt to establish a lone trait here, another one there, and so forth, granted that a kind of evolutionism thinks of culture growth like teeth, now one molar appearing, and then another, and so on. Burials containing worked implements as in Shamrikar Caves; cemeteries (as in Palestine); sign-painting of ritual significance, as in the bison and hand drawings of the Dordogne Caves; sacrifices and cannibalism - as in the bearskull hoards of Neanderthals and perhaps even the human bone

remnants of the Peking man - these are representations of larger clusters of culture traits.

The painstaking labours of Andre Leroi-Gourhan in 66 decorated caves and rock shelters (a large majority of all such sites in Europe)[40] disclosed 2,188 animal figures. Of these 610 were horses, 510 bison, and 205 mammoths. About a dozen of other animals plus 9 monsters constituted the balance. In the central compositions of the caves, 92% of the bovidae (total N=137), 91% of the bison and 86% of the horses were to be found. Few other animals were to be found with them.

Only a few shapes were drawn - the phallus, vulva, naked females, and the human hand - but these in large numbers. The female signs were concentrated in the central composition or in lateral cavities. Male animals and male symbols appeared at the entrance and back of the caves. Both sexes appeared in the central display. The human hand is profusely displayed at entrances and in the central composition.

Perhaps the cave art can be explained. The cave stands for the world and womb. It is definitely not earthbound. The animals could be hallucinated from the clouded skies: as in heaven, so on earth, and in the caves. The female bias, both human and animal, of central groupings, binds heaven and earth to procreation. The vaults, below which are found most central compositions, are suggestive of the vault of heaven and the spaciousness of the womb. The caves then were religious and probably for the purpose of communion and initiation. The animals are totemized and preserved in picture; they can be preserved and viewed in a guarded manner; they can be implicated in ritual activities, such as puberty rites.

The common straight line probably stood for the male generative organ and also the pillars that supported or reached towards heavens; the triangle, drawn usually with convex sides, stood for the female vulva, or *mons veneris*, and also for the polar opening that began to occur in the cloud canopies, and appeared to be creating many objects of importance. The obese female statuettes, occurring outside the caves almost entirely, symbolized fertility and Mother Earth pregnant with all living things. The animal and male figures were realistic and ordinary

enough to raise a question not of reference but of ability and intent.

The will and ability to draw anything is human; therefore these signs and symbols succeeded the creative gestalt. They require drawing tools, of course. Also, fire was fully tamed. (Fire was hominidal, and some primates play with fire. But use of deep caves must be reliable, conveniently managed, and systematic.)

The basic signs are worldwide, and suggest an early Uranian period when mankind was one, before the geographical cleavage of the world into parts. They come before others because of their pragmatic importance; destroyed, the secluded place in which they are found indicate a sacred sponsorship. Heterosexuality and fertility were holy self-discoveries; their symbolic representation was a giant step into abstraction and language.

#### *HAND, ROD AND SNAKE*

The hand for instance, is of primary pragmatic importance and therefore a suitable candidate for religious projection and incorporation, when, as happened, it was frequently modeled in the primeval sky at the Boreal opening; there fingers of vapors, colorfully illuminated, would often have appeared, obscuring partially the face of Super-Uranus [41]. The numerous ancient oral legends of the northernmost mountains provide representations similar to those of the hand as were similar suggestions afforded by the Boreal hole. The hand was the hand of God; concurrently the increasingly frequent flights of meteors and comets trailing fingers behind nuclear palms, stressed the symbol as a curse, a demand for solemn attention, and a way of power. Thousands of years later, the boreal and meteoritic hand was carried atop the standards of the Roman legions, along with a rounded bronze object standing for the dome of heaven (the boreal opening) whence can be traced the dome of architecture; humans observed, then invented. Some Australians, reported an English traveller of the 1880's, detached and preserved with sacred care the hands of their chiefs or ancestors. Then, "at the sight of an *Aurora Australis*, all the Kurnai in the camp began to swing one of these dried hands towards the portent, shouting out, 'send it away! send it away! do not let it burn us up!'"[42]

Still, today, the out-thrust hand is a vulgar insult and curse upon a person in Greece.

Z. Rix exposes much of the complexity of the rod as a symbol: “The sceptre, in its wider sense the rod, can be traced to a number, perhaps to all deities. In his commentary to ‘The Star from Jacob,’ B. Gemser shows why the Hebrew word for rod in Num 24: 17 should actually be read ‘comet.’” The sceptre is given to both heavenly and earthly rulers. Horus is called “Lord of the Rod.” “Yahweh will send forth the sceptre of thy strength out of Zion” (*Ps.* 110: 2). Moloch and Typhon signify Lords and have sceptres too. Prehistoric stone age cultures have rods, “batons.” carved with animals and occasionally with phallic shapes or as snakes, ultimately achieving the storied fame of the brazen serpent’s rod of Moses [43].

Snakes appear everywhere in early human symbolism [44]. Like the rod, the cometary analogy - the writhing form slithering through the sky - is too obvious to be missed. The earliest Chinese Dragon was serpentlike but with feet. Until recently it was taught in Christian schools that the serpent of the Garden of Eden lost its feet when condemned by the Lord to crawl on its belly. Snakes accompany the carved idols of the first Period of Tiahuanacu [45]. In South Africa Bushman drawings carry snakes without precise heads or tails. But at Baume Latrone (France) is found a single giant serpent 9’9” long with small elephants and mammoths around it [46]. In prehistoric Ohio, a long serpent was sculpted in raised dirt; its jaws open wide to embrace a ball, just as the Chinese dragon was anciently pictured. (See Fig 17). Snakes are prominent in the symbolism of all of the great gods. The axis of fire and a multitude of sky apparitions set up the image.

In forthcoming volumes of this work, I shall again stress the quantavolutionary view of heavenly events. Such events are not *creations* of the human mind making analogies from ordinary human animal existence, such as sexuality, building, working. They are independent events imagined to resemble known activities. They are named *at the same time* as activities are being named. They operate upon these activities to constrain and develop them culturally (humanly); yet simultaneously the

heavenly events are portrayed and understood by human minds that can work only from ordinary experiences.



Figure 17: THE GREAT OHIO SERPENT MOUND. (Click on the picture to view an enlarged version. *Caution: Image files are large.*)

*Source:* Corliss MGM-005, M2-46 from S.D. Peet,(1890) 12 *Amer. Antiquarian* 211-28. Mound located in Adams Co.,O.

It cannot be assumed that the great universal myth of Cosmic Parturition of Heaven and Earth derives from the projection of the universal human experience of parturition; they are coeval. The conventional scientific attitude commits a serious error by rigidly viewing the primordial religious experience as a human invention; it would be more correct and historical to say that invention is a creation by the primordial religious experience. Before self-consciousness, neither the primate experience nor the heavenly experience could properly be said to exist; both require the self-observing mind.

**Notes (Chapter Six: The Uranians)**

1. W. N. Brown, 284.
2. Cardona (1978) 37, 42; *cf.* generally Cardona, pp. 34-54; Long (1963); Campbell (1949) 276, 282-3.
3. 68 *Soviet Astronomy*.
4. (1968) 178.
5. *Giant Meteorites*, p. 310.
6. 12 *Ency, Brit.* (1969) 49.
7. Vilks (1978) 1181, 1183.
8. Johanson and White (1979).
9. Brandon, 14.
10. (1976) 2.
11. Santillana and von Dechend, 303.
12. Brandon, p. 14.
13. Vail (1972); Talbott (1977A, 1977B); Cardona (1977).
14. Cohane (1969).
15. Vail (1972); Talbott (1977A, 1977B).
16. Carli (1788), 234.
17. Plato, *Epinomis*, 101, 83.
18. Conversation with author, April 1977.
19. Michell.
20. Vail (1977).

21. Santillana and von Dechend, 8.
22. Mullen (1973), Brandon, 8.
23. Vail, 58.
24. Niederberger (1979) 140.
25. Kennedy (1975); Greenberg (1973-4); and *cf.* Corliss, Compiler, *Ancient Man* (1978) 661-8.
26. “Man’s Arrival....” (1978).
27. Fauconnet (1968) 423-48.
28. J. Sorenson, 391 in Riley (1971); *cf.* Murdoch (1968).
29. Coe (1975) 43.
30. Marshack p. 109; on Breuil’s dating see p. 69.
31. Jacobsen (1976).
32. Marshack, 77.
33. Breuil (1909).
34. *Ibid.*, 251.
35. Bader. 30-1.
36. Poznansky (1945) II, figs. 87a, 86, 87,88.
37. *Ibid.*, I51-2.
38. (1943) 51-2.
39. Bellamy and Allen (1959). ch. 10. Libby, in line with most Americanists, finds (1973) that “in twenty years, the firm radiocarbon dates for human occupation have never exceeded 12,000 years” in America. But Greenberg (1973-4) reports

Yukon C14 dates of 70,000 and 25,000 to 35,000 in New York and in California.

40. (1976) 93 ff.

41. Vail, "Celestial Record" 33.

42. Goblet D'Aviella, 27 quoting *J. Anthropol. Inst.* London (1883-4) 189.

43. Z. Rix (1974).

44. Goblet D'Aviella, 39-43.

45. Poznansky II fig. 87a.

46. Shelley-Pearce citing R. & D. Morris, *Men and Snakes* (1965) 10, 14 and 15.

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the next section of this book.](#)**

## CHAPTER SEVEN

### EARTH PARTURITION AND MOON BIRTH

The Uranian age closed in a crescendo of destruction. The ancient orphic rites of Greece commemorated their remote Uranian origins when they began with the chanting of the myth of the cracking of the cosmic egg. That the world was an egg that had to be broken to begin the human experience is a myth found in all quarters of the globe. We have reported this in the preceding chapter [1]. Heaven burst to produce the great god Ouranos and the turbulent sky. Then Ouranos was dismembered by his son, Saturn, in league with Gaea, his spouse and Earth.

Aphrodite Urania, the Moon, was then born, Daughter of Ouranos, she was a product of his dismembered genitalia fallen upon Earth [2]. Moon is worshipped after her father retired, disgruntled and bitter at the revolt of his children and from his injuries. The Moon would have revolved around Mother Earth (Ge or Gaia), who finally controlled her. The age of the Moon was an almost unmitigated disaster.

#### *THE PASSAGE OF URANUS MINOR*

In the 12th millennium B.P., a major element of the disintegrating Super-Uranus may have fissioned from the larger complex. We can call it “Uranus Minor” and it might have been actually the planet “Uranus” (or Neptune) of today’s sky. It passed closely by the Earth, in the shape of a great ball trailing an enormous tail, which it ultimately lost, moving across the ancient axis of Solaria Binaria. It excited an accumulation of opposite electrical charge on the near pole of the Earth and the Earth’s axis tilted to present the pole to the intruder. The tilt would permit the Earth to suffer the least interruption of rotation.

The sudden movement loosened slightly masses of the Earth’s outer shell, and unleashed floods. Great lightning bolts were exchanged between the two bodies. Fire-fragments of the

intruder struck the area now called the West Central Pacific, excavating craters of thousands of square kilometers down to the levels of dense hot mantle some 30 kilometers deep [3].

The gravitational and electrical interaction between Earth and the Uranus intruder became more intense. Abetted by the peripheral loosening and cracking occurring in all directions from the path of the encounter, as much as half of the Earth's continental material exploded into the sky down to the same depth, that is, some 30 kilometers.

The material thus blown and sucked high into the sky passed through the low and high cloud layers in pursuit of the rapidly retreating intruder. The greater part of it was unable to continue the pursuit and relapsed into an orbit around the globe [4]. For a time it rode around the Earth like a comet; the sky seemed alive with the streaming bodies. Within a few years, they assumed the globular form of the Moon.

#### *CONTRIBUTING THEORIES AND ERUPTION DYNAMICS*

That the Moon erupted from the Earth is not a new idea, but one that received a momentary scientific appreciation in the nineteenth century. Observing the mysterious vastness off the Pacific Basin and calculating from mechanical physics, George Darwin (1879) ventured the theory and was supported by Osmond Fisher and others [5]. Howard B. Baker distributed in 1932 mimeographed copies of a treatise arguing the case. Lately, several scientists have joined in espousing the notion. In all cases except Baker, the time set for the event has been "near the beginning" -- safely removed from the evolution of the biosphere. The "beginning" has moved farther back by a factor of twenty or more, and the Moon is alleged to be four billion years old. However, as will be explained, there is no compelling reason why one cannot argue the contrary: that the Moon is a recent evacuee from the Pacific region, whose basin would otherwise have long ago been invaded by the moving continents. To my limited knowledge, after Fisher, Baker alone realized the connection between the eruption of the Moon and continental drift [6].

Early theory proposed an instability of the Earth as the cause of the fission. A passing body was not considered. Today, when

aberrant bodies in space are taken more seriously -- and even the possibility of terrestrial rocks and water being splashed upon the Moon by a cometary impact has been posited by geologist Harold Urey [7] -- the first mechanism to look for is a space intruder.

The stripped-down area is today occupied in part by the land that pushed into it. Conventional continental drift theory only lends confusion. But D.V. Wise writes, "Many positions of drifting or accreting continents eliminate any *a priori* condition to find the scar of separation on our present Earth, although if a 'navel' must be located, the Pacific basin is as good a spot as any." [8]

The west coast ranges of Northern America have some formation similar to the east Chinese coast [9]. This would point to a more southerly explosion. The great Nazca Ridge and seamounts off of South America traverse the East Pacific Rise into the Tuamotu and Taburi Islands, an immensely long transverse fracturing and outbursting of magma. This feature would have followed the eruption of the lunar material. The tens of thousands of seamounts following the Great Pacific Rise are indicative of a crust that had been suddenly greatly thinned.

The crust would not have been removed so deeply where land masses exist today. They would have sunk as they passed over the chasm, or they would have probably been noticed by now; but no considerable area of the true ocean bottom is of sial material. Possibly the material of the Moon could have been assembled from explosions occurring in numerous weak spots, with many catastrophic typhoons carrying matter into space.

S.K. Vsekhsviatskii, Director of the Kiev Observatory (U.S.S.R.), has written that "the moment of inertia of the earth's crust is about 200 times less than that of the planet as a whole." [10] Thus crustal matter is relatively displaceable. He believes that volcanic eruption could eject matter whose moment of force would exceed the moment of inertia. "The amount of matter lost by the proto-earth turns out to be of the order of its present mass. These losses should have occurred not only through direct ejection of fragments of the crust in explosions and of ash and gas during volcanic eruptions, but also through dissipation of the atmosphere into space, which

occurred, apparently more often than was thought during five billion years of earth history.”[11] He calls his theory “cosmic volcanism”. [12] I would categorize his theory as “long-term endogenous eruptive catastrophism.” Because of the speedy rate at which comets and planetesimals dissolve into dust, Vsekhsviatskii maintains that these material bodies now moving in space were not long ago erupted (though not so recently as argued here). He does not think that cosmic large-body encounters are even required for the eruption of a planet from a moribund star such as Jupiter, or for the discharge of materials into space from a planet.

Escape velocity from Earth for today’s space-vehicles is 11.2 km/sec. This is required by the gravitational attraction of the Earth and does not take account of electrical or atmospheric drag (or push) on the object “taking off” Depending upon its charge, size and distance, Uranus Minor might exert an attraction upon Earth, reducing this present escape velocity.

The rotation of the Earth’s denser core and mantle would be less retarded by the encounter and would slip past, beneath the surface crust, abetting its disintegration, “weakening its moorings.” A high thermal zone would be created between the inner Earth and its crust, which would also help to peel it off.

Many factors, quite incalculable as specifics, would determine the motions and masses of the encounter between Earth and Uranus minor. For example, if Uranus Minor had ten times the mass of the Earth and passed it at 100,00 kilometers distance, the vertical tidal displacement at the closest surface would be of the order of 5 kilometers. Not only would the Earth’s motion be changed, but a large part of its crust would be stripped off in a set of gigantic swirling typhoons. This is calculated on gravitational laws. If to gravitational attraction were added an electrical potential difference, or attraction, which must have been present, the displacement and loss of crustal material would be enormously greater. The Earth would pause, to let its surface be plucked all the more neatly.

The Earth’s atmosphere would have been lost if it were as limited as it is today. But at that time it was continuous with the gases of the magnetic tube that stretched from Sun to Super-Uranus. Replacement of atmosphere was immediate. Indeed the

Moon was formed in an atmosphere much more voluminous than its present one, which may be remnant [13]. However, typhoons would have been innumerable, intensely hot, and radiative. They would have carried away much of the heat from the explosions of the crust, helping some of the biosphere to survive.

The double explosion, inwards and outwards, would have excavated the basin of the Pacific and destroyed other portions of the Earth's crust, even placing explosive strains on the opposite side of the globe, now the Middle Atlantic. Furthermore, the strains that these blows imposed upon the Earth's continental crust were reinforced by a worldwide deep friction as the Earth's rotation was interrupted and the globe was wrenched into a new axial position. The mantle and core heated up and expanded. At a boundary between the continental sial and the upper mantle, now known as the Moho Discontinuity, the Earth's shell began to slide over the mantle. The wide expanse of molten Pacific basin, bereft of continental crust, offered little resistance to other crustal movements and to fracture.

A long history of the Earth before the Uranian period requires that a uniform crustal layer of silicate-aluminum rocks (sial) taking the form of granite (or an ancestral source of granite), be deposited all over the globe [14]. Today this sial is found over only 40% of the surface, the balance being ocean bottoms of silicate-magnesium chemistry (sima), typified in an igneous basalt (see Figure 18). The Moon contains 1/80 of the Earth's volume, representing the mixture of continental sial and upper mantle magma that was wrenched from the Pacific basin during the encounter with "Uranus Minor". "A uniform layer rather less than 41 miles thick taken off the oceanic areas would be sufficient," wrote Osmond Fisher (1882), "to make the moon." The territory stripped from Earth exceeded the volume of the Moon; much of the surplus plastered the passing body, and the remainder fell back upon Earth as stone and dust.

The hot material erupted in a stream that ceased when the head of the stream had reached roughly a half-million kilometers into space. The intruder had moved off far to exert the pull required to break up the rocks and to discharge its remaining electrical potential.

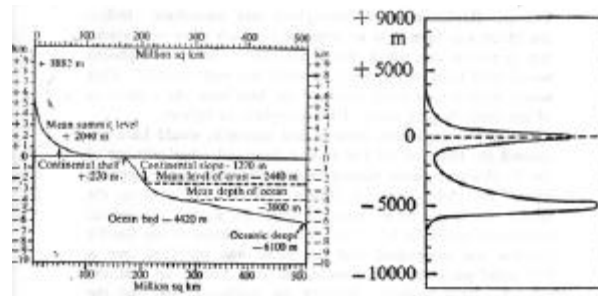


Figure 18. PREFERRED ALTITUDES OF THE EARTH'S SURFACE. (Click on the picture to view an enlarged version. Caution: *Image files are large.*) Figure on the left: The Height and Depth of the Earth's surface (Following Jordan and Defant). Figure on the right: Frequency distribution of altitudes (Following Jordan, Wegener and Bucher).

The Moon material, largely molten but beginning to cool, was reshaped hydrostatically (reinforced electrically) into a sphere. It was drawn securely into orbit as the Earth's rotation sped up. Moon's inclination away from the equatorial orbit is understandable as an effect of the direction in which Uranus Minor disappeared into far space. At first the Moon mass rotated. Then its face was fixed toward the Earth as it revolved.

