

RECOLLECTIONS OF A FALLEN
SKY:

**VELIKOVSKY AND
CULTURAL AMNESIA**

*Papers presented at the University of
Lethbridge*

May 9 and 10, 1974

Edited by

E.R. MILTON

Notes on the printed version of the book

Cover - Painting was made prior to the publication of Worlds in Collision, the work of a 30 year old Canadian male who utilized painting and drawing as an aspect of his therapy for neurosis. The artist shows the earth, identified by the lines of latitude and longitude in a rather unusual view. Seen from outer space, it appears to be flooded since the normal land masses are missing or submerged and the patient stands on an island reaching upwards, perhaps in distress. Above the earth is what appears to be a mass of land with mountains, river, perhaps a continent hovering in the air, To the left is an oddly shaped spherical mass, the moon, or perhaps a meteorite. The patient described that large continental mass above as a sheet of ice. Courtesy of Professor John McGregor—

The responsibility for producing the volume of papers presented at the symposium: Velikovsky and Cultural Amnesia, May 9 and 10, 1974, was delegated to an editorial committee consisting of the following members of the Faculty of the University of Lethbridge:

*Earl R. Milton Chairman, Department of Physics
and Chairman of the Committee*

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FOREWORD

On Saturday afternoon 11 May 1974, the University of Lethbridge conferred upon Immanuel Velikovsky the honorary degree of Doctor of Arts and Science in recognition of the interdisciplinary nature of his scholarship. In awarding this degree the University was recognizing a world famous scholar whose work epitomizes the ideology of the University: that interdisciplinary studies have value.

For two day preceding the convocation ceremony, the University was host to an international symposium which attracted delegates from the Pacific Northwestern region of the United States and from six Canadian provinces. This Symposium, with the theme Velikovsky and Cultural Amnesia, examined aspects of Velikovsky's synthesis centering on the Humanities and Social Sciences.

The papers presented in this volume are revised versions of the papers originally presented at the Symposium and from the first collection of papers on the subject of cultural Amnesia since Velikovsky introduced the topic in *Worlds in Collision* [1]. The papers have been examined by other experts in the field concerned, criticisms were collected, and the authors were allowed to make minor changes in the hope that a more accomplished volume could be produced.

Since Dr. Velikovsky's addresses to the Symposium were delivered without notes, and because of Dr. Velikovsky's weakening health in the months following the Symposium, he was not asked to submit written versions of his contributions. Instead, his papers were produced from the tape recordings of the Symposium sessions. After editing them for clarity, the transcriptions were revised by Dr. Velikovsky for publication here.

Although the papers all relate to some aspect of Cultural Amnesia, they deal with subjects as diverse as anthropology, geology, narrative art, and psychiatry. While the task of showing relationships between them is desirable, it is difficult. It may be hoped that the interpretation presented here, with which the authors might not agree, will stimulate readers to consider carefully the papers and their relation to Cultural Amnesia.

In his address, Dr Velikovsky elaborates upon his theory of Cultural Amnesia. According to his theory, mankind forgot about unpleasant catastrophic events on the conscious level, but remembers on the unconscious level. Furthermore it would appear that the unconscious memory is transmitted genetically from one generation to the next, a concept already postulated by Freud and Jung but in disagreement with much of the current biological thinking. Nevertheless, there are, as will be shown in the papers following Velikovsky's, substantial reasons for thinking that memory is indeed transmitted, if not racially, then in some other way.

If the cultural amnesia theory is correct, then it is possible to suggest that every generation lives in a state of trauma induced by the conflict between subconscious memories of past catastrophic events and the refusal of the conscious mind to recognize that these events actually occurred in prehistoric and historic times. Dr. Velikovsky believes that the trauma is responsible for mankind's aggressive hostility, a concept of importance to every individual frightened by the prospect of thermonuclear war or of the instability which seems to be increasing in society.

Moreover, the trauma is also responsible for the inability and at times the outright refusal of science to recognize the overwhelming evidence pointing to the catastrophic past of the Earth and the entire solar System. The trauma is also responsible, in part at least, for the actions of some scientists who denounced Velikovsky without even reading his work. Perhaps the men who did this really are saying that the truth is too awful; if the public knew they would be furious, and the great prestige accorded to the leading spokespersons for modern science would decline.

The second paper in this volume, authored by Alfred de Grazia, discusses the origin of fear. De Grazia is an internationally recognized expert in politics and social systems. He became aware of Velikovsky because of the efforts made by Livio Stecchini, a professor of ancient history. Stecchini had tried to interest de Grazia not in the substance of Velikovsky's theories but in the political ramifications of the attack by the scientific community on Velikovsky. Shortly thereafter, de Grazia read Velikovsky's last book *Oedipus and Akhnaton* [2] and judged it to be "a fundamental contribution to classical history and archaeology." [3] He then decided to meet with Velikovsky and investigate the issue.

A change for the better occurred in Velikovsky's fortunes when de Grazia devoted the entire September 1963 issue of the *American Behavioral Scientist* to aspects of the hostile reaction of the scientific community to Velikovsky's revolutionary cosmology.

While preparing the special issue on Velikovsky [4], de Grazia became interested in the substance of Velikovsky's theories, an interest which has culminated in several investigations into the origins of human nature and the development of human institutions. A part of that work is included here.

De Grazia maintains that fear is ubiquitous in its influence upon the behaviour of mankind. Partly it is animalian, partly cultural. It pervades all social institutions. Memory is created by fear, a specific case of which is fear of catastrophe. Events recorded in memory will be forgotten when the need to function sanely overrides the need to remember. Thus primal fears, which exist in memory because of terrors experienced directly or historically, are suppressed in the interest of day to day functioning of the organism.

In the next paper, John MacGregor outlines psychological aspects of the work