Alfred Wegener, the geophysicist who produced the continental drift theory in the 1920's touched briefly upon the missing sial of the Earth's structure, saying that "the outermost layer, represented by the continental blocks, does not cover the whole Earth's surface, or it may be truer to say that it no longer does so." [15] Wegener noted how clearly split and conformable are the Atlantic Ocean's east and west rims, but how the western rim of the Pacific Basin was broken up.

He wonders whether "the Pacific Basin should be considered as the remains of the detachment of the moon, following [George] Darwin's idea, for this process would involve the loss of a portion of the sial crust of the earth." [16] Daring theorist as he was, Wegener might have come to the idea of Moon escaping, followed by continental rafting, if he had not believed, erroneously, that the continental sial floats on the oceanic sima and could skate upon it. The sial is deeply embedded in the crust. When it moves, it must be because the sima is molten or

missing. Or, as the present prevailing theory believes, and in a coming volume I shall refute this, that the sima approaches a continental block and dives beneath it.

All the forces necessary to erupt the Moon would be supplied by the tidal attraction of a great-body near-encounter; by an electrical difference of perhaps  $10^{18}$  volts between the Intruder and the Earth; and by an interrupted rotation of the Earth. Assisting the explosion would be the jack-hammer shocks of the preceding heavy meteoroid collisions. Promptly upon lunar material eruption would follow an immense semi-globular gradient introducing gravitational slide. The continental crust would flow down the lips of the concavity.

### *LUNAR CONFORMITIES TO ERUPTION*

The chemical composition of the Moon associates it with the inner planets. However, its surface is a melt to a considerable depth, if not entirely. It lacks the granite cover of the Earth. Moreover, analysis of samples returned by the Apollo expeditions and of the Moon's specific gravity reveal a general composition resembling the crust and upper mantle of the Earth [17]. A core of metal is probably absent.

“How does one get a 65-kilometer-thick crust that is 50 to 85 percent plagioclase without melting most of the moon? And if melting occurred, how could the moon's interior be relatively cool today (800 to 1000 degrees C.)?”

Latham speculates that half the moon would have to be melted (down to about 1000 kilometers) in order for this light stuff to flow up as slag. Gast thinks that the Moon would have to be melted down only to a depth of 200 kilometers, if the composition were homogenous but moderately high in concentrations of aluminum and calcium (about 10 percent)... Wood [Proper name] would have the outer portion of the moon melt from the heat of rapid accretion [18].

Here we are suggesting that the moon must be heterogeneously composed, like a stew of chunks and sauce. Further, subsequent to its overall melting, it has been subjected to additional destruction. It has been pelted with meteors, and exploded and

ripped by numerous electrical charges. I assign all of this destruction to later encounters of the newly created moon.

The Moon's turbulent history is evidenced in a list of effects recently discovered. These can be catalogued here [19]. An asterisk (\*) denotes items that perhaps originated with the original creation of the Moon; in certain cases, there is a reinforcement of an original condition by later catastrophes.

1.\* The Moon's surface is one-sixteenth of the surface of the Earth. Its "crust" is igneous anorthosite to a great depth [20]. This crystallization of plagioclase feldspar of 50 to 100 km depth throughout, exhibiting a seismic boundary at about 60 km, where a basaltic lunar "sima" may occur, would be derived from the Earth's crust. The Moon crust is ten to twenty times the crust of the Earth in thickness accounting for nearly half of the Earth's crust.

2.\* Gases are escaping from orifices of the Moon [21].

3. Hundreds of radioactive "hot spots" exist on the Moon [22].

4. Fluorescence occurs, indicating radioactivity in the rocks [23] and debris.

5. A large part of the soil of tiny glass spherules formed from evaporated, and condensed and fallen, rocks [24].

6. Traces of hydrocarbons of foreign origin (Venus?) were found in samples of Lunar soil returned to Earth. Carbide rocks were also found [25].

7.\* Rocks revealed a remnant magnetism that could not have been implanted upon cold rocks or by the Moon's present weak magnetic field, but was provided by an external body when the Moon was hot [26].

8. Argon and neon of external origin is abundant on the surface rocks, indicating contacts with external bodies recently [27].

9.\* Moonquakes, evidencing unadjusted layers and heat in the interior, are frequent [28].

10.\* The crystalline rocks of the surface when cracked open appear extremely fresh to the practiced eye of geologists [29]; a recent metamorphosis is suggested.

11. There is a general glaze over all surface features [30] indicating exposure to a recent immense radiation flare.

12. Heat flows outward from the subsurface, showing subsurface recent disturbances [31].

13. Thermo-luminescence tests showed anomalies on close sub-surface rocks resulting from thermal disturbances during the last 10,000 years [32].

14. The greatest crater, Aristarchus, and many others, are still warm [33].

15. Aristarchus and many other craters, and the rilles or trenches that run towards and end beneath craters, may have been caused by cosmic lightning [34].

16. Radon-222 is emanating from Aristarchus. It is the daughter element of radium 226. It has a half life of 1620 years. The radium 226 was probably created by cosmic lightning bolts [35].

17. A range of anomalous colorful low mountains appears to have been welded onto the Moon as debris from an external body (Mars)[36].

18.\* The Moon's atmosphere is exceedingly thin but is building up [37], and therefore must have been wiped out recently or began recently at zero pressure.

19.\* Samples of lunar solids are "depleted in all substances which boil below about 1300°C, as well as lead, which melts but does not boil below this temperature [38]." "When the lunar rocks are compared with terrestrial rocks or with meteorites, they are found to be systematically depleted in the more volatile chemical elements." [39]

20.\* The rock, breccia and soil samples exhibit a striking structural adsorption of rare gases that implies a great energetic exchange upon the Moon's surface [40].

21.\* Apart from direct evidence of the Moon's body forming from the Earth's crust, any theory of Moon capture must explain how this low density planet happens to "specialize" in non-basic rock.

22.\* Anorthosite of the Moon's crust may be formed in only 1000 years [41]. Small particles could accrete into a moon in 1000 years [42].

23.\* Tektites, possibly from the Moon, have isotopic composition much like Earth materials [43].

24.\* The side of the Moon facing Earth is more basaltic (sima) while the dark side is more sialic. This may indicate that the Moon assembled itself under the tidal influence of the Earth, and that the order of escape was preserved.

25.\* The energy disposal problem is easier to solve with an eruption theory involving a large 3rd body encounter than with a capture theory, where the internal forces of the Earth would have to do all the work and take all the heat [44].

26.\* The catastrophic tube (typhoon) mechanism disposes of heat into farther space. The single volcano Krakatoa billowed four cubic miles of rock and ash into the stratosphere, some of it shooting 40 to 50 miles high. With a third body, and in the presence of an electrical attraction and an atmosphere that is moving away rather than obstructing escape, escape velocity (11.2 km/s) could be readily achieved by such material. And, it is important to emphasize, the amount of the material, which is thousands of times the amount sent up by Krakatoa, is not especially relevant; the intensity of the field's attraction affects a single particle no less because it is affecting vast numbers of particles. Moreover, if the lower more dense layers of the globe are retarded either more or less than the crust, the crust will be slung off.

27.\* The Moon's "anomalous" inclination in respect to the ecliptic shows the influence of a third body. Theoretically the Moon should be lined up directly between the Earth and Sun, in a position that is modified only by the presumed effects of the Earth's rotation upon the Moon.

28.\* The radiogenic helium ( $\text{He}^4$ ) of the Moon's rocks that would have appeared in long ages is missing, implying youth or thermal destruction, or both [45].

29.\* A comparison of the number of objects observed colliding with or passing close to the Earth with the number of lunar craters of a given diameter indicates that there are 400 times as many craters in the lunar maria as one would expect [46]. If the Moon is 11,500 years young, this indicates how it has served as an electrical collecting and discharging battery for the Earth and one reason why the Earth has not been utterly devastated recently.

30.\* "The moon and the earth were formed in the same general region of the solar system. This conclusion is based on the isotopic composition of oxygen in the lunar samples, which is indistinguishable from the composition of terrestrial oxygen." [47] Moreover both cases are distinguishable from meteoritic matter examined from elsewhere in the solar system.

31.\* None of the material of the Moon is of primordial planetary material "by any stretch of the imagination." [48]

32.\* An early fission of Moon from Earth would have left the two-part system with much greater angular momentum than it possesses. (This is directed at many who believe in an early fission, without an external body encounter.) [49]

33.\* There is no known mechanism for converting a lunar trajectory to its present orbit if it had come close to the Earth from a faraway origin [50].

34.\* The magnetic dipole at the "center" of the Earth is actually 436 kilometers off-center, displaced toward the Pacific Basin.

All of these are geophysical and astronomical arguments for Moon eruption, a recent eruption besides, and for more recent disturbances. The list of legendary arguments is to be presented at the end of the chapter, in the light of further geological evidence.

### *THE GLOBAL FRACTURE SYSTEM*

(See Figures 19 and 20)

Heezen and Hollister, in their late work in oceanography, begin by quoting a passage from the Roman Seneca, which, though myth, has an even more modern meaning that they can have guessed :

“An age shall come with late years when Ocean shall loosen the chains of things, and the earth be laid open in vastness, and Tethys shall bear new worlds....”

Tethys was the legendary original sea of Pangea, girdling the globe. As soon as the Moon material was pulled into space, the globe fractured. A cleavage shot forward northwards and southwards from the center of the then north pole. The fracture started straight but owing to the complex of motions and forces operating simultaneously, it assumed a final form much different from a model fracture of an unmoving globe. The fracture moved rapidly; there is no essential difference between cracking a crystal ball and an immense globe; theory apart, the cuts are fresh, report the oceanographers of the fracture [51].

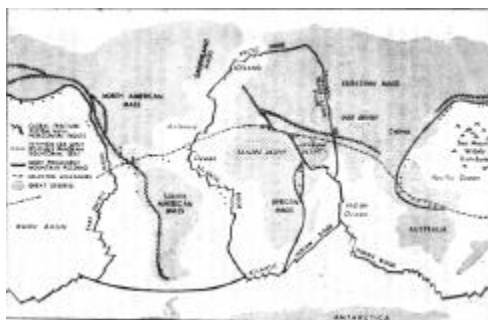


Figure 19. THE EARTH TODAY : CLEAVAGES, WELTS, MOUNTAIN FOLDS AND VOLCANISM. (Click on the picture to view an enlarged version. Caution: *Image files are large.*) This map is merely suggestive. Submarine continental shelves are

treated here as “land.” Many details that indicate recent quantavolutions of the Earth are omitted. Only a globe can represent accurately and vividly the features-fractures, mountain ranges, volcanos, sea mounts, continental shelves, and torques of the crust- that are conceptualized in the text. Volcanos (and earthquakes) by the hundreds follow fracture lines. Sea mounts reach up from the oceanic abyss by the tens of thousands. The Arctic Sea stands mostly on continental shelves. The Ridges marking the major fractures are cut transversely by thousands of smaller fractures, varying greatly in length, all together supporting the idea of sudden explosive cracking and expansion and repeated torques of the surface. The Trans-Asian Ridge refers to a cut that swings North of India, through Lake Baikal and along the Lena River into the Arctic Sea where it connects with the Atlantic Ridge. Antarctica was split away from the unexploded land masses and moved towards the exploded area, as was Australasia; Eastwards, the Americas were likewise thrust (or attracted) towards the raw new basin. For superior comprehension of the totally integrated process of global surface quantavolution this chapter might be read with a Replogle “World Ocean” globe or similar map globe at hand for reference.

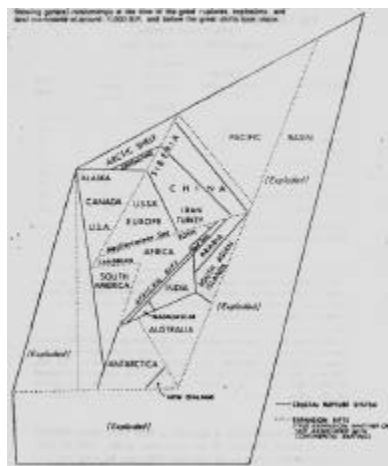


Figure 20. SCHEME OF THE LAND AREA OF PANGAEA AND URANIA.(Click on the picture to view an enlarged version. Caution: *Image files are large.*) Area sizes are rough and include continental shelves. The outer boundary of the figure outlines the estimated devastated crust and expanded surface of the globe. There is little reason to believe that the fracture system occurred along the lines that it follows today, except in its most general configuration. The original configuration probably followed the model of a globe that is struck, exploded, and cracked. Many types of “wild” movements would develop immediately from internal sources even while the Earth’s external force field was changing.

The Table below gives the approximate distribution of Sial land among present-day continents, during Pangea. The total ocean surface, less the

continental shelves, measures approximately 361 million km<sup>2</sup>. of this 200 had once been sial. The total Pangean globe surface is estimated at 400 million km<sup>2</sup>. The expansion allowed for is 110 km<sup>2</sup>. The surface of the globe increased by 20%. The total volume of the globe is 1083 x 10<sup>9</sup> km<sup>3</sup>.

### THE LAND SURFACE OF PANGAEA USING PRESENT LAND FORM NAMES

(approximately, in million km<sup>2</sup>.)

<b>Land form</b>	<b>Surface</b>	<b>Stacking</b>	<b>Shelves</b>	<b>Total area</b>
Asia	45	5	6	56
N.America	24	3	5	32
Africa	30	2	2	34
S.America	18	3	4	25
Antarctica	14	1	3	18
Europe	10	3	4	17
Austrocean	9	2	7	18
<b>TOTAL</b>	<b>150</b>	<b>19</b>	<b>31</b>	<b>200</b>
Destroyed continental surfaces				200
New Ocean Basin Expansion				110
			<b>Total</b>	<b>510</b>

\*Note on Table: Continental Slopes are not considered continental, but as flow material subsequent to break-apart. However, where continental shelves are poorly defined, continental slope contributions to true Pangean land mass are estimated and included.

The fracture cut down between the land that now became separated into the Americas on the one side and Euro-Africa on the other. Within hours, it neared the “south” pole and promptly forked east and west. Today’s map only makes it seem that the rupture circled around Antarctica; it must have cut straight on through Antarctica-Australia, after which the whole “South Pacific” started to move North, pulling or being pushed by the ridge chasm which was then followed by Antarctica which was being carried “south” by the southwest movement of the Americas.

The eastwards rupture divided into another double fork, of which one prong moved between Australasia and Antarctica, pushing Australia eastward, and the other between India and Africa, pushing India northwards. Land bridges remained between Australia and India, but New Zealand became an island surrounded by oceanic deeps. All of the Asian mass was rapidly moving east toward the vast hollows that had been created in the crust. The move of Australia was paralleled by this move of the northern lands. The western Indian Ocean basin was bulldozed by the Indian subcontinent as it moved north, leaving behind its giant tracks on the ocean floor.

The westward rupture also split into two. One fork joined the southern cleavage proceeding from below Australia. The other moved north above the east flank of the great pit left by the Moon. As soon as it rejoined the north polar cleavage, completing its globe-girdling tour, it was partially overrun by the North American continent which was being pushed southwestward by the expanding Atlantic cleavage and pulled by the gravity incline of the Moon pit.

### *THE TETHYAN WELT*

Meantime, while the north-south and south-north fractures had raced around the Americas, a perpendicular or transverse fracture had occurred as they passed the old equatorial area of the globe. This area, with its old rotational bulge was straining backwards in the Northern hemisphere and forwards (eastward) in the Southern hemisphere. Its fracture, relieving the strain, moved readily eastwards, along the longitudinal Mediterranean

on the east. It is marked by a welt, more than a cut; the welt takes the form of volcanoes, mountains, deeps and fractures.

From the Mediterranean this Tethyan welt crossed over the new north-east fork of the Indian fracture at the Aegean area and Red Sea -- Dead Sea axis; it carried through the middle of the Near East and then through the southern borders of the Asian continent. There it was to be over-ridden by the Indian subcontinent moving northwards. But it continued and appears in what was becoming the South Seas Islands. It crosses the Pacific and enters the Caribbean through Central America, finally completing its world circuit at the Atlantic Ridge.

Especially in the new Pacific Basin, tens of thousands of molten fingers stretched up toward the continental debris that was escaping into space and then dropped back as blisters upon the ocean basins. These froze into the seamounts, monument to the creation of the ocean.

Lava poured forth from the world-circling fracture system, from volcanic fissures along the main ridges, and from a multitude of transverse fissures all along the main lines. The continents moved rapidly from the Atlantic ridge, and the new oceanic surface was paved by lava flows as the land retreated. Ashes rained down heavily; today drills probing the edges of the Northwest Atlantic continental slope penetrate "a succession of ash layers" before striking the basaltic lava of the true ocean bottom [52].

In the Pacific the major fractures appear less profound. Great rises, rather than abrupt ridges, occurred because the surface land shell had already been exploded. It was soft and deeply dug already. The major fracture system there was over-ridden by the North American continent and erupted its lavas underground or on the land through many volcanoes and fissures. Westwards it merged with the teeming seamounts, sending long transverse fractures out over the molten pit of the Moon.

### *GLOBAL EXPANSION*

Expansion of the globe occurred as a result of rotational slowdown [53]. Also, throughout the flayed regions where contact was made with interior deep magma directly, some

expansion of the globe took place. Loss of electrical charge may also have decreased the density of the Earth. Indeed, the volume of the Earth may be much greater without the Moon than it was before the Moon erupted. Expansion occurred especially where the sphericity of the globe needed to be preserved, that is, in the southern oceans where the lines of fracture girdle the globe latitudinally before moving northwards again. It occurred too, at the new equator and at the old poles, in response to the new direction of spin. Contraction and conservation of form, on the other hand, took place at the new poles, the old equator, and where the extensive thrusts and folds raised up mountains [54].

Thus were the principal features of modern world geography established: the distinct continents, the ocean basins, great oceanic ridges; mountains raised high in the westernmost Americas by the bull-dozing ice and undermass moving on the magma and against the inertial magma and core: Alpine Europe pushed up by Africa moving over the Tethyan welt and then back again; Northern India colliding into Asia; and uncounted thousands of seamounts.

If the Earth had not ruptured, it would have exploded, and life would have terminated. The cleavage permitted movement in the shell; the sial rode atop the sima and all of this to a depth of 5 to 10 kilometers (the Moho Discontinuity) rafted to new places carrying the surviving biosphere [55].

The rafting is almost entirely completed now but the Mohorovicic Discontinuity marks throughout the world the level at which the crust exploded and the crust slipped. Osmond Fisher, in the 1880's, can be credited with combining the ideas of the eruption of the Moon from the Pacific Basin with the prompt cleavage of the Americas from Euro-Africa and their rafting by great new convection currents set up by the moon explosion [56]. George Darwin had originated the first idea and placed the event at only 50 million years ago.

### *THE MAGNETIC FIELD*

A recent standard textbook reports that "we know disturbingly little about the interior of our planet... The understanding of planetary magnetism is another source of frustration for our understanding of even the Earth's main field is very poor. In

fact, about all that is in reasonably good shape is the description of the field: its origin is still uncertain.”[57]

Robert Haymes, the author, then gives the basic facts and illustrates them by a figure (adapted here as Figure 21). The small object in the center of the Earth is an approximation of a bar magnet to represent the source of the field. Actually this dipole is “offset 436 kilometers from the center of the Earth, displaced towards the Pacific Ocean. It is tilted with respect to the Earth’s rotation axis by approximately  $11^\circ$ ... The dipole axis intersects the surface of the Earth at points far distant from the north and south poles. These intersection points are called

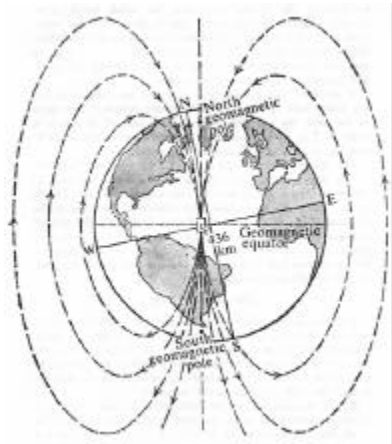


Figure 21. THE EARTH’S MAGNETIC FIELD. (Click on the picture to view an enlarged version. Caution: *Image files are large.*)

“The eccentric-dipole model of the earth’s magnetic field (schematic view). The equivalent dipole is -436 km distant from the center of the planet and is closest to the surface in the hemisphere that contains the Pacific. Hence at a given altitude the field is stronger over the Pacific than it is over the Atlantic. The geomagnetic axis is tilted  $11.5^\circ$  with respect to the earth’s rotational axis (the N-S line in the figure).” (Haymes, 1971, p. 215).

the north and south ‘geomagnetic poles.’ The north geomagnetic pole is located in Greenland at  $81.0^\circ$  N,  $84.7^\circ$  W, in the geographic system of coordinates. The corresponding south geomagnetic pole lies in Antarctica, at  $75.0^\circ$  S,  $120.4^\circ$  E.”

Haymes proceeds to discuss the “dip poles.”

“The offset of the equivalent dipole from the planetary center results in geomagnetic field lines that are not vertical where the dipole axis intersects the surface of the earth. Thus the field lines are inclined about  $3.9^\circ$  to the vertical at the geomagnetic poles.

“The places where the field lines are vertical are known as the ‘dip poles.’ These locations are controlled both by the offset and by the substances of the crust.

“Some observers believe the dip poles are located near  $82.4^\circ\text{N}$ ,  $137.3^\circ\text{W}$  (Labrador), and at  $67.9^\circ\text{S}$ ,  $130.6^\circ\text{E}$  (Antarctica)... It is ironic that the dip coordinates -- which should not be particularly representative of anything fundamental -- seem to be a better coordinate system for discussion of the cosmic radiation than does the geomagnetic system of coordinates.”

That is, cosmic rays correlate with dip pole coordinates rather than with either the magnetic or rotational poles.

The theory of Solaria Binaria, presented in chapter five, and the theory of its breakdown and the subsequent lunar eruption and earth cleavage as presented here, taken with the critique of magnetic time tests in chapter three, altogether suggest several points that may order the quite confused data of the Earth’s magnetic field.

1. The offset of some 436 km of the magnetic center from the geographical center of the Earth would be the consequence of the enormous pull on the heavy old center of the Earth of Uranus Minor that ripped off the crust of the Pacific hemisphere.
2. The magnetic field of the Earth is *fixed* as it was when the Earth was part of the magnetic tube and oriented to its rotation around the electrical axis of that tube.
3. The magnetic state of the mass of the Earth, which is remanent and not caused by any contemporary rotation of the globe, describes the fossil position of the elements of the mass in relation to each other.
4. The expansion of the Earth, which occurred with the electrical and chemical heating of the globe at the time of the lunar eruption and global cleavage, may be indicated by the

southern bias of the north magnetic pole and the northern bias of the south magnetic pole. The Pacific area swelled more than the globe as a whole but there was a total expansion extending even to the northern and southern extremities.

5. The lava that welled up in countless places around the globe lost its remanent magnetic orientation by heating, and thereupon was imprinted with the old magnetic field that it had just thrown off but in a different orientation. It cooled and moved away from its eruption coordinates to let a new mass well up and take on the same coordinates respecting the magnetic poles.

6. Siderally oriented tilting of the Earth's axis, without change of rotation, cannot cause a change in orientation of the magnetic field of the Earth.

7. The magnetic poles are near to and seemingly related to the north and south rotational poles largely because the latest change in the rotational axis, probably at the time of the passage of Uranus Minor, placed the poles near them.

8. The unpredictable and mysterious instability of the magnetic poles is produced by the isostatic adjustments occurring throughout the globe as a result of the various body cosmic encounters of the past 14,000 years.

### *OCEAN DEVELOPMENT*

Earth's crust was half erupted into space upon the intrusion of Uranus Minor without Earth's losing its atmosphere; for the atmosphere of Earth was almost identical with and part of the much greater atmosphere consisting of the gases of the magnetic tube. New atmosphere flowed in readily to replace all that was drawn off or destroyed with the crustal material. Moon's atmosphere was barely allowed to form and was almost entirely lost in later destructive encounters.

New waters poured off the continents and from the skies into the new basins. Possibly a last great deluge of water came from Uranus Minor as it passed; in 1977, five rings were discovered around the planet Uranus. Like the rings of Saturn they may contain ice. By feeding the fissures and volcanoes, the waters

sped up greatly the spread of the oceanic depressions. The world was hot, steaming, and often flooded or on fire. The atmosphere was laden with combustion products and had exchanged components with Uranus Minor. Within a century sizeable basins had been basalted to receive the vast new waters that mingled with the old.

The rate of development of the ocean basins was negatively exponential. Within the 3,500 years (11,500 to 8,000 B.P.) of the age of Lunaria (the Moon eruption and Earth cleavage), the full basins were formed and paved. And, as it happened, the waters descended from the skies and poured off the land to partly fill them. At the end of the period, the cataclysms had ceased but the skies were still heavily clouded; the continents were shifting but at an almost negligible rate. The shores were at the edges of today's continental slopes.

It is for another volume to say how the world was nearly destroyed and finally saved by the first Uranian deluges and then the creation of the ocean basins to carry them. If the swamps of Pangea and the depression of Tethys were to become the waters of today and the basins filled, approximately 82/100 of a cubic kilometer of water per second would have had to fall for 1725 years. This is about the rate of annual rainfall in Vancouver, Canada, where some 200 inches per year occur. The time period would be divided into four periods of accumulation : the Pangean vapor condensation into swamps and ponds, the early Uranian canopy collapses, the passage of Uranus Minor at the time of the Lunar eruption, which not only brought new waters but also removed some water, and finally the great Noachian deluge of the end of the Saturnian age.

### *LUNAR WORSHIP*

In Lunarian times, vast regions of the Earth disappeared and all others were devastated. Animal and plant species would have been threatened with extinction. The human species was no exception ; from millions, it probably decreased to a few groups, existing far from one another, small family bands accompanied by individual survivors of foreign groups. The collective memories of the groups recalled the vanished age of Urania and the civilizations that had been blasted from the Earth, drowned, or shaken to death by earthquakes at the approach of the

Uranian planet. The memories were painful and unbelievable to the psychologically and physically depressed survivors. They were therefore distorted, suppressed, and selectively elaborated.

The Moon was watched with fear and trembling the less so as it became regular in its behavior. Its routine and successive phases were marked down and the logic of a calendar moving through time was founded. Coincidentally, the Moon settled into a periodicity that came close to the periodic menstruation of women. (But it may be, as will be discussed soon, that the menstrual cycle was psychosomatically adjusted to the lunar cycle.) The period of menstruation was lent importance as a result. Witchcraft flourished around the feminine mystique. Of course, the consequences were much more manifold. Few, if any, aspects of life were freed to develop without religious connections to what was experienced with the coming of the Moon and with lunar behavior.

The ecumenical Uranian culture remained the substratum of Lunarian culture. However, many Lunarian cultures developed in isolation. Languages revived apart. Probably here now arose the great differences among the major linguistic groups. So also institutions, arts, and crafts. Diffusion was at a minimum. Lunar religion everywhere was based upon Uranian religion. A sun calendar may not have developed anywhere, because the sun was still diffused as “Hyperion”, not “Helios” and was relatively remote as a threat. Its regular (or at least slowly changing behavior) permitted it a minor role in influencing human minds and practices. The Moon was related to imprinted fears, more variable, closer to the Earth, and for all these reasons, terribly fascinating. As the lunar cycle became regular, the remaining portion of Super-Uranus, known to us as (super) Saturn, was reestablished as the (new) chief of gods. Already in the age of Lunaria, he was recognized and worshipped in the place of Uranus. But the Moon’s chief place in immediate religion was abundantly evidenced.

When, by Homer’s time, in the aftermath of Martian destruction, the Moon was stereotyped for its lightness of character, it could be said, as did Vico with marvelous intuition, that the fables “were received by Homer in this corrupt and distorted form.”[58]



were accepted, the concept of an all-land Pangean and Uranian world would become practically an established fact.

The map highlights another point : peoples from all around the world and all types of culture are obsessed with the idea that masses of neighboring land were deluged or overrun by water and sank forever into the depths. As John Locke said of the “fire of hell” and Vico of the “thunderbolts of Jove,” an idea so universal and persistent must refer to an intense experience suffered in the past.

The map is extremely schematic, as is the evidence. It merely indicates areas and names them. The size of an area conveys little or no meaning, especially considering that almost the whole globe was land-covered before the floodings and explosions. The location of the center of each culture, too, is almost never agreed upon. As Bellamy once wrote: “So the German ethnologist Frobenius sought Atlantis in Nigeria; the Anglo-Spanish archaeologist Whishaw placed it in Andalusia; the German Schulten found it at Tartessos at the mouth of the Guadalquivir; the Germans Borchardt and Herrmann, and the French Count de Prorok, suggested North Africa; Colonel Fawcett looked for Atlantean vestiges in the Amazon Valley; and Central America and the West Indies have also been mooted”. [59]

The map does not include vast civilizations thought to have been destroyed by *water* action (deluges, tides) on land as for instance the Gobi (Desert) Sea Civilization, or the Sahara (Desert) Sea Civilization (both indicated on the map). Nor does it include hundreds of known sites, representing thousands of *unknown* sites, overrun by water either in localized or general catastrophic action, as for example Lake Issyk Kul (Kirghiz SSR., Lake Polaki (Poland), Mecklenburg Lake (East Germany) Lake Sevan (Armenian SSR), Lake Amatitlan (Guatemala), the Gulf of Taranto (Italy), St. Gervais (France), Tyre (Phoenicia). Chersonesus (Crete), Volga Basin (Russian SSR). and Bab el-Mandeb (Gulf of Aden).

The map exaggerates the polar seas. Hence, on the scale of the map, Beringia should be perhaps extended throughout the shallow arctic seas, thus coloring practically the whole width of the map to the extreme North.

All continental shelf lands were overwhelmed by water around 6,000 years ago, as the next chapter will argue. Only a few of these areas are listed among the famed legendary places on the map. However, a glance at the chart following Figure 20 will show how extensive the shelves are and therefore how enormous the deluges of the period.

Many details not given here are provided in Kondratov's *Riddles of Three Oceans*. For instance, he writes: "The majority of experts agree that dry land once existed in the Easter Island area. It may have been a large land mass or most probably a group of islands that later sank. [or both in successive phases.] But when did they sink? The same experts say this happened very long ago, before human times or, at the very latest, at the end of the last Ice Age, between 10,000 and 12,000 years ago." [60]

#### *LEGENDARY CHAOS AND THE MOON*

The Fish-Man, Oannes -- goes the legend -- came ashore among the first and savage people of Babylonia, and he taught them the human arts. He also told them the history of the world from its beginnings.

"There was a time in which there was nothing but darkness and an abyss of waters, wherein resided most hideous things..." [61] (Another translation of the same passage says: "In the early days, before the Earth was yet made, a number of terrible beasts were the masters of the heavens.") [62]

"The person, who was supposed to have presided over them, was a woman named Omoroca; which in the Chaldean language is Thalath; which the Greeks express as Thalassa, the sea; but according to the true computation, it is equivalent to Selene, the Moon. All things being in this situation, Belus came, and cut the woman asunder : and out of half of her he formed the earth, and of the other half the heavens; and at the same time destroyed the animals in the abyss... This Belus, whom men call Dis, divided the darkness, and separated the Heavens from the Earth, and reduced the universe to order. But the animals so lately created not being able to bear the prevalence of light, died." [63] (Belus then causes new animals and men to be formed from the blood of the godhead and the soil of the earth, and these could bear the

light.)[64] “Belus also formed the stars, and the sun, and the moon, together with the five planets.” Then a long time passed until the deluge (almost surely the flood of Noah) was announced by the god, Kronos, to the King Xisuthrus (also Sisithrus) [65].

In this account of chaos and creation, we note that the heavens were overcast and loaded with waters. We note, too, the association of the monster queen with the undifferentiated chaos, then with the sea and the moon. Further, she later is divided into heaven and earth amidst the general destruction of the monstrous species. The god Belus acts the part of a manifested Super-Uranus or of the Super-Saturn that succeeded the destruction of Uranus, and thus corresponds to the Elohim (Saturn-Kronos) of *Genesis*. Nor may one overlook the possible significance of the other name of Belus, “Dis,” for it resembles “deus” (god) in Latin.

In the beginning, says the Bible, “The earth was without form and void, and darkness was upon the face of the deep; and the Spirit (or wind) of God was moving over the face of the waters.”[66] And then Elohim made the light and he separated the heavenly waters from the earthly waters. The Firmament of Heaven was between the two regions of water. Then the earthly waters were collected so that dry land might appear. Plant life then flourished. Whereupon, lights appeared in the Heaven and time-reckoning began. In a passage following shortly, *Genesis* says that after heaven and earth separated, and before any plants lived, the earth was watered by a mist from the ground and in this setting man was “formed of dust from the ground.” “Whence he was placed in the Garden of Eden, which was watered by rivers.”[67]

We suspect that a watchful ex-hominid, newly possessed of a sense of time, was near to the events of the great days. Elohim may be here interpreted psychologically as a projection of man, the Watcher, already human, already reading himself into the gods, and the gods’ “traits” and actions into himself. The watcher could not be impressed by the Sun, which was below, that is, South of the Earth by our model of *Solaria Binaria*. This Elohim, or Heaven, must be Super-Uranus-and-Saturn. Nor was he impressed by a Moon, for the Moon did not exist. As many

commentators have noted, the Bible seems to say so. Many other indications also support the scenario.

We wonder whether this is the Lunarian period of chaos. From India comes a similar image, here described by van Buitenen: “After the ultimate conflagration, the Fire of Doomsday, the Ekpyrosis, which Markandeya like another Manu survives, the rain and floods come and render earth one vast ocean, and desolately he roams the vast desolation -- a Manu without the need for an ark, but in search of his fish. He finds it in form of a child sitting in a banyan tree -- a tree to which the fish piloted Manu? -- the tree whose branches are roots. Inside the child Markandeya explores the worlds in all their variety, and these ‘worlds’ are of course nothing but their own seeds.”[68]

Distinguishing between accounts of the Lunarian catastrophes and those of Saturn, several thousand year later, is difficult. The legendary accounts usually confused the chaos and creation of the primeval period with the later accounts; although holding to the cyclical ages of disaster, the mind tended to squeeze or reorder universal primeval happenings together as time went on. But note that in neither of the Genesis creation passages is there a human intelligence when it begins; it is created. By Noah’s time man was fully intelligent and had a history.

In both passages Saturn is the great natural god. He is in the first place the Super-Saturn who presides over the age of Lunaria when the Moon and Earths cleavage occurs. He is also the god, the planet, that fissioned in a nova and retired in favor of Jupiter-Zeus-Jehovah.

But long before the deluge of Noah, in the age of Peleg, the earth was divided. So says the Bible. Patten regards this to be referring to the great earth cleavage [69]. In Justin the Historian, one finds another intriguing reference, a hypothesis, “whether the world, which is now divided into parts, was formerly one.”[70]

Among the people living around the strait of Bad el-Mandeb, that runs between the Red Sea and the Indian Ocean, it is believed that the strait gets its name, which means the “gate of tears,” in memory of the immense number of people who died in

the Earth convulsion that separated Africa and Asia and created the Red Sea [71].

Hesiod, in his *Genealogy of the Gods*, recites that Ocean (Okeanos) was the son of Ouranos (Heaven) and Gaea (Earth) Okeanos came down to Earth. But meanwhile Ouranos had thrown all of his sons down into the nether regions and had begun to suffocate his wife, Gaea, the Earth-Goddess. The presence of the father of all the gods became intolerable.

Across the world, American Indians tell this story which sounds like the catastrophe of 11,500 B.P.:

“Monan, without beginning or end, author of all that is, seeing the ingratitude of men, and their contempt for him who had made them thus joyous, withdrew from them, and sent upon them *tata*, the divine fire, which burned all that was on the surface of the earth. He swept about the fire in such a way that in places he raised mountains, and in others dug valleys. Of all men, one alone, Irin Mage, was saved, whom Monan carried into the heavens. He, seeing all things destroyed, spoke thus to Monan: ‘Wilt thou also destroy the heavens and their garniture? Alas! Henceforth where will be our home? Why should I live, since there is none other of my kind?’ Then Monan was so filled with pity that he poured a deluging rain on the earth, which quenched the fire, and flowed on all sides, forming the ocean, which we call the parana, the great waters.”[72]

The people of the Pelew Islands in the Pacific say that their ancestors lived in a great land. Divine heroes who were strangers appeared among them but only one woman gave them hospitality. They told her that a great flood would take place when the full moon first appeared in the heavens. And it happened so, and she alone was saved, on a raft [73].

#### *THE MOON IN MESO-AMERICA*

The *Popol Vuh*, the “Bible” of the Quiche, an ancient and still flourishing people found now in Guatemala claims that their ancestors arrived in Central America from the East when the full moon first appeared [74].

Throughout Meso-America, said Spinden in 1917, there is an archaic culture. It reaches down to the Andes. Coe believes that the end of the Ice Ages brought desiccation and extirpation of many species “but the Indians survived.”[75] I would speculate that much of this “archaic culture” belongs to the reconstruction period following Lunaria, that is, the Saturnian period, and ascribe the dessication to the Jovean-Venusian period.

Charles Brasseur de Bourbourg’s 19th century studies [76], undeniably great, yet catastrophist, and therefore ridiculed by his very admirers, led him to two sets of disasters; however he decided later that both must be joined. The first, he said, was a sinking of a great crescent of land stretching from Central America to the Canary Islands; seven major islands remained above water. Yucatan itself sank, and then later arose. This was the origin of the Atlantis legend, he thought. It took place 6000 to 7000 years ago.

Later Bourbourg discovered the famous Troano Codex of the Mayans, and deciphered it with some success. He thought that the Codex told of the catastrophe of Atlantis, and placed the time now at 9973 B.C (11,973 B.P.), using Mayan time reckoning.

If the two times and two events are kept distinct, they would correspond with the great Lunarian disaster (9500 B.C.) and the Saturnian continental-shelf flooding of around 4000 B.C.

Bourbourg stressed an important point : the earliest religions in Meso-America, he said, were Lunarian. Lunar myths were the sources of all later rites and symbols. Bancroft in the *Native Races of America* repeats Bourbourg’s theory [77].

It seems proper to repeat that despite the recent surge of interest in it, Meso-American mythology is almost untouched by comparison with the great labors that have gone into Near Eastern and Classical European study over many centuries.

The Chibchas and Mozcas of the high eastern plateau of Columbia report that they were once uncouth savages and were visited by Bochica, a foreign teacher with a golden staff who taught them the arts. His beautiful but wicked wife Chia once flew into a rage and caused the whole plateau and Earth to be

flooded. Few beings survived. Bochica banished Chia from the Earth and made her into the Moon. Then he opened gorges in the mountains to let the floods out [78]. Humboldt reported 150 years ago a tribe of Guiana (S.A.) that claimed to be proselenian [79].

Bellamy, who so carefully studied the Moon myths, claims that the Peruvians and other Americans drew the Moon as a tiny disc, never in its sickle forms, and attached to it the evil, feared sign of the puma. Bellamy believes the Moon was captured, not erupted, about 11,500 B.C. His search found few capture myths (and less eruption myths, such as I have cited above); this he attributes to the great cultural devastation caused by the tides pulled up in the encounter [80].

It appears that the Moon was the earliest object of adoration among the people who founded Tiahuanacu. Poznansky writes: “With regard to the worship of the Moon, we are familiar with many devices which demonstrate its great importance, its greater transcendence and generalization than in the case of the worship of the sun, at least during the primitive period of Tiahuanacu. For every ten ceramics, more or less, which through their signs depict the worship of the Moon, we find only one or two connected with that of the sun...”[81]

The Moon, we have said, was very important to the Mayans. Anthropologist Michael Coe describes the Mesoamerican view of the Moon in a startling parallel to Robert Graves’ (and the general) rendition of its worship in archaic Greece.

“As a female, the lunar orb was for the Mesoamericans the very embodiment of the fair sex. The young, waxing moon was seen as a beautiful woman, forming part of a complex of youthful goddesses associated with sexual love.... As the Moon waned and gradually slipped back towards the eastern horizon, she became an old and somewhat malevolent deity, with snakes in her hair or on her skirt, or with spindles placed in her headdress as an indication of her role as a patroness of weaving... Again, she apparently formed part of a larger complex of aged goddesses and merged in many ways with some of these. particularly with the female half of the dual Creator God.”[82]

Later, Coe remarks that “the Moon was felt to exert a powerful influence on terrestrial events.”[83]

### WESTERN EUROPE

Across the (present) Atlantic, the ancient people of Britain nurtured a legend of the clefting of Earth [84]. And the Edda of the Icelanders tell the story of the primeval giant Ymir, who was formed of ice and water and waged war against all the other races. But the gods Odin, Vili, and Ve overcame him and flung his body into the vast chasm called Ginnungagap, which *he had caused to form*. From his blood were created the sea and the waters, from his flesh the Earth, from his bones the mountains, from his skull the sky, from his brain the clouds, from his eyebrows Midgarth for the race of men [85].

Alexander Marshack has taken infinite pains to study human signs of the late stone age hunters of Southern France, Spain, and elsewhere. He seems to have discovered a practice of marking off lunar cycles on bones and stones [86]. This would coincide with the model of a Lunarian culture. during the period of recovery following upon the birth of the Moon.

If Marshack sees in the upper Paleolithic markings the beginning of an astronomy of the Moon, then the Magdalenians (and others) lived later than other ancient peoples who, not only in the Americas and Asia, but also in Europe, claimed that they flourished before the coming of the Moon. According to Aristotle, and after him to Apollonius of Rhodes, human societies antedated the Moon; they lived when “not all the orbs were yet in heaven.” The Arcadians were said to have been in a reduced state, living upon acorns, before the Moon appeared, and later they boasted to the Greeks of this [87].

### THE NEAR EAST

The Phrygians of Asia Minor also considered themselves proselenians [88], So did the Mayans of Mesoamerica and the Indians of the Columbian highlands.

“The Assyrians referred to the time of the Moon god as to the oldest period in the memory of the people: before other planetary gods came to dominate the world ages, the Moon

was the Supreme Deity. Such references are found in the inscriptions of Sargon II (about -720): ‘Since the far-off days of the Moon-god’s time (era).’ [89]

“An ancient name of the Moon was Aa, A, or Ai, which recalls the Egyptian A,h or Ah. The Sumerian moon was Aku, ‘the measurer’...” The origin of the Zodiac is attributed to the “Akkad country, probably in almost prehistoric times.” This is Griffard quoting Mackenzie and Hinckley-Allen [90], And might not the Arcadians of the Peloponnesus be of the same root, for their very founding king was named Pro-Selenius, “Before the Moon”?

I would question, too, whether Abram, later Abraham, the Hebrew patriarch, who was a famous astronomer of Ur, special seat for the worship of the moon-god, combined in his name elements of the Moon, “A,” and Mercury’s “ram,” living in the third millennium in Mercurian times [91].

Griffard claims that the zodiac, so important in astronomy, navigation and astrology today, was originally a measure of distances using the Moon, and “possibly long antedated the general constellations or even the solar zodiac.”[92] Stecchini, too, argues that navigation by the Moon is simple, as the ingenious American businessman, Nathaniel Bowditch, showed at the time of the American Revolution with his book of *The American Practical Navigator* [93]. The stars and the sun are not needed to navigate, once given the Moon; latitude and longitude can be calculated. Earliest man could have commonsense means, too, of making up a calendar. Babylon, which like perhaps all other early cities, was planned on the scheme of heaven, dedicated many of its pyramidal towers to the moon god [94]. They constitute attempts at warding off a threatening heaven and controlling the gods.

Briffault stresses the important place among the Semitic people that was held by the Moon, in the image of the serpent [95]. And now we wonder whether the serpent of the Garden of Eden represented the moon in the period when Jupiter-Jehovah was taking command of the skies. In Mesoamerica, too, the moon-god was associated with serpents, as the remarks of Coe have already disclosed. Hecate, a Greek moon-god form, had tresses of snakes, too.

For the strange figure of “Lilith” in Hebrew mythology, one must go to the cabalistic writings of the Zohar (13th century) and other sources. Lilith was the first wife of Adam. She was called “the Night Monster.” She left Adam because of incompatibility and three angels tried in vain to force her return.

I interpret the story as beginning with Adam (who is “Earth”) and who is human as is Lilith. She deserted Earth to become the night-monsterish moon, trailing destructive long tresses of snakes. Finally Adam, wanting a woman, was given an earth being Eve by Elohim, this being now the Age of Saturn. (And later came the expulsion from the Garden of Eden in the beginning of Jovea.)

#### *A QUESTION OF LUNAR PRIORITY*

Perhaps a case can be made, therefore, from legend as from geophysics, of the recent appearance of the Moon, following its eruption and the catastrophic cleavage of the Earth. We have noted a fervent universal worship of, and sacrifices for, the Moon in earliest times. We have associated early pragmatic functions such as calendarizing and navigation with observations of the Moon.

Something should be said of the fertility functions as well. It is not enough, of course, to point to prevalent “primitive” tribes who unite the phases of the Moon with lore, probably some of it scientifically verifiable, on hunting, planting, and harvesting. Nor even to deduce that, given the phases of the Moon, we are bound to discover ancient lore and associated rites of the same kind that originated with observing the phases of the Moon, such as are implied in the references above to Coe on Mesoamerica and Graves on archaic Greece.

Our problem, much more difficult, is to consider whether true humans existed before the Moon appeared and thereupon attached its phases to human behavior. Even so, the problem is not properly circumscribed for it is conceivable that the hominids might observe and follow moon phases without reflecting upon them just as the Canadian goose instinctively heads South upon certain signs of winter. If it can be shown that humans at some earlier period were religious but “non-lunar”

then it will be arguable that a) the Moon did not exist, b) that when it appeared it was an object of terrified worship, its behavior would be reconciled with human behavior in order to exercise control over it. Legends already cited go to support this argument.

Also, the undeniable primacy of Uranian Heaven worship, and the proofs of an ecumenical Uranian civilization allude to a pro-selenian religion; the frequent assertion of anthropologists -- especially the older ones like Morgan and Frazer -- that an animistic, magical phase of religion preceded the celestial (which we deny) helps, in a backhanded way, to support a pro-selenian religion, celestial but not recognizably so full of symbols which seem terrestrial but may be celestial, though not lunar.

We might take up another example to aid discussion of the problem. Among the Melanesians of Arnhem's Land (Australia), a cycle of sacred chants and dances commemorates the behavior of the Moon and the dugong (sea cow) [96]. In the beginning, the Moon lived along the swampy shore but found the leeches insufferable. She persuaded the dugong that they should take to the sky. The dugong argued that they would have to die in so doing, but the Moon insisted that she would only drop her bones temporarily and then grow new ones (presumably the phases of the Moon). The presence of the sea-cow in this mythical song and dance cycle points, however, to a possible Venusian origin (around 3400 B.P); the elements indicating a terrestrial origin of the Moon off the edge of Australia (not necessarily the present waters of Australia) may be an archaic element juxtaposed with an explanation of the Moon's phases, and with later contacts between the Moon and the planet Venus (the sea cow, the lotus flower, and the evening star-all are joined together in the chants). Even so, the juxtaposition points to a confusion of *history*, not of *reality*: that is, both the Moon and the Evening Star were born in the early memorial generations of the tribe.

#### *ELIADE'S "LUNAR PERSPECTIVE"*

M. Eliade analyzes brilliantly the Moon-cycle complex found all over the world. His interpretation and presentation are totally uniformitarian, reversing cause and effect part of the time and ascribing power to the Moon that it could never have gained by

is present smooth behavior. The passage comes from *The Myth of the Eternal Return*, a most useful work [97].

In the “lunar perspective,” the death of the individual and the *periodic* death of humanity are necessary, even as the three days of darkness preceding the “rebirth” of the moon are necessary. The death of the individual and the death of humanity are alike necessary for their regeneration. Any form whatever, by the mere fact that it exists as such and endures, necessarily loses vigor and becomes worn; to recover vigor, it must be reabsorbed into the formless if only for an instant; it must be restored to the primordial unity from which it issued; in other words, it must return to “chaos” (on the cosmic plane), to “orgy” (on the social plane), to “darkness” (for seed), to “water” (baptism on the human plane, Atlantis on the plane of history, and so on).

We may note that what predominates all these cosmico-mythological lunar conceptions is the cyclical recurrence of what has been before, in a word, eternal return. Here we again find the motif of the repetition of an archetypal gesture, projected upon all planes -- cosmic, biological, historical, human. But we also discover the cyclical structure of time, which is regenerated at each new “birth” on whatever plane.. Everything begins over again at its commencement every instant. The past is but a prefiguration of the future. No event is irreversible and no transformation is final. In a certain sense, it is even possible to say that nothing new happens in the world, for everything is but the repetition of the same primordial archetypes; this repetition, by actualizing the mythical moment when the archetypal gesture was revealed, constantly maintains the world in the same auroral instant of the beginnings.”

These passages must be read in a special way. The Lunarian behavior that Eliade describes is, in my estimate, the recapitulation by peoples of the second catastrophe of the holocene age. After all, the phases of the Moon do not demand “chaos.” “orgy,” darkness,” and “water;” catastrophe in which the Moon played a role *does* demand them. Every great god is the centerpiece of a catastrophic cycle; the moon is one of them. The correlation of human behavior with natural Moon behavior should be interpreted as mankind trying to think like the god, act like the god, and re-enact the cycle of birth, destruction, and resurrection of the god. Each great god has its own peculiarities. That the Moon’s later behavior exhibited the three phases in its continuous natural cycle only stressed in the human mind the

truth of the universal proposition of the cycles of the gods and of the human ages.

But the scientists of today should not confuse this coincidence of the Moon's recapitulating the eternal cycle with the original behavior of the Moon that prompted its dreadful worship -- its birth from the Earth, its flaming, cometary passages around the globe, and its settling into place with routine motions, that lent hopes of a stable world order. The subsequent "victimization" of the Moon by greater gods -- Saturn, Jupiter, Mercury, Venus, Mars -- is also the story of a declining reverence for the Moon among power-worshipping mankind. The very weakness of the Moon as a god in late times (say after 1500 B.C.), despite its prominence in the sky and its impressive cycle of birth, maturity, senescence, death, and again resurrection, suggests that, in the post-Lunarian epoch, new and harsh gods made their weight felt, which, even when they aged into *deus otiosus*, still commanded the Moon and Earth. In the historical mind and cultures of mankind exists the full set of transferred representations of the natural behaviors and traits of the gods.

### *THE MENSTRUAL CYCLE*

Another case in which quantavolutionary logic argues against the evolutionary logic deals with the menstrual cycle of women. The facts are well-known; everywhere menstruation has been the center of taboos, often involving excruciating practices (locking up menstruating women, for instance) and penalties (killing a woman who lets herself be seen in certain places during menstruation). Again, this could seem a grossly exaggerated social response to a "normal animal function." But we note, and many cultures make the connection explicit, that the menstrual cycle is ordinarily quite close to the lunar monthly cycle. The situation is one that psychologically cries out for identification and transfer of affect : from the once terrible and feared moon to the feared and terrible woman. Lederer rightly includes menstrual customs as a key element in the concatenation of behavior that add up to a universal "Fear of Women." [98]

Quantavolutionary theory supplies hypotheses here. If the Moon erupts into a disaster that destroys and terrorizes the peoples of Earth, and then afterwards settles into a routine that "points its finger" directly at the universal behavior of women, then that

behavior becomes sacred, threatening, and certainly the object of social controls -- just as one would wish to control the Moon, and indeed as part of the extended efforts at controlling the Moon.

Nor should we overlook another and even more frightening possibility, that the original Uranian civilized and humanized women, confronted with a god who is assuming a certain periodicity of behavior, would obsessively demand of themselves the emulation of the god's behavior and thereupon, by psychosomatic means, fashion their menstrual cycle to conform to the period of the Moon. Then women would, by this demonstration of a control quite beyond the capacities of men, achieve a relation to the god that would be a constant threat to the males. These, in turn, would "reward by punishment," that is, surround menstruation with taboos and penalties that grant only bitter fruits to female victory.

The consequences extend to parturition; birthing is already part of Uranian religion, the parting of the sky and earth. But now in the Lunarian period, birth is also the breaking of the cosmic cycle of lunar menstruation; the cycle ceases upon pregnancy. Fertility then becomes more sacred because (and the male is the agent) it, too, controls the cosmic process.

### *THE HEAVENLY SPINNER*

The Moon, or at least the Goddess of the Moon, is a spinner. This trait may possess significance. A spinner, to ancient civilization, denotes a raw material to be spun, a distaff to gather it conveniently, and a spindle around which to wind the threads that are drawn out of the material. In Egypt, Tayet, Goddess of Spinning, was a daughter of the great early Sun Re, (probably Super-Uranus) and a daughter of Nut, probably a moon-goddess, as well as representing the sky.

Figure 23 shows the Mesoamerican goddess Tlazolteotl as Moon Goddess, "with spindles placed in her headdress as an indication of her role as patroness of weaving...."[99] Figure 24 shows the Moon in full view behind the Moon Goddess (Aphrodite) with Ares and Eros. Suhr, who pursued the subject with great intensity, writes that "the heavenly Aphrodite...was frequently portrayed as a spinner reaching out into the

surrounding air to fleecy clouds to serve as raw material.”[100] Her other hand was carried in a position to gather the threads. In earlier times, she was represented with the necessary equipment; later the equipment was dispensed with [101], and the marvellously graceful posture remained, a “classic pose.” She would be bare to the waist and barefooted to avoid collecting threads and lint.



Figure 23. THE MESOAMERICAN MOON GODDESS TLAZOLTEOTL. (Click on the picture to view an enlarged version. Caution: *Image files are large.*) Tlazolteotl, the Moon Goddess with Spindles in Her Hair. Source: Codex Boriga, 55; Coe, 16.

Among the designs often associated with the very many paintings and sculptures of the Moon Goddess were whirls, whorls, and spirals. Sometimes she carried a mirror as a symbol of the reflections of the Moon; it substituted for the spindle. On her head she wore at times a cap resembling a cone and distaff of raw wool. The headgear is called the “polos,” a word we have come to identify with the Boreal pole, of Uranian origins, site of the first heavenly city that inspired all subsequent architecture.

The cone is manifested throughout Mesopotamian and Greek cultures [102]. It is the shadow cast by the Moon on the Earth, with a circumference of 50 miles. It is, Suhr surmises, the origin of the mythical Unicorn, which is found in ancient China and Mesopotamia.



Figure 24. APHRODITE THE MOON GODDESS (After Suhr, fig. 47, following Verrall and Harrison). Click on the picture to view an enlarged version. Caution: *Image files are large.*

In examining another specimen of moon-art, Suhr observes “an eastern divinity...one of those composite deities we recognize as an oriental precursor of the Ouranian Aphrodite; the attributes, a mirror in one hand and what is most likely a distaff in the other, support this assumption... Whether she is Kybele or the Dea Syria, she wears a veil over a conical headdress surmounted by the crescent of the Moon.. A Hittite relief shows up a similar divinity with the same attributer.”[103]

“In the Vedic hymns Rakha, the full moon, is supposed to make beautiful garments for night and morning, with a needle which can never be broken. She weaves together the roseate hues of morning and the soft mellow tint of evening.”[104]

In appraising his findings, Suhr concludes that the Moon is a spinning goddess because she may be seen to gather clouds (upon her distaff) and drop (threadlike) rains upon the Earth. She is connected with fertility and love, after all, which appears to be logical. The quantavolutionary logic, however, modifies this explanation.

If the Moon is born from the Earth, amidst chaos, in a splatter of “blood and genitals” from the earliest war of the gods, and then must pull itself into a ball, the “clouds” would become the primordial “raw stuff” of the spinner. If the Moon rotated in its earliest times, while gathering itself together, it spins like the distaff gathering wool and ejecting thread. If the Earth is being deluged by cosmic waters and at the same time by waters raised up in great heat and falling back upon the Earth, then the Moon,

amidst it all, is the spinner dropping threads, but what impressive gathering of wool, and revolving of distaff and what threads they were! Impressive enough to cause the mind to inaugurate a useful invention.

Again, and as usual, we see the “rational” process reversed; the invention and practice of spinning and weaving do not excite the mind to create the god. The “god” excites the mind to create the invention and the practice. Later on, the mind becomes subdued; it pushes into its subconscious recesses the first causes, makes effects out of causes, and ends up with a tolerable mental imagery that conforms to nature as one wishes it were.

When this later stage arrives, a confusion of names and identities sets in as well, so that Aphrodite becomes Venus in men’s minds, for example, or Zeus becomes Saturn, or Saturn becomes the Sun, and so on. More of this later. The present chapter is done. On evidence from geophysics, mythology, and psychology, the Moon is deemed to be a recently exploded fraction of the Earth, to be newly emplaced, and to have been worshipped heavily and in accord with its original history. Still to be related are later experiences of the Earth’s satellite, of when it was flooded by Saturn, cratered by the bolts of Jupiter and Mercury, and pelted, shocked, and melted by Venus and Mars.

**Notes (Chapter Seven: Earth Parturition and Moon Birth)**

1. See also Long (1974) 240-1.
2. I follow here Suhr's (1969) identification of "foam-born" Aphrodite with moon.
3. See Kelly (1963) on a cometary train striking and excavating the Pacific Basin, 1-8, 76-99 espec. 89.
4. The astronomer Lyttleton once said, regarding the origin of the Moon, "that a distant third body, such as the Sun, might play a major role in rounding out an eccentric orbit in a surprisingly short period of time." Juergens (1974B) 39.
5. Marsden and Cameron (1966).
6. I came upon a copy of Baker's work (1932, 1954) in the Library of Congress as I was checking some last citations for this book. The year before (1978) I had noticed a passing reference to Baker in Sullivan (1974); Sullivan mentioned only Baker's idea that an intruder, possibly Venus, had encountered Earth. The Princeton Libraries listed the 1932 book but when I searched for it, I discovered that it had been lost or otherwise removed from the geology library stacks. I asked Velikovsky whether he knew of it and he told me that he, too, had sought it out but found it missing. Some years ago, someone at the University of Southern Illinois at Carbondale had made a microfilm of the copy that belongs to the Library of Congress. Baker is completely unknown in geology, a case of unheard genius.
7. (1965); Vsekhsvyatskii (1976) 53.
8. In Marsden and Cameron (1966) 216.
9. Wilson (1968) 316.
10. Vsekhsvyatskii (1976).
11. *Ibid.*, 11.

12. *Ibid.*, 13.
13. Cook (1972).
14. M. Cook (1966) 120 ff., relying upon Alex du Toit's early defense of continental drift and ice cap depression as originating the Atlantic rupture, and upon the Farraud and Gadjia Wisconsin Ice Cap studies and the Heiskanen and Vening-Meinisz Fennoscandian studies, reports that both the shape of the depression (now-rebounding) and its rate of rebound and less than 10,000 years ago (our 11,500 B.P.) The present theory does not posit "ice caps" prior to the Saturnian Age finale. Therefore, it calls upon other mechanisms, especially a cosmic lightning exchange. Had there been ice dumps in the first Uranian, proto-human period, Pacific Basin lunagenesis would also be facilitated.
15. Wegener (1924) 21, 202-5.
16. *Ibid.*, 205.
17. D. W. Wise in Marsden and Cameron (1966) 216.
18. Driscoll.
19. *Cf.* Ransom (1976) 142-54.
20. Driscoll; Ruzic, 51; Wood, 72-3.
21. Cook (1972).
22. Ransom (1976), 153-4.
23. Velikovsky (1972) 20.
24. *Ibid.*
25. *Ibid.*, 19.
26. Ransom (1976) 143-4; Treash (1972).
27. Ransom (1976) 146-7.

28. Ferté (1972) 13.
29. Velikovsky (1972) 19.
30. *Ibid.*, 19.
31. Ransom (1976) 145-6; Ferte (1972).
32. Velikovsky (1972) 21.
33. Juergens (1974D, 1974E).
34. *Ibid.*,
35. Juergens (1974C).
36. Personal communication, Juergens, 1970.
37. Cook (1972).
38. Cook (1972).
39. Wood, 69.
40. Cook (1972).
41. This is reasoned from Cook (1966) 3 who estimates Earth's crust might solidify in 1000 years.
42. Wood, 71.
43. O'Keefe (1966) 224 Cf. O'Keefe, Tektites (1963) on their widespread distribution on Earth.
44. Cf. Bellamy (1936) 35 ff., where the damage to Earth from a Moon capture is estimated.
45. Cook (1972) 18-9.
46. Baldwin 277-8 in Marsden and Cameron (1966).
47. Wood, 69.

48. *Ibid.*, 71.

49. *Ibid.*, 70.

50. *Ibid.*

51. Cook writes (1966) 152; “There is evidence for the hexagonal structures characteristic of shock fracture, but this evidence is by no means perfect.” He is not postulating the moon eruption, and hence would perhaps find his fracture model more evident if he took it into account. Soviet geologists have conceived of the Earth as a 12 and 20 latticed crystal grid, suggesting a correlation between the fracture model and the world cleavage system (Bird, 36 ff).

52. Sullivan (1974) 147.

53. Cook (1966) 103-12; Carey (1958).

54. Cook (1966) 268 ff.

55. Jordan’s figure 32 (p.86) and graph picture the multiple discontinuities of seismic waves below the Earth’s surface at 413, 984, 2898. 492 and 5121 km. besides the Moho. They all served historically the same function of allowing the globe to maintain its bodily integrity under distortion and interruption.

56. Besides Fisher see Ma (1955). Harry Hess, says Sullivan (131), believed that the Moho “simply marks a change in molecular structure caused, perhaps, by high temperature at that level, either currently or at some time in the past.”

57. Haymes (1971).

58. Vico IV 808; *cf.* 258., iv 814; 401, 408, 221, 708.

59. Bellamy (1948).

60. Kondratov, 77.

61. Temple (1976) 250-1.

62. Bellamy (1936) 167.

63. Temple (1976) 251.
64. *Ibid.* Note the quantavolutionary mass species extinction and new creation here.
65. *Ibid.*, 252.
66. Genesis, 1:2.
67. *Ibid.*, 2:4, 10.
68. (1975), 12.
69. Patten (1966) 188.
70. BK. II, ch. I, p. 12. Trogus, a Gallic Roman active around 5 A.D., was probably his source.
71. Bellamy (1948) 158-9.
72. Donnelly (1883), 175 quoting Brinton.
73. Bellamy (1936) 271.
74. *Ibid.*, 187; *cf.* Mullen (1974), 39-44.
75. Coe (1975) 43.
76. Brasseur (1869), Brunhouse (1973) describes the role of Brasseur.
77. Bancroft (1874) V, 112.
78. Bellamy (1936) 269.
79. Wilkins (1956) 87.
80. (1936) 273.
81. Poznansky, II 151.

82. Coe (1975) 14-5, *Cf.* in India, “The Venus Aphroditus of the western mythologists, and emblematic of the lunisolar year. She is the daughter of Durga, and the Proserpine of the West; and considered as time, she is the same with her mother. Metaphorically, she may sometimes represent the moon.” (Bentley 27).
83. *Ibid.*, 17.
84. Donnelly (1883) 155.
85. Bellamy (1936) 178-9.
86. Marshack (1972).
87. Patterson (1973).
88. Carli (1788) 308.
89. Velikovsky (1973).
90. Griffard, (1977) 33.
91. *Cf.* Westropp and Wake (1875) 53, and Gobler.
92. Griffard 46.
93. Personal communication, April, 1977.
94. Bellamy (1936).
95. Briffault (1927) III 106 ff.
96. Berndt (1948).
97. Eliade (1954) 88-890.
98. Lederer (1968).
99. Coe (1975) 14-5.
100. Suhr (1969) 160-2.

101. J. J. Bernoulli, *Aphrodite* (Leipzig 1873, p. 80) “states that in the case of Aphrodite, all cosmic attributes that were implastisch must have disappeared from statues at an early date.” (Suhr, 173).

102. *Ibid.*, 51.

103. Suhr, 19.

104. Occidens (1888) A1-14.

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the next section of this book.](#)**

## CHAPTER EIGHT

### SATURN'S CHILDREN

The year 1977 marked the beginning of quantavolutionary publications about Saturn. Three articles appeared, written by David Talbott, by Dwardu Cardona, and jointly by Harold Tresman and B. O’Gheoghan. A few months later, Velikovsky, who had inspired the studies in each case, without participating in them released a fragment of his manuscripts on Saturn [1].

“Two stars erupted from the planet Saturn and caused the Deluge.” So states the *Talmud*, in Velikovsky’s translation [2]. This is one of the several principal conclusions reached by the other writers. Saturn was a second sun, shining by day and night upon Earth. The record of the star is preserved in the legends of every ancient people. It was the dominating star of its age and most of the basic mythology of the world is traceable to its varying aspects, behavior, and fate. After leaving its infinitely complex imprint upon Earth and mankind, Saturn exploded in a nova or collision; a deluge fell upon the Earth; and Jupiter became king of the heavenly hosts.

From David Talbott we summarize more of the abundant material. For the ancients

“it was Saturn who introduced the day...what the Babylonians called Saturn’s ‘coming forth in splendor’ signified the beginning of the archaic ‘day.’ Saturn dominated the night and competed with the sunlight during the day.

Mythical records are unanimous in saying that Saturn, during his reign, stood in the north.... The Egyptian Ra, Osiris, Horus...the Mesopotamian Ninurta, Enki, Anu, Shamash... the Hebrew, or Ugaritic El...the Hindu Brahma, Vishnu, Varuna, Surya...the Chinese Huang-ti or Shang-ti...the Greek Kronos -- all appear as stationary suns... They are described as fixed at the polar summit... Ra comes forth and diminishes *em hetep*, which means ‘while standing in

one place.' He comes forth and diminishes at the center, which is also the summit -- the celestial Pole.”[3] Saturn was also the Babylonian Entil.

The points of difference among the several authors and between them and the theses of this book will be subjected in time to elaborate criticism, but the developing consensus amounts to a serious challenge to conventional opinion in the full range of historical and natural sciences.

Whether Saturn achieved stardom and kingship by the route delineated in this book or by means of some other cosmogony, we see, in the age of Saturnia, a divine figure of exquisite symbolism. Talbott presents the configuration of Saturn and analyzes its details as they are supplied by comparative mythology and archaeoastronomy. The configuration is presented in Figure 25. I have placed beneath each item of Talbott's Saturnian imagery a sloganized identification of it. The reader, already alerted to what is to come by what has been said in earlier chapters, can promptly grasp the significance of the parts and the whole and move confidently thereafter through the main body of this chapter.

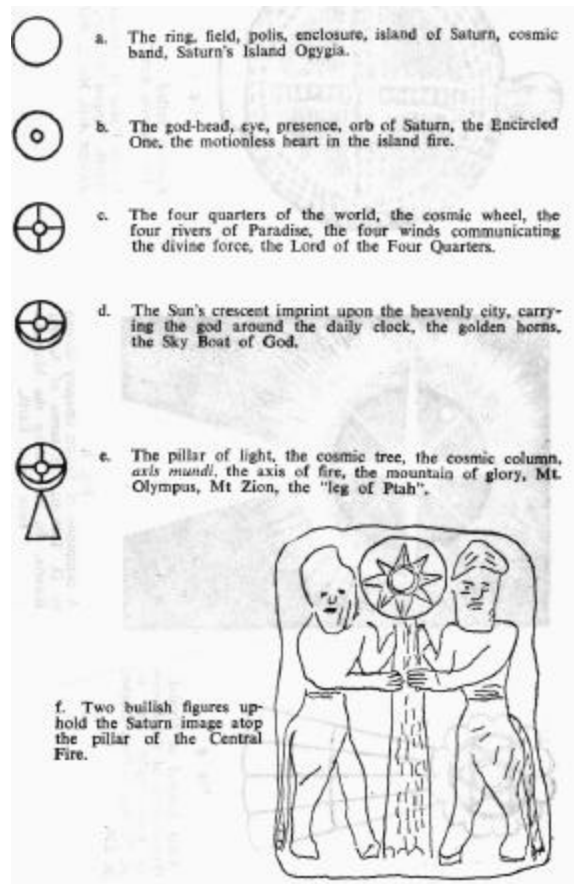
The parts of the symbols are used in many ways in all areas of the world. The whole depicts at one time a winged angel, another time a long-robed priest-god, and other symbols as well. Not surprisingly, the Christmas Tree, crowned by a star, traces its descent into the remote past.

Figure 25f is taken directly from an Assyrian plaque [4]. It illustrates the full form, containing several of the elements “a” to “e”, that represents a real-life imitation of Saturn, the god of the second and dominating sun in the period following the emplacement of the Moon and creation of the oceans. Two half-human, half-bullish figures uphold the Saturn image.

The drawing 25g shows an ancient Mayan figure from Uxmal, Yucatan, Mexico, and is called a “solar symbol” which it is, but a symbol of the *second* sun Saturn [5]. Figure “h” is the full composite drawn by Talbott. Figure “i” is a Dogon item of today; Temple has described the astronomy of this remarkable African tribe. Earlier, I expressed an eclectic view of

independent invention, diffusion, and common experience, in pre-history.

Figure 25 COMPOSITION OF SATURN IMAGES (shown below *a* to *i*) . Click on these pictures to view enlarged versions. (*Caution: Image files are large.*)



**g**



**h**



**i**

- g. Solar Symbol at Uxmal. (Publications of the Bureau of Ethnography vol. ii., pl. 57, no. 5) from Goblet, p. 226.
- h. A composite of Saturn imagery (drawn by D. Talbott). In terms of Solaria Binaria, the view is up the Magnetic Tube from Earth
- i. Pendant called "The Female Sun." \*From Fisher H. Mesmith, Jr., (1979) "Dogon Bronzes," XII African Arts, No. 2, (Feb.) 23.

These similarities are products of forceful similar experiences, depicting the experiences on the basis of originally derived ecumenical techniques and older experiences; yet, some element of diffusion may also be present, particularly since, in the "golden age of Saturn", great stretches of now sunken continental land were still above the sea, peoples were closer, and the seas were more navigable.

### *THE PLEIADES*

The same analysis may be applied to the Pleiades constellation. Many places around the world mark the beginning of November as the Day of the Dead; it is All Saints Day; Halloween; All Souls Day; etc. The time is associated with the Pleiades for reasons not clearly understood yet [6]. The coincidences of time, mood, ceremony, and stellar assignation is so great as to exclude independent invention except in particulars and to insist upon a common experience of explicit quality. Only this may be said on behalf of diffusion: if the event "X" that threw the whole world into mourning in regard to the Pleiades occurred before the Moon eruption, then diffusion may be accepted. But if the event occurred in the time of Saturn, Jupiter, Mercury or Venus, then diffusion, like independent invention, must be reduced to particulars, and common experience and common observation must be the cause of the coincidences.

Cardona produces evidence to show that Saturn (Khima) is connected with the Pleiades [7]. For one thing their names are often confused, as in the King James and other versions of the Bible where Khima is translated as 'Pleiades' instead of as 'Saturn.' The Pleiades are connected with the Flood of Noah (Saturn) in many places. Further, two stars from (Super) Saturn caused the deluge. As Ginzberg reports the legend, "the upper water rushed through the space left when god removed two stars

out of the constellation Pleiades [Saturn].”[8] The stars, says Cardona, were better called comets; the Earth was deluged when it passed through their tails. (Super) Saturn was in the North polar region prior to its explosion. The Pleiades were presumably behind Saturn. After the Deluge, Saturn had been moved and the Pleiades were observed in his place.

Now we recite the Osiris-Saturn legend in Egypt. The great and beloved god, Osiris, is drowned by the devil god, Seth, who then cuts his body to pieces and scatters its fragments. The Pleiades, we surmise, are the fragments and worshipped on the day of Saturn’s death. The discrepancy between early November and late December, when Saturn is celebrated and the Saturnalia are held, indicates that the length of the year shifted once again after the deluge, perhaps from 260 to 320 days or so. At least one of the Pleiades has since lost much of its brightness, for many peoples, who can today observe only six stars, cite its true number of seven stars.

From the very beginnings in Urania, mankind was impressed by the great eye that appeared in the “northern” opening of the sky. In Talbott’s drawings (Figure 25) we see it. In the course of the day, the eye is often lidded with the crescent of the Sun’s reflection (the inverted sky-boat). The image also changes into the face of the Heavenly Cow, horned by the crescent. Rudolf Anthes writes :

The concept of the Eye of the highest god was mentioned in the story of the heavenly cow. The Eye occurs either as the Eye of Horus or the Eye of Re, though not exclusively : we encountered the Eye of Atum before. The characteristic of the Eye appears to be that its removal from the highest god means disturbance, while its return means pacification and the restitution of order.”[9]

The great battle when Seth plucked out the Eye of Horus (Jupiter) was one such occasion. The Eye prevailed until the end of Jovean times; it is still found in many occult philosophies and on the face of the American dollar.

### *THE TRIUMPH OF SATURN*

Saturn replaced Uranus as binary sun and god some twelve thousand years ago. More correctly, it would be “Super-Saturn”,

for the birth of Jupiter from Saturn had not yet occurred. The transition from the one god to the other occurred as one more in the series of disasters, the climax of which to Solaria Binnaria was the fissioning of the darker binary, Super-Uranus, while the climax to earthlings was the pass-by of the exploded body and the eruption of the Moon. The behavior of the Moon was foremost in human attention for many centuries.

Expectedly, the ancients appear to have been sometimes unclear about the succession of events. They were clear in having Saturn descend directly from the heaven-god, not the Moon, and especially from a father, Uranus. They were often confused, however, about the exact form of transmission from Uranus, so that increasingly we find them according the work of creation to Saturn, rather than Uranus. The student today must depend upon scraps of evidence. The distinction between Super-Uranus and Saturn was more apparent to the earliest peoples than to us today, or even than to the Greeks, many memorial generations later.

The Hebrew *Genesis* credits the work of creation to Elohim or Saturn, but a close reading of its first lines may reveal that the work-week of Elohim traverses the times of Urania and Lunaria. It may be premised that every creation mythology will ultimately afford a predecessor to Saturn. And, "in each case, the successor to the original deity was a Saturn-like god." [10]

The beginning of Saturn's kingdom was fashioned by the Greeks into a story of celestial revolt [11]. Mother Earth aroused the giants born of Ouranos and herself. These united behind her son, Kronos, who in the struggle castrated his father. The giants or Titans ascended from the bowels of the Earth into heaven. Ouranos was exiled into farther space, possibly in reality constituting planet Uranus or Neptune, leaving the Earth bloody and battered by his passage.

It seemed logical by analogy: He who had overburdened and oppressed Mother Earth, who had buried her children under the Earth, lost his virile member. The perennial connections among astronomy, geology, sex and religion were reinforced (not only in Greek myth but everywhere) [12]. Humans developing from hominids very much like themselves, employed the most obvious

and personally salient analogies. The mountain of sexualized religious myths rose like a new volcano.

Saturn the god was identified by the Romans with the planet Saturn. As sun and king of gods, Saturn's names were many. Besides those listed by D. Talbott above (p. 179), one might mention as Saturnian Elohim (Hebrews), Odin (norse), Baal (Near East), and Tiamat-Apsu (Assyrian). Many identities are lost or undiscovered; several were once used for Uranus (as Varuna) or are given to later gods (as Baal became Venus). Also god heroes and gods act interchangeably, as Manu and Vishnu (Hindu)[13]. His home is supposed to be in the north where he presided on his throne. An early Egyptian account in the age of Mercury says that "when [Pharaoh] Pepi standeth upon the north of heaven with Ra, he becometh lord of the universe, like unto the king of the gods." [14] Pepi is also called brother of the Moon. A Chaldean oracle called him the companion of Helios, the Titanic Sun [15]. M. Jastrow (1898) states: "... at all events, the fact that Saturn was also called the 'sun' is vouched for, both by explanatory notes attached to the astrological connotations, and by notices in classical writings to that effect." [16] Many peoples of the Age of Saturn could see the planet there; it was huge and becoming more continuously distinct as the boreal heavens cleared of the Uranian canopies and the Lunarian debris. Saturn was the first irradiator of light, wrote Westropp and Wake [17], but we recognize Super-Uranus in this capacity and Saturn, the son of Uranus, as continuing where he left off.

### *THE "GOLDEN AGE"*

The costly mechanics of the Lunarian period had purchased a reprieve to life upon Earth. The land surface of the Earth included the continental shelves and slopes, for the oceans were lower. The Sun shone feebly from the South. Its Saturnine binary, darkly brooding upon its children, dominated the northern sky, reflecting the Sun with some of its brightness and clarity that the Moon, daughter of Uranus, possessed. The Earth was almost never in full darkness. The climate of Saturnia was even and damp, a tropical greenhouse. The clouds still were much heavier than the skies of today.

Language became well-developed and replete with celestial references. Drawing and picture symbols occur. Memories of

Uranus were historicized. Memories of the lunar catastrophes were suppressed, but persisted in lunar myth and rites. Literature and music of a liturgical kind developed. "Religious" history was the pretext for music and art. The Romans regarded the most ancient Latin verses as Saturnian music, barbaric, chanted by fauns and augurs

The jagged flint sickle with which Saturn was said to have castrated his father became the inspiration and symbol of the useful tools of a golden age of agriculture. It also became the harp or lyre of music, when strung. Women and men, indeed all people, worked in general equality. Rulers merged sacred and sacred ideas. They were something like totem animals, not all-powerful, not gods, but steeped in the divine and used as scapegoats and advocates before the gods.

Government by God-kings of the Egyptian, Babylonian, and Chinese type evolved later. First a kind of sacred republican rule prevailed. Then the sacred ruler became the God-King. The transition may have been "natural", as aggressive people enslaved others and their kings expanded royal power generally on the basis of their especial powers over slaves. Since the desire to control others, as well as to control the gods, was so strong, there would be no psychological resistance to absolutism in government. There appear to have been no Saturnian monolithic civilizations; Tiahuanacu and Atlantis did not seem to have the kind of state that dynastic Egypt and Sumeria developed in the next age of Jove. Perhaps Saturn was peaceful, the Moon calm now, and mankind generally restrained in behavior.

Civilizations, now separated by oceanic waters, entered upon a golden age, supposedly under the benevolent rule of Saturn. The altars addressed his northern polar throne. Saturn is "the generator," "the devourer," and the "vital vortex." [18] His are the virtues of rusticity. Peace was believed to have characterized his reign. Something of the old aggressiveness seems to have absented itself from the human breast. Thousands of years later, the Romans deposited the ensigns of the legions in the temple of Saturnia when at peace. Many place names are of Saturn or his qualities. Latium of the Latins, for instance, was supposedly named for his place of exile, when he hid (*latuit*).

Life appeared generally easy to humanity during the “golden age” of Saturn, with universal warmth, moist conditions, an absence of marked seasons, low atmospheric turbulence, and a suffused golden color from the translucent remaining canopies.

Still religion flourished, and with it the practice of human sacrifices to Saturn. Long into the Roman Empire, despite legal suppression, the sacrifices were continued. Baal and Moloch were names for Saturn that endured in the Hebrew world until they came to stand for evil gods. The Phoenicians joined him to Baal and pictured him as a lion whose head was crowned by rays, a solar (binary?) image [19]. Animal representations -- among them the snake, bear, lion, and bull continued to assist in worship.

In the endless process of transferring gods and names, the names of Saturn descended to Jupiter and then to Venus, who were also called Baal and Moloch. However, the confusion among the ancients has been compounded by the lack of data and by the ideological prejudice of Solarian scholars who, regarding the gods as divinely named anthologies of fiction, were in no condition to distinguish the true identity of the gods to whom sacrifices were made.

### *THE PEOPLES OF SATURNIA*

The multiple kingdoms of Atlantis that Plato described may have been of the political and social order of Saturnia. Atlantis was a set of kingdoms of related cultures [20]. It was perhaps Celtic and in close touch with the Tethyan-Mediterranean culture. Its survivors may have been the Stonehenge and megalithic builders of Western Europe. They remained under the influence of the Minoans, Phoenicians, and Mycenaeans.

Atlantis can be best defined by a line enclosing all of the European northwestern continental platform from the Bay of Biscay to Scandinavia on the north, from the western banks of Ireland into Denmark and France. It is difficult to decide whether the Pillars of Hercules that led to the several kingdoms were at Gibraltar, or whether the “Pillars” referred to the innumerable megalithic dolmens that later lined the shores in honor of Hercules, perhaps even in conjunction with a precursor to the English Channel [21].

Saturn taught mankind the arts, possibly after the Lunarian catastrophes. Metals were occasionally worked where they had fallen or erupted; stone and wood construction were fully elaborated. The science of geometry governed temples, roadways, and navigation. The great seas of Lunaria could be crossed for the first time and international commerce flourished. Carli insisted that before the Deluge of Saturn, the inhabitants of the globe might pass readily between Africa, Europe, and America. Maps were probably drawn [22], considering that the so-called “Maps of the Ancient Sea Kings” which came to light recently show Antarctic shores as they are today *beneath the ice*; the area has not been free of ice since the colder climates of Jovea arrived around 6000 years ago.

The differentiation of races is a result of ancient catastrophes. The races of hominids had been several in Pangea [23]. The race of mankind *sui generis*, was agglomerative in Urania. Its near extinction of Lunarian times produced many new breeds in isolated spots of the globe. Saturnia was a time of the multiplication of humans. Still the propagation was not uniform. Rather, isolated pockets of older strain remained, while three fairly distinct races flourished and dominated the world.

The three constituted the three major modern races. The areas of the Tethyan welt that runs around the world east and west included the original Caucasian peoples who can be called the Atlanteans and the Tethyans. Even today some evidences of their original occupation of the Tethyan belt are noted in the Caribbean belt and Polynesia. Nor is Northwest Europe devoid of hints of the Atlanteans. Further, the American Indians of the East Southeast were perhaps originally Tethyans [24]. The Sines were split into Asians and American. The Africans were divided into those who remained in North and Central South America and in Africa and those who were transported long distances upon the moving Indian subcontinent and into Australasia [25].

Neanderthal, other “modern” types, and a number of hominid branches were wiped out as breeding groups by ecological disasters and by the new humans who were aggressively schizoid.

In each of these three races, the surviving strains that rapidly bred were partly related to some common Uranian ancestors. Although they developed many special features they were still possessed of the basic schizoid humanness that incorporated the methods of survival in its madness.

The population of Saturnia was large. It developed religious, political, artistic, and linguistic forms that were to persevere through the ages until the breakthroughs of enlightenment and science in the 6th century B.C. (2,600 B.P.) in China, India, the Near East and Mediterranean; that is, until the end of the Martian terror [26]. The archaic Mesoamerican cultures that Spinden and Coe believe to have stretched from southwestern U.S.A. to the Andes, a full neolithic culture, was Saturnian, and probably at bottom Uranian.

#### *THE DOWNFALL OF SATURN : NOVA AND DELUGE*

Saturnia ended in disaster. Super-Saturn, the remnant binary of the Sun, underwent the same fate as Super-Uranus. It progressively engorged material from space it could ill digest. Its rotation was interrupted by the meals of "his children," as the Greek myth would have it; Figure 26 is an artistic rendering of the myth. Only Zeus (Jupiter) escaped, by the wiles of his mother and nurses (the Kuretes). Atum, the Egyptian Saturn, means "the One who has been completed by absorbing others." [27] Finally, near the year 6000 B.P., Saturn appeared to be in a frightful fit of rage; it brilliantly exploded much of its shell of gas and waters into space, and fissioned. It was a nova, still marked today by its emission of x-rays.

The Earth suffered a deluge of water and salt [28]. In addition to the Saturnian salt waters, the high clouds that blanketed the Earth most of the time were brought down in the ensuing destruction of the world. The "beloved" and "melancholy" old god of time was assaulted, as the Greek myth goes, by his wife in league with Zeus, his son (Jupiter). When he became visible again to human survivors, he was in farther space, bound up forever in his rings. The bonds were known to the ancients who thought them meant to restrain the old god and penalize him in a way for the crime of infant cannibalism [29]. So his last pictures, memorialized commonly in graphic media of classical times, was of a king receiving a wrapped stone in lieu of the infant Zeus.

(See Figure 13.) The legerdemain that was to be his undoing, according to Greek legend again, was a fate that was foreseen and foresworn by his own father, Ouranos, when Ouranos was exiled into far space.

While the astronomical drama was interpreted and reworked in these terms by some of its human observers, the peoples of Saturnia were practically obliterated. An electrical storm of cosmic dimensions ensued as Jupiter and Saturn separated. Lightning discharges were exchanged even among Jupiter and the planets. The axis of the Earth tilted sharply and quickly. Anaxagoras, the ancient Greek scientist, says that the Earth's pole tilted at the time of the flood [30]. The north pole, instead of pointing towards Saturn, now was nearly perpendicular to the plane of the ecliptic. The seasons became severe because of the loss of cloud cover and far atmosphere. Ice collected in the polar regions. Earthquakes shook the globe. In the Hebrew story, Adam and Eve, representing all people, were driven from the Garden of Eden by Yahweh, who made them feel intense guilt and shame. They felt their nudity physically, too, and needed warm clothing.



Figure 26. SATURN DEVOURING HIS CHILDREN. (Click on the picture to view an enlarged version. *Caution: Image files are large.*)

Not only did a new cold climate come upon Earth. Also, waters of Saturn were blown back along the solar axis, making dense the atmosphere of the thinning magnetic tube. But the great axis of fire, the electrical current of Pangea, was practically gone and the tube could not generate the magnetic field to support a universal atmosphere. The cataclysms began again. A great deluge of Noah (Near East), of Manu (India), and of many names elsewhere swamped the Earth. The waters fell upon continents and oceans. They fell as snow and ice at the polar regions. They ran off the continents into the sea.

The great heights reached by the floods according to many ancient myths suggest that tidal forces were operating, as well as deluges. The necessary cause of the tides may have been a large, electrically charged body passing near to the Earth. This could have been Saturn itself as it whirled from Jupiter in a great ellipse before retiring into farther space of its present solar orbit. Certainly in such a case, mountains too would have been further elevated. The tides would have also occurred if the Earth's axis shifted suddenly, with a consequent whirlpool of the Earth's waters and a rebounding of the flattened polar rocks.

Hence the high peaks upon which heroes around the world were stranded were probably revealed as the waters receded, but might also have been somewhat raised up at the time. The survivors, such as Noah and his family and animals, and Manu and his wise men, would have found little left of their own cultures. Survivors from the northern belts of the Earth would have migrated towards the center afterwards. They would have suffered devastation by cross-tides, deluges, and the ravaging of the atmosphere by wind, electricity, and fall-out of cosmic debris and particles.

The species were again decimated and their populations drastically reduced. The survivors, animal and human, fled together to the caves and highlands. The green world became browner and drier. People had to labor; they survived "by the sweat of their brows."

Numerous continental area, shelves and slopes, that had escaped aquatic burial before were now drowned, never to rise again. Great earthquakes accompanied the floods, following upon the primeval but still continuing imbalances and the crustal shock of

tilting, the movements of waters, the lithospheric adjustment to the old and new equatorial bulges, and the electrical interruption of the Earth's rotation.

Atlantis sank in a day of furious trembling and flood, it was told. Portions of the sialic continents that had remained above the oceans were deluged, not only at Atlantis but throughout the world. Total destruction came upon the large part of the Earth's population which was living on the continental margins. For these suddenly became the vast continental slopes and shelves of the oceans.

The ocean basins had not been deliberately designed for water, much less a quota of waters. They were the cups paved with basalt, volcanically transformed, placed where the crust had been removed and between the separating continents. That waters filled them from the beginning was a geological coincidence. That waters now overflowed them was an equally understandable lack of congruence.

### *THE POSEIDON PHASE*

Okeanos, the child of Ouranos, was the founder of the ocean: he had begun his descent from heaven in Uranian times. The first phase of the Jovean Age and last great flood of waters from the skies might be called the Poseidon Phase. In Greek myth Poseidon, son of Kronos and brother of Zeus, remained in Heaven after his father retired, but later made an accord with Zeus to descend and rule the seas. The same great god was a ruler of Atlantis and was ambitious to rule the whole Earth as well. He was "greedy of earthly kingdoms,"[31] and famed for encroaching upon the Earth, as he did during the Atlantean collapse and flood.

F. Guirand provides additional helpful suggestions regarding Poseidon :

Poseidon was a very ancient Pelasgian deity, older even than Zeus. His province, later confined to the waters, was in primitive times much wider.... The name Poseidon seems to derive from the root meaning 'to be master'.... It is not impossible that this primitive Poseidon, this sovereign 'master,' had once been a celestial god, as his attribute, the trident -- probably a symbol for the thunderbolt -- seems to

indicate. Though supplanted by Zeus, Poseidon continued to exercise his empire over the entire Earth...[32]

At Sparta he was called “the creator.” It is possible, then, that Poseidon was mistaken for Jupiter or may have been for a time a visible distinct element in the break-up of Super-Saturn appearing between the time of the nova of Saturn and the great Deluge.

### *SURVIVORS AND SATURNALIA*

Many neolithic sites uncovered in the Eurasian and African region are Saturnian. It was not an age of great temples. A stone age culture, quite decentralized, had existed in the land of Egypt before the first Egyptian dynasties were founded. There, little direct succession can be shown between Saturnia and Jovea. There is a great cultural leap and the physical type of the people changed [33]. The direct ancestors of the Egyptians were probably survivors from Tethyan northwestern Africa, or Indo-Africa.

Mullen surmises that the unification of Egypt “might have followed fairly directly after the deluge” from a study of the first king lists. “Most of the gods preceding Menes as divine kings are associated with the Osiris deluge legend. The fact that every king from Menes on identified himself with Horus, the planet Jupiter” suggests a new order under the auspices of a new planet.

Before the “Bronze Ages,” so called, of Jovea, many surface contours from the Atlantic Ocean to Iran had been altered. The Saturnian centers were often not preferred as sites for the new Bronze Age centers. Most Bronze Age sites of Eurasia are marked by six catastrophes [34]. But to find sites below them is rare. One is led to believe that either an entirely new foundation was laid where none had existed before, or else an original settlement had been completely erased in the transition from Saturn to Jupiter.

That the new age of Jupiter was more physically and politically repressive is strongly indicated by the Saturnalia. Persisting to the present day, in one form or another (“the influence of the Saturnalia upon the celebrations of Christmas and the New Year

has been direct”)[35] the Saturnalian revivals reveal what must have been a long-extant view of life and even social practices. In the Saturnalia, which occupied seven days in Rome, beginning on December 17, the times of chaos and breaking up of an age are repeated ritualistically. Once a year they removed the bonds of linen that wrapped up the god in the ancient Tarquinian temple, only to replace them afterwards [36].

But not only Rome, also in Mesoamerica, the Near East, Europe, and China Saturnalias are discovered [37]. They are days of equality; hierarchy is abolished, slaves are served by kings and masters. Saturn was believed to have dwelt among men. In some ways, Jesus of Nazareth was a Saturnian figure and feared and hated as such; early Christians, too, were suspected by the Roman authorities of conducting year-around Saturnalia. In the medieval “Feast of Fools” the Catholic hierarchy found itself often of two minds, caught up in the Saturnalian spirit and reproving it as pagan and anti-establishmentarian. The destructive-creative orgy was a complex of revolt against the gods succeeding Saturn, a psychologically terrified and disorderly recapitulation of chaos, and an expression of nostalgia for a better life once achieved, long-enjoyed, and irretrievably lost.

**Notes (Chapter Eight: Saturn's Children)**

1. (1978A).
2. *ibid.* 23; *tractate* Brakhot, Fol. 59.
3. Gibson (1977); Talbott (1977).
4. *Larousse Ency. of Mythology*.
5. Goblet (1956) 226.
6. Halliburton (1881).
7. Cardona (1978b).
8. Ginzberg (1909) I, 162.
9. Anthes (1961), 58-9.
10. Tresman and O'Geoghan (1977) 36.
11. Hesiod (1950).
12. Westropp and Wake 82, 84-6; Rix (1975), 58 ff.
13. The fish who pulls Manu (the East Indian Noah or Ut-Napishtim) to safety from the flood is "in the end but the incarnation of Vishnu." (Van Buitenen, 12).
14. Pepi is of the 6th Dynasty (ca 4,200 B.P.) of the Old Kingdom. The kings join the gods. Here the god is Ra or Re, who is regarded as developing stronger in Egyptian history as time goes on and is identified with the Sun. I maintain that, like many other gods around the world who are finally called sun gods, he was another god, to wit, Saturn, King of the North and King of gods.
15. Hild 1084.
16. (1898), 223, n.58 quoted by Tresman and O'Geoghan (1977) 40, fn 66.

17. Westropp and Wake 64.
18. Hild 1088.
19. *Ibid.*, 1084.
20. Cf. Timaeus and Critias, and Bellamy (1948).
21. Beaumont (1925).
22. Hapgood (1966).
23. Whitehouse (1975) 13-33 describes the world distribution of hominids, without partaking of the theory being developed here and later on.
24. Fox (1976).
25. Kondratov (1975) has the most suggestive materials for the kind of speculative reconstruction continued here.
26. “Enlightenment” (seeming) follows Mars. Since this was the last catastrophe it had a modern air about its ideas and culture.
27. Mullen (1973) 13.
28. Tresman and O’Geoghan (1977) 38-9, citing Martin Sieff’s research.
29. A. de Grazia (1977).
30. Beaumont (1932) 228.
31. Graves (1955) ch. 16.
32. *Larousse Encyclopedia of Mythology*, 133.
33. Mullen (1973) 12, quoting D. E. Derry.
34. Schaeffer (1948).
35. “Saturn”, VIII *Encyclopedia Britannica* 916.

36. Hild 1087, citing Macrobius.
37. Santillana and von Dechend 222.

## CHAPTER NINE

### THE OLYMPIAN RULERS

“When Jupiter was first born, he defeated Saturn and the Sun by his brilliance,” reports the Taitiriya Brahmana [1].

Declares Jupiter-Marduk in a Babylonian epic poem:

“When I stood up from my seat and let the flood break in,  
then the judgement of Earth and Heaven went out of joint....  
The gods, which trembled, the stars of heaven-their position  
changed, and I did not bring them back.”[2]

The Age of Saturnia ended in the Biblical Deluge. The Age of Jovea (5700 to 4400 B.P.) began. The planets Saturn, Neptune [3], Uranus [4], and perhaps a “Planet ‘X’ “ (suspected to exist but not yet discovered) [5] had receded. They were retired gods; mythologists have applied this concept of *deus otiosus* to Saturn and Uranus. Mankind might have seen all of them recede into the farther reaches of the developing solar system.

Jupiter was the new central body of the sky, shining alternately or together with the Sun, while still looming large to Earth. Even in the time of Biblical Abraham, Jupiter was said to make the night-time bright [6]. It was the name of the planet and of the new reigning god who ordained a new phase of celestial stability. Impressionable mankind, eternally grateful for favors tendered by its cruel gods, exalted Jupiter as the god of law and order. To him was attributed a strict righteousness that not only bound up his father Saturn, but bound up himself so that he would obey his own laws. The ancients unmistakably perceived the rings of Saturn and the bands of Jupiter, and gave this explanation of the phenomena.

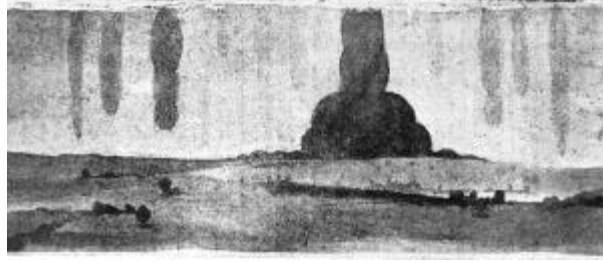


Figure 27 . ALBRECHT DURER'S "DELUGE" (1525). (Click on the picture to view an enlarged version. *Caution: Image files are large.*)

Dürer painted this picture following a nightmare. A most remarkable feature is the cyclone-like form of the cataclysm. The waters are bursting like giant pellets upon the Earth, not in sheets of rain. This physical mechanism is plausibly the way in which waters might be hurled through space, that is, like stone meteoroids, and it may be the only mechanism for supplying the great flood volume in a short period of time. How Durer got this dream is a matter of considerable scientific interest -- was it a Jungian archetype, a Velikovskian buried memory, a product of the Renaissance-connected genius of Durer? In 1515, Durer drew the first star map.

Jupiter is a god-name that the Romans took from their Etruscan neighbors. "Jove" was an exclamatory form of Jupiter, whence we take Jovea here to denote the period. Zeus was the Greek equivalent. He was Marduk of Babylon; Shiva of the Hindus; Mazda of the Persians; Thor or Donar of the Teutonic peoples; Amon and Horus of the Egyptians; Zeden and also Yahweh (Jehovah) of the Hebrews. Pausanias gives 47 appellations of Zeus. A most common appellation has to do with his lightning-hurling. Shiva carries the lightning fork; so do Zeus and Jupiter.

Sometimes names and traits of Saturn were kept and transferred to the new god. Thus the Great Fish (Saturnian) symbol is associated with Shiva in proto-India. Baal is interchangeably Saturn and Jupiter in Babylon; Odin among the Teutons seems to be Zeus and yet Hermes and even Saturn (who is perhaps better Bor son of Buri, "son" of Ymir); then, too, Ishtar of Mesopotamia is to become the child of Jupiter, planet Venus, and even the Moon.

The names of the gods are innumerable, and often overlap. Varro, the Roman scholar, counted 30,000 god-names used in Greece alone, according to Vico. Some of this confusion is in

the nature of the events themselves; Saturn emerged from Super-Uranus and in turn bore Jupiter, which may have given birth to Venus, so that there were initial periods of doubt when the planets carried their “father’s” names. Confusion has also characterized the minds and desires of theologians and scientists who came afterwards, down to our own day.

### *THE DEVIL SETH*

There appears now with Horus, the hawk-figured Jupiter of Egypt, another divine figure. He is the enemy of Horus and even replaced him briefly in the Second Dynasty, probably as the result of a calamity. He is called Set or Seth. He has a peculiar dog-like appearance that, with his other traits, makes him comet-like. The Romans called a sea-monster whale “cetus”, and a cetus appears upon some carved stones of prehistoric Scotland that represent catastrophes [7]. (See the Golspie stone of Figure 28.) The *Larousse Encyclopedia of Mythology* [8] carries this description of Seth : “Set is represented as having the features of a fantastic beast with a thin, curved snout, straight, square-cut ears, and a stiff, forked tail.



Figure 28 CETUS OR SETH, THE DEVIL-DOG. (Click on the picture to view an enlarged version. *Caution: Image files are large.*)

The Golspie Stone of prehistoric Scotland. The arrow indicates the Cetus beast, the “Devil-Dog” Seth. (Source : Spalding Club). For a complete analysis see Beaumont (1949), 79.

This creature cannot with certainty be identified as of a species live or extinct, and is commonly called the ‘Typhonian Animal.’

Sometimes Set is depicted as a man with the head of this strange quadruped.” To the Greeks this must be Typhon, hence Phaeton; thus Seth also later ties into Venusian events. Perhaps the constellation and Latin word came long after the sky-seas monster called Setesh (Egp.) and Seth.

But what was Seth before he was Typhon? He was the leader of a band of conspirators who murdered Osiris. Later, or alternately, in Egypt, he dismembered Osiris. Later, or alternately, he fought with Horus, and was plunged into hell. Later he was adjudged fit only for hell by Hermes-Thoth who was called upon to hear the case of Seth vs Horus, and to hell Seth returned. It is likely that Seth is ultimately the Christian devil conceived originally in the Saturnian disaster.

Now again, in Greece, Jupiter destroyed the rule of Kronos and imprisoned him. Jupiter did not wear his new crown easily. For his new order of the world was attacked in earthshaking revolts, first by the Titans, who were Saturnians, and then by the Giants, who were ferocious humanoid dragons. Then later, Typhon came to threaten his rule and was sent crashing to Earth. In all of these battles Jupiter’s thunderbolts racked the universe. The Earth was violently convulsed.

Seth, then, must somehow supply in Egyptian myth and in the sky the material for the four great battles of Zeus or Jupiter. We therefore make Seth an alter ego for Zeus in the revolt against Saturn in Egyptian legends: he does the dirty work against the old god, whereas Zeus in Greek legend had to do the job personally. Second, Seth in Egypt dismembers Osiris-Saturn; Zeus and his cohorts destroy and scatter the Titans. Astronomically this was a sequence perhaps preceding the great Deluge of Saturn, when enormous electrical and material storms invaded the magnetic tube. The debris of Saturn’s fission could be considered either as Saturn’s dismemberment or as a clearing of rebellious Saturnians from the skies. Again Seth is taking the onus for Horus’ action, while Zeus is doing his own job.

The next phase, perhaps upon the occasion of the destruction of planet “Apollo” and the major displacement of Mercury, sees, in Egypt, Seth and Horus battling, and in Greece, a revolt of the giants against the Olympians led by Zeus. This set of events, then, would occur over a thousand years later than the death of

Osiris and would mark the appearance of Mercury, Hermes, or Thoth as a new great god -- that is, a god who is threatening the Earth with destruction.

The last battle against Typhon will be described below on the occasion of the Venusian catastrophes. There Seth is Typhon.

### *THE BONDS OF SATURN AND JUPITER*

The primeval clouds that had gathered around the pulsing electric axis between Sun and Super-Uranus had furnished atmosphere to the magnetic tube in which the planets grew and moved. The flow and the magnetic field diminished, but the skies were not fully open until Jovean times. Remnant gases from the tubes, when not at last dissipated into space, were distributed as atmospheres among the planets.

Not until the nineteenth century were the rings of planet Saturn and the bands of planet Jupiter clearly defined. In both cases, the clouds extend for thousands of kilometers above the planets and are not to be confused with the low-lying clouds that form and dissolve over Earth. The banded clouds of the great planets Jupiter and Saturn are immense, global, and composed of hydrogen, ice, and debris. They remain in indefinite suspension, moving downward into the surface atmosphere, or exploded into space under cataclysmic circumstances.

Man's knowledge of clouds in primeval times was considerable and based upon observation. Not only were the Earth's cloud canopy and modern clouds known, but also those of the mantle of clouds (figure 13). The Greek theogony as set forth by Hesiod reported that the great god Saturn-Chronos had swallowed all his children but Zeus, and the infant Zeus was substituted for by a stone, which significantly, was swaddled in cloth (clouds). Saturn, deceived, swallowed the stone. The grown Zeus caused him to disgorge his brothers. They dethroned Saturn, bound him up and consigned him to outer space. Then Zeus became "Lord of the Bright Skies" (ca. 5700 B.P.).

Proclus (ca.410-485 A.D.) in his commentaries on Plato indirectly gives further details of the events in the guise of philosophy. Jupiter, the god of law and order most powerful and supreme intellect and Demiurge, confronts his father, Saturn,

also an all-perfect intellect and places his intellect under bonds to control its activity according to Jupiter's new ordering principles. Then, because he is logical and just, he binds himself so that he will be subject to his own laws as well. "In placing bonds about his father, he at the same time binds himself." [9] Proclus repeatedly refers to the "bonds" and the "bonding" of the two gods, and explicitly mentions the "Saturnian sections and bonds." We must take note how philosophy, like myth, has proceeded as a sublimation of catastrophic memory. It is fairly certain, then, that the cloud bands and belts of Jupiter were well-known in the earliest times.

### *THE LIGHTNING GOD*

The mythical aegis of Zeus, which was occasionally lent to Pallas Athene (planet Venus), and which is depicted in art and sung of in poetry, was known to be the clouds of Zeus from which lightning came [11]. The lightning, say some scholars, is represented by the eyes of the Gorgon's head on the aegis, but more likely these are the eyes of god, two of them seen when Super-Saturn fissioned. Or perhaps this may be the double-eyed magnetosphere of Jupiter, more dense with particles than, and illuminated. The Gorgon (Phaeton, Lucifer, etc.) was carried by Zeus to symbolize what he had destroyed and what was destructive in himself.

Zeus was everywhere the god of the bright skies, and of lightning. His Jovian bolts are pictured in many places (see figures 29). "Jove hurls his bolts and fells the giants, and every gentile nation had its Jove," wrote Vico [12]. They are gigantic, not at all to be relegated to normal atmospheric phenomena of today. They helped to dispatch Saturn to far places; they struck the erratic monster, Typhon, that threatened Earth 2400 years later; they cleansed the Earth's atmosphere of much of its mists at the beginning of the Jovean period; they lit up the skies often as they played about the magnetic tube; they reached out to destroy mountain ranges upon Earth on occasion. Late in his divine career, Jupiter was watched with great care at the New Year of the Vernal Equinox [13].

### *THE BEHAVIOR OF PLANET JUPITER*

All that was historically reported of Jupiter is directly or obliquely consistent with the present cosmogony, as are numerous discoveries concerning Jupiter made in recent years. Actions and traits ascribed to Jupiter earlier plus new types of behavior listed here and those to be treated confirm it as the ultimate heir of Super-Uranus.

The heat of Jupiter's interior is greater than that of the photosphere of the Sun. Jupiter rotates in nine hours 55 minutes. The composition of Jupiter is of a star. Its outermost layer of atmosphere consists of hydrogen and helium gas with a lacing of ammonia and water-ice clouds. Below is a seething "surface" of liquid hydrogen, then hydrogen compressed into metallic hydrogen, and centrally there may exist a core of rock or iron.[14]

Jupiter emits continuously streams of charged particles that penetrate deeply into space. Radio emissions of trapped charged particles of the magnetic field of Jupiter are akin to those launched through space by the stars and received by radio astronomers on Earth. Jupiter's signal emerges at 50 million kilo-watts. Super-hurricanes and Jovian lightning discharges, found to reach even its satellite Io, are common [15].

The Great Red Spot in Jupiter's cover may be the great depression still preserved by cyclonic action, whence sprang cometary Venus, or another large body, perhaps of giants in the rebellion described above. The Spot is a surface as well as cloud phenomenon. The radio noises have been audited for a few years but the Red Spot has been observed for centuries. During this longer period, on a number of occasions, the Spot has made dramatic moves [16]. Hence, the rotation of Jupiter has repeatedly suffered marked interruptions even though the force required to change the angular momentum of such a rotating body is far beyond the force imagined to be able to originate in a stable system.

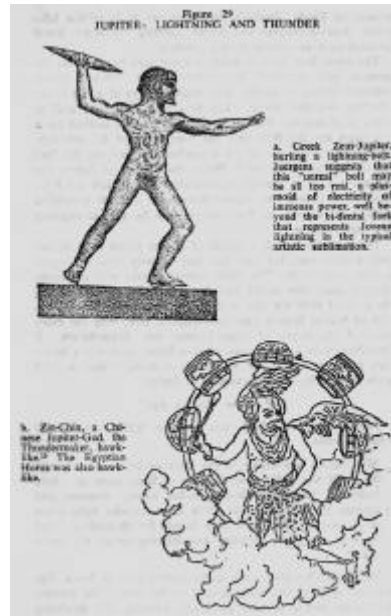


Figure 29 JUPITER: LIGHTNING AND THUNDER. (Click on the picture to view an enlarged version. *Caution: Image files are large.*)

- a. Greek Zeus-Jupiter, hurling a lightning-bolt Juergens suggests that this “unreal” bolt may be all too real, a plasmoid of electricity of immense power, well beyond the bi-dental fork that represents Jovean lightning in the typical artistic sublimation.
- b. Zin-Chin, a Chinese Jupiter-God, the Thundermaker, hawk-like [10]. The Egyptian Horus was also hawk-like.

The generally turbulent nature of Jupiter shows it to be not only a dark star, but one that may recently have undergone a nova experience. The radio activity marks still dispersing charged gases that would have been exploded and trapped in the nova of 6000 B.P. that it shared with Saturn. The dissolution of Solaria Binaria may be completed now, with the assistance of the novas of Super-Uranus and Super-Saturn. If “membership in a certain type of close-binary system is a necessary condition for a star to become a nova,”[17] then a third nova may be beyond the capacity of Jupiter.

### *END OF THE “GOLDEN AGE”*

The Roman poet, Ovid, was probably telling true history when he wrote :

After Saturn was driven to the shadowy land of death, and the world was under Jove, the Age of Silver came in...Jove made the springtime shorter, added winter, summer, and autumn, the seasons as we know them...icicles hung down in the winter. And men built houses for themselves...and the oxen struggled, groaning and laboring under the heavy yoke [18].

The Earth's biosphere took on its modern form in Jovea. The seasonal cycle existed with relation to the Sun. The seasons were more severe because the heavy warming and insulating gases of the binary were practically gone. Pastoralism flourished in consequence of the diminution of wild life after the dessication of the land, and helped, also, to supplement a reduced vegetarian product. Komarek remarks upon the succession of forests by grasses in Midwestern America following an orogenic or other climate-transforming event [19].

It is possible, following Ovid again, that during the Saturnian period, before Jovea, humans were not typically carnivores. The eating of animals is then depicted or recounted in the Jovean setting until modern times in the context of sacrifice. The hunters of the "Upper Paleolithic" long regarded their prey as holy. Either, then, the Lunarians were, unlike Saturnians, carnivores but maintaining a holy relationship with their prey, or else the Upper-Paleolithic hunters" were actually of the Age of Jovea and therefore survivors of the Saturnian floods.

### *MONUMENTALISM*

The electrical phenomena, the terrors of the end of the Golden Age, the harsher life, and possibly the de-ionization (especially the denegativizing) of the new atmosphere stimulated human aggressiveness. The organized forms of law and order were also enhanced, rules being the reciprocal of lawlessness and resistance to law. As the internal structure of tribes was strengthened, the aggressiveness was turned towards the construction of kingdoms and empires.

About the same time as the Unification of Egypt may be placed the founding or resettlement from practically disappeared antecedents of Dilmun on the Persian Gulf, the Indus Valley proto-Indian towns, Tepe Yahya in Iran, the Olmec culture of

Meso-America Sumer, and Minoan Crete. These represent discoveries of social systems which certainly existed throughout the habitable world. The physical presence of Saturnian cultures, like the Uranian, had been practically obliterated.

Huge stone and brick structures were erected in Middle Americas, Mesopotamia Egypt and elsewhere. These coupled a rapidly redeveloped service of astronomy to the frantic needs of absolute rulers and priesthoods for protection against deluges and for electrical roadways to heaven. Tunnels, mazes, megaliths, ziggurats, and pyramids were built. The time was after 5700 B.P.(3700 B.C.). Copper was dug, and bronze and brass were made of it, with the help of tin and lead.

Euan MacKie's work on megalithic cultures places this immense human effort, that is today exhibited in ruins throughout Europe and the Western Mediterranean, between Jovean and Venusian times [20]. He accepts Euro-Near East communication, but reserves judgment as to whether the West European culture is indigenous or derived. My position is that the megalithic cultures of Spain, France, Ireland, England and Scandinavia are survivors of the larger realms of Atlantis. Painstaking attempts to demonstrate that Stonehenge and other megalithic formations are accurate astronomical indicators by retrocalculations of the present order of the skies have not succeeded. Few doubt that they are sky-oriented, part of the human obsession with the celestial order which is one of our basic principles in this work. In careful analysis of the constructions of Ballochroy and Kintraw in Scotland, by way of the work of MacKie, A. Thom, and others, Dwardu Cardona has disproved the theory that these sites represent celestial conditions unchanged since before 687 B.C.; that is, they cannot be used to contradict quantavolutionary earth movement as late as 2700 years ago.

### *REPEATED DISASTERS*

Humans worked even while the heavens remained unsettled. The species was repeopling the Earth from a few thousands of survivors to many millions. Mankind was recovering from the Saturnian floods, restoring agriculture where the land had not been devastated by salted water, or dried by the lack of rain and by the brilliant Sun. Menes, the first king of Egypt, found a land of marshes, drained them, and built dikes along the Nile.

In the Pyramid texts and related histories, Professor W. Mullen has uncovered evidence of repeated disasters. Herodotus quotes Egyptian priests to the effect that the sun had changed its course four times since Egypt possessed its first king [21]. Notably, these Egyptians came with a distinct language, culture, and a new race or races, perhaps one from the West to the Delta and a second from the South to Upper Egypt, the time being early Jovea. By 3200, dynastic Egypt had begun, with a Deluge myth underlying it [22].

Nearly all of the royal monuments of the First Dynasty were obliterated by fire [23]. Calamities are associated with the Second Dynasty, too. Though the Third Dynasty, builders of Pyramids, appears to have been stable, a great catastrophe “brought down the whole Old Kingdom.”[24] The “Old Bronze Age” was succeeded by the “Middle Bronze Age” which we associate with the Age of Mercury.

Typical of the mysteries encountered when one attempts to reconstruct the disasters of Jovea is a buried pyramid, described by Zakaria Goneim [25]. It is placed early at 3000 B.C. but not finished. Its builders were supposedly fickle: they “often changed their plans during construction.” Both alignment and level were altered. A large wall of it was buried very shortly after being constructed. Clear, crude drawings and marks of the workers are left on its white limestone. Goneim offers no conclusion; to us the circumstances appear to have involved a rampant planet, a belief in the efficacy of pyramids against catastrophes and continual geophysical upsets, during which construction could not be carried out. Probably the pyramid belongs at the end of Jovean times.

One may conjecture that the pyramid-building epoch began in the period of transition from Jupiter to Mercury, which probably lasted for centuries. The Great Pyramid of Ghiza (ca. 2100 B.C. and 4th Dynasty) presents a superlative stability. It is oriented only 4 minutes of a degree west of geographical North. Its interior shows signs of enormous stresses. It was probably shifted in a great earthquake [26].

### *GODS NOT INVENTED*

The Jovean Binary establishment continued to deteriorate. The deterioration is treated in Greek legend as the story of the Olympian family of Zeus. We make of this, and of similar family histories in Mesopotamia, Egypt, Meso-America, the Teutonic regions and elsewhere, a history of the solar system marked by the transgressions of major gods -- Apollo, Mercury, Venus, and Mars. The Olympians were *nouveaux arrivés*, a group who appeared after the Saturnian family had been displaced, and before these the Uranians.

The Jovean gods were in some cases new sky objects; in other cases they exchanged names and identities with older gods, partly out of amnesia, partly out of the changed motions and obscured vision of the time of transition. No new sky god has been “invented” in any part of the world since the Martian age, and Mars was part of the Jovean assemblage of Greco-Roman culture. Nor did the Teutonic peoples invent new gods, try as they might, after the “Ragnarok” or “Gotterdammerung.” Nor did a new sky god come out of India, China, or America.

Whence one concludes that “real gods” cannot be “invented” by the human mind as a pastime, or as a cold decision. Further, the abstract God of the Jews and of Christians and Muslim, and the abstract Heaven of the Chinese, are gods of philosophy. Insofar as a tangible presence is given to them, that presence becomes manifest in the behavior, appearances, visitations, rituals and iconography of the ancient sky gods and their heavenly hosts.

### *APOLLO*

The most abstract of the ancient great gods might appear to be Apollo [27]. He was regarded anciently, too, as the most mysterious. Pausanias listed 58 different appellations for Apollo, compared with 67 for Zeus. Apollo is Boreal Apollo, who came from the northernmost lands of the Hyperboreans, hence, existed in late Urania and through Saturnia, when the Boreal opening in its half-closed later period was the cynosure of human eyes. The routes of the Baltic amber shores were dotted with shrines of Apollo. Delos, the Aegean Island, where stood the great classical religious center, was devoted to him; also Delphi, greatest prophetic center, for Apollo was the god of prophecy.

He was Phoebus Apollo, a shining god, without phases. He was not originally connected with farmers and shepherds, but was a master of animals and the hunt, as was his twin sister Artemis (Diana). He was a healer of sickness, and sender of plagues. He was not a war god. He was wise, as befitted a prophet. He was youthful and a god of youth. He was god of gatherings, assemblies, colonies, and politics. Through his sister and younger brother, Hermes, he was related to the mining of silver; most silver mines of ancient Attica were called by their names. He was god of music. He bore a distant gaze, a kind of vague Mona Lisa expression; he showered arrows from afar. His name suggests an old Greek verb meaning “to repel or set aside” and an ancient form of a verb meaning “to destroy.” And, finally, Miller feels that Apollo was not his earliest name.

Apollo in Egypt may have been Ammon (Amon, Amen) who is hard to distinguish from Horus-Jupiter and Thoth-Mercury, not to mention the conventional attempts to tie him to the Sun (“a solar deity”). Perhaps Ammon and Apollo both mean “not” (a “visibly present” (*pollomon*)). Perhaps Mercury and Apollo were close together, with Apollo much the larger.

### *EXPLOSION AND ASTEROIDS*

To accord with revolutionary theory, Apollo was once important, and then disappeared. He was more probably a planet, I would guess, than a satellite of Uranus, or Saturn, or finally Jupiter, his father. He shone in the Boreal North to human observers, and was helpful in the hunt of day and night. His size and speed as he orbited between Earth and the larger planets may have made him seem young. Perhaps his orbit between Earth and the binary complex carried him across the stringed lines of colored clouds framed by the boreal arch. whereupon the invention of the harp or lyre was attributed to him [29]. Both he and his brother, Hermes, also god of music, were visible to the human eye. (Both were pictured as small suns, as Kerenyi writes.)[30] Among the stretched strings of the heavenly lyre, they moved, plucking the harmonies of the spheres.

The fate of planet Apollo was catastrophic. “Shining Apollo” was perhaps the most brilliant member of the Olympian family. Early in the Mercurian period, Apollo either collided with a Saturnian fragment, or was struck by Jovean thunderbolts, and

exploded. It was probably behind the Sun at that time and human observers could not report the event. Much of the debris of Apollo may still be orbiting the sun as the asteroidal belt between Jupiter and Mars. Other debris struck Earth, appearing to be and behaving as vast showers arrows and missiles, clouds of fumes that healed or plagued living things, and chunks of precious metal.

The material of Apollo is still moving eccentrically and dropping upon Earth. The theory of an exploded planet of the meteoroid belt between Jupiter and Mars was mentioned in Chapter One. “Without such an explosion the fragments would scarcely have been able to deviate from the orbit of the protoplanet.”[31] Meteoritic material that has been analyzed shows elements in excess of their proportions on Earth [32], leading to the surmise that elements have formed at different times in the history of the solar system. Hydrocarbons have been detected on meteorites and durable primitive forms of life are being watched for. Though sometimes advanced, the latter claims are never accepted.

The gift of prophecy is closely tied to the gift of disappearance, movement beyond sight into the realms of the mysterious unsighted future. Apollo was like the grin of the Cheshire cat in *Alice in Wonderland*; the cat vanished but the grin remained fixed in mid-air. The enigmatic smiles of some sculptures of Apollo are recalled.

### *MERCURY*

Escaping the fate of Apollo, Mercury fled the neighborhood of Jupiter. We conjecture that it was driven or exploded from its near-in position. After following an erratic career, it settled in its present position near the Sun. Greek myth suggests that it passed close by its “older brother,” planet Apollo, much the larger, seizing some of its abundant clouds and electrical charge. The incident is related in the Greek myth of Hermes’ theft of the flocks of Apollo; this he did soon after he was born. Hermes was herald and guide to mankind, patron of thieves, gamblers, merchants, and wayfarers. He was the messenger of the Olympian gods, a reckless and careless fellow. He was Thoth, a great, perhaps dominating God of the Egyptian Middle Kingdom. “When Horus resigned earthly power Thoth

succeeded him to the throne.”[33] He guarded the Moon and played games with it. He was a great god of Western Europe where Beaumont, in studies of English and Scottish pre-history, ascribes to him disasters and obsessive worship. The Vedic Hindu Pushan is amazingly close to the Greek Hermes in traits [34].

In Meso-America, he was Xolotl, drawn like a big-eared dog or opossum of human body, who assisted in the deadly ball-games when Venus played against the “Sun.”[35] De Leonard tells us so, but I am uncertain and think that this creature may be none other than the cetus-figure or Seth, whom we have earlier described. For Rock has identified the Meso-American god Tezcatlipoca with Mercury and Wotan [36]. Tezcatlipoca is the god of wanderers, of travelling merchants. His cult places are at crossroads. He carries a rod. He is the inventor of ornate speech and knows how to read dead languages. He is god of song and dance, god of magic and witches. He is a god who moves easily into the underworld, and his followers can find themselves in the dark. He is a medical expert who helps women in the throes of childbirth.

Perhaps he was called “lucky Mercury” because he avoided the fate of Apollo, but more so because the Earth was lucky to have avoided colliding with him. The small planet came close to Earth, on occasion, and treated the globe to electrical shocks that unsettled the minds of people. The Biblical story of the Tower of Babel seems to be saying so. The Greek Hermes puts people to sleep and awakens them; he is an arch-deceiver, wizard, patron of magic. Table 30 attempts to arrange some notable events to help in general orientation. Everywhere, writes Schaeffer of the early Middle Bronze Age, the newcomers were few, weak, and very different.

Archaeological excavations give some support to the theory of Mercury’s destructive career. The Table that follows names some of the incidents in which the planet seems to have been involved, as well as catastrophes of the succeeding two periods.

Figure (table) 30

SOME DISASTERS FROM MERCURY TO MARS  
(tentatively placed)

<b>Periods and Dates Re-constructed Chronology</b>	<b>Equivalent in Conventional Chronology(x)</b>	<b>Catastrophic Events(y)</b>
MERCURIA		
2400	(2400-2300)	Universal destruction[s], including collapse of Old Kingdom in Egypt [w] and Old Minoan Age in Crete [ma]
2300		Techuacan [Cave 30]
2200		Akkadians Fall [fr] Yu begins Hsin Dynasty in China [f] Tepe Yahya (Iran) [k] Fall of Ebla (Syria) [e]
2100	(2100)	Great destructions
2000		Proto-Indian Trouble [r] Neo-Sumerian Period Ends [rf]
1900		Revolt of the Giants [o] Tower of Babel [st] Abraham's Battle [p] Earthquakes [ot] Sodom and Gomorrah [p]
1800		Jacob (OT)p
1700		Job (OT)p
1600		
1500		Joseph Famine (OT)ps
VENUSIA (1750-1650)		
1450		Exodus (OT)ps
1400		Great Destruction [sv]

		Indus Valley Ruin [ro]
1300		
1200		
1100	(1450)	Great destruction [s]
1000	(1365)	Great destruction Thira-Santorini Explodes
900		
800	(1250-1225)	Great destruction[s]
MARTIA		Mars Destructions [v] Mycenaean Destruction [l]
700		

---

Note to the table:

(x) The six conventional dates are the central points of Schaeffer's catastrophic periods for the Near and Middle East, (1948) 563-5. (y) The footnotes refer to the following sources; many dozens of additional sources exist and, of these, many are cited in Schaeffer and Velikovsky, and elsewhere in the present work. (S) Schaeffer, 563-5 Summary. (Many sites). (M) MacNeish 29-37, (Ro) Rowland, 11-2. (G) Goodrich, 3rd (1963) p.5. (V) Velikovsky, 1950 (Many sites) (F) Fitzgerald, 14. (Fr) Frank-Fort, 47-54. (LK) Lamberg-Karlovsky, 102-11. (R) Rawlinson, 19-21. (P) Patten, 252,255, et passim. (MA) Matz, 73,239, (OT) Old Testament. (PS) Parker and Sieff. (I) Isaacson. (O) Ovid. (W) Bell (1971). (E) "Ebla" Maccoby (1977), (ST) Strickling.

Goblet d'Aviella points out that both Thoth and Hermes have the ram as a sacred animals; both were personified by steles, hermata or bethels; both carried the caduceus; both had human figures with wings. Both were guides to the Underworld, teachers, and scribes. Pausanias claims "Par-Ammon is the surname of Hermes," which is not irreconcilable with Ammon as Apollo, "par" meaning "Father".

The caduceus or Kerykeion is the famous wand of Mercury (and the emblem of the modern medical profession). It resembles the Hindu *trisula*, which in turn "bears a singular resemblance to the sign of the planet Mercury..."[37]. Furthermore the caduceus "produced fire and would slay," says Goblet [38]. It is too similar to the serpent-entwined magical staff of Moses for the staff to have been independently contrived by him. In the

turbulent electrical atmosphere of the times, wands could be made to produce glowing and crackling discharges with fair reliability. Thus would priests be tied to the gods [39].

It may also be notable that the Hebrew word for “planet” and “luck” *mazal*, are the same [40] and may refer to Hermes. Beaumont asserts that Thoth is also “Ham” of the Old Testament and Baal (Lord) Hammon of the Carthaginians; further, that the name Abram is from Ram and Ramah was the ancient Hebrew capital city. The King of Tyr was Hiram, or “High Ram.”[41] The Ram is associated with Fricka, Frigga, Frye, who is Venus (Venerdi in Italian is Friday in English) and who is said to be the wife of Odin (Wotan) who is the Teutonic Mercury or Hermes.

It is Beaumont’s theory, which deserves credence, that the pillars of Hercules refer to the large number of stone columns (dolmens) that line the coasts of Southern Britain and Northwestern France leading into the English Channel [42]. However, not Hercules, but Hermes is the god commemorated so strikingly there that the passage was known to the ancients. (Hercules is most clearly identified with the planet Mars.)[43] Beaumont relies partly upon Goblet d’Aviella who relies upon Tacitus [44]. What does Tacitus say? He says that the sacred stone columns found frequently in the region of the lower Rhine are called Pillars of Hercules, but adds that Hercules is given credit for many things that do not belong to him. Could the columns have been erected to Hermes and a thousand years or more later accredited to Hercules-Mars? A comparative study of the stones would answer the question; we know the myriad Hermes stones that marked the roads of Greece.

Otto concludes his study of Hermes by telling us not to think that all his later qualities were inconsistent with his earlier ones. “If a single trait actually did come to the fore later than others, it still retains the same basic meaning which has found a new expression”. Then naively he says, “Whatever may have been thought of Hermes in primitive times, a splendor out of the depths must once have so struck the eye that it perceived a world in the god and the god in the whole world.”[45] We already have pointed out that Hermes was viewed as a sun.

### MERCURY'S GEOPHYSICS

The planet Mercury possesses today some features that are less puzzling when viewed in the perspective of quantavolutionary primevalogy. It is a little-known planet and the recent discoveries concerning it are sometimes reported with exclamations of surprise. It is more dense than the Earth; probably it has a huge core of iron. It has no atmosphere. It is covered with a thin dust of silicate, like the Moon. Like the Moon, too, it reflects sunlight and radar pulses, and emits infra-red radiation.

Mercury rotates on its axis thrice while circling the sun twice. This very slow spin is attributed to the sun's tidal or gravitational pull. Why this "spin-orbit coupling" in a 3 to 2 ratio has not become a firm lock in the "several billions of years" of revolution is unknown. The Moon, after all, is locked into the Earth, showing always the same face to us. Even were I mistaken in assigning only a couple of thousands of years for the Moon to acquire its earth-lock, and were to accept instead the several billions of years attributed to the satellite's origin, the Moon-to-Earth tidal ratio is not as great as the Mercury-to-Sun tidal ratio. Hence Mercury should be in firm lock. So, for that matter, should be the Earth and possibly Mars. (Venus is retrograde in its rotation and, if anything, locked into or resonant with Earth, so this, too, is an anomaly of excess.)[46]

Already disquieting hypotheses are being voiced about how long ago Mercury may have been emplaced; figures in the hundreds of thousands of years are heard. If Mercury, then Venus, *pari passu*; and then, logically, Earth and Mars must be even more recently emplaced; but of course, the quantavolutionary theory does not rely exclusively upon the conventional theory of what causes rotational and orbital speed. Forces usually uncalculated affect all planetary motions.

Mercury's orbit is not a true circle, but is eccentric [47]. This, too, is surprising, considering the supposed ages during which, free from the influence of other planets to all purpose, it might be expected to have developed the elegant Platonic and Galilean form.

The axis of Mercury is perpendicular to the plane of the ecliptic. If the planet has moved, as is claimed here, from one extreme of the binary axis (now the plane of the ecliptic) to the other, this condition is not readily deducible. One may conjecture that so long as there was focussed solar wind heavy enough to constitute some type of electrical axis, a planet descending upon the axis would present its electrically compatible equator to the arc or, in any case, wind and spin with the driving wind.

Mercury has magnetic field, stronger than that of Mars and the Moon. This may be largely a remnant of its magnetization, when it was a body immersed in the powerful magnetic tube. An authority declares, on this phenomenon, "That Mercury has a bipole magnetic field aligned with its spin axis very similar to the Earth's field although weaker, is to me particularly unexpected." [48] Conventional theory once posited a dynamo action, whereby a metallic core, rapidly moving, produced a magnetic field, such as with Earth. Venus has a larger and hotter core, and has no magnetic field, and no rotation to speak of. "Perhaps," he says, "the Mercurian magnetic field arises from causes still unimagined." [49]

The surface of Mercury appears as revolutionary theory would expect. It is devastated. It has large plains but is heavily cratered. There are long escarpments or "wrinkles" everywhere. A single basin, scene of a horrendous blast, is 1400 kilometers across. This Caloris Basin is apparently filled with smooth debris like the Imbrian Basin of the Moon. There appears to have been little or no change owing to vulcanism or tectonism, or even atmospheric evolution within the large craters following their creation.

There is no noticeable distinction between the types of craters found on Moon and Mars and those of Mercury. Again this is a surprising finding, considering how differently placed the three bodies are in relation to the Sun and to the asteroidal belt. A single bombardment -- why it should be "single" is difficult to understand even from a uniformitarian viewpoint--is postulated to have devastated the planet [50].

Again Bruce C. Murray may be quoted, as representing so frankly the puzzles confronting solar system evolutionists : "The bombardment could have originated...with a single object

perturbed to pass near the earth or Venus from an initial orbit beyond Jupiter, Tidal disruptions on the earth or Venus might then conceivably have created a shower of bombarding objects that would have been rapidly swept up through collisions with the four minor planets.”[51] Indeed, this theory might well have been employed in claiming that the Moon was caused to erupt from the Earth by a passing body from beyond Jupiter that spread Earth and other planetary debris throughout the system.

It is appropriate that, some passages later on, the same author should remark : “The debate now developing over the early history of the inner solar system is reminiscent of an earlier debate between the uniformitarians and catastrophists over the causes of the earth’s geological features. There the uniformitarians won.”[52]

**Notes (Chapter Nine: The Olympian Rulers)**

1. 5-1,1 nakshatra pushya is the word for sun and /or Saturn; Santillana and von Dechend (1969) 434.
2. Gossman (1956) quoted in Santillana and von Dechend (1969) 325.
3. Neptune is a modern, artificial name, not the Greek god Poseidon or Roman god Neptunus. One may guess that it had been fissioned from Super-Uranus or was one of the two stars that erupted from Super-Saturn. It is conceivable that the planet may have been the god Poseidon and is therefore well-named.
4. The rings of Uranus, discovered in 1977, indicate recent geophysical and astronomical activity, since rings descend in fairly short periods of time, as may now be occurring with Saturn's rings.
5. "Planet X," *Ency. Britannica* (1969).
6. Ginzburg (1909) I,232. Patten sets this incident at about 1900 B.C.
7. Beaumont (1949) 79-81.
8. *Lar. Ency. Mytho.* 20.
9. Proclus, quoted in A. de Grazia (1977). Cardona (1978B) has made it clear that Saturn, like Jupiter, was a god who binds. Proclus is pursuing one version of the myth.
10. Figure from W. Simpson (1896), *The Buddhist Praying Wheel*, Macmillan, fig. 41.
11. Hopkins (1965).
12. 30.
13. *Ibid.*, 430-1.
14. Juergens (1976).

15. Time mag. (Sept. 16, 1974) 56.
16. Finney (1964).
17. Kraft, quoted by Payne-Gaposchkin (1977) 669.
18. *Metamorphoses*, I, lines 112-24.
19. Komarek (1965) 172.
20. MacKie (1977); cf Müller (1970); Bord (1976); W. L. Cook, ed. (1977); Trento (1978).
21. 11-142 cited in Mullen (1973) 12.
22. Mullen (1973) 12.
23. *Ibid.*, 13 citing W. B. Emery 71-3.
24. *Ibid.*, 13 cf. Schaeffer (1948).
25. (1956).
26. Pawley and Abrahamsen (1973); Velikovsky (1973A).
27. Robert D. Miller (1939).
28. Ziegler, 197.
29. Vail (1972) 48-9.
30. (1976) 86.
31. Rittmann 285.
32. Kerr (1978) 203; Crew (1977A) 26; Birgham (1881).
33. *Larousse Ency. Mytho.* 27.
34. Otto 120-1.
35. De Leonard 271.

36. Röck, 1085-6.
37. Goblet 229 *et passim*.
38. *Ibid.*, 230.
39. Ziegler (1977).
40. Rose (1974) 35.
41. Beaumont (1949) 72-3.
42. *Ibid.*
43. Eratosthenes: “Third is the star of Mars, which others have called the star of Hercules.”
44. Goblet 106; Tacitus XXIV.
45. Otto 124.
46. Ransom (1976) 117.
47. Murray (1975) 40.
48. *Ibid.*, 46.
49. *Ibid.*
50. *Ibid.*
51. *Ibid.*, 45-6.
52. *Ibid.*, 47.

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the next section of this book.](#)**

## 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.

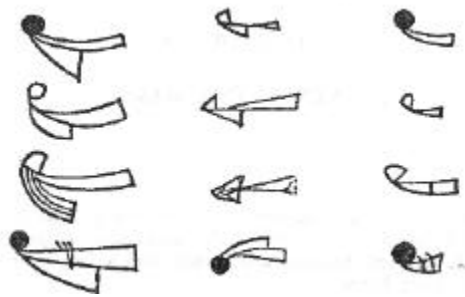


Figure 31. VARIANTS OF THE COMETARY GODDESS INANNA. (Click on the picture to view an enlarged version. Caution: Image files are large.)

Twelve Principal Variants of the Cometary Goddess Inanna Symbol,  
Source: Falkenstein, *Archaische 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 seen, 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 its 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 it 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 true 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



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 waged 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 Vijn, 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 fuliginaceous 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 Atlantis making out 900 years instead of 9000 years before Solon for the Thira disaster [53]. Marinatos 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 Atlantis 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  $^{14}\text{C}$  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  $^{14}\text{C}$  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 quantarevolutionary thought. 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  $10^{\circ}$  (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 established 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*, Enyalios.

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' carbon dating 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<sub>2</sub>) and possibly ice [87]. This must be a very recent freeze, following acquisition of CO<sub>2</sub> 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 unzipping 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 Velikovsky, 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 Hesi, 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. Bernal (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 "inflamm" observably planets other than 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 quantarevolutionary 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 is 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 arc 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 States 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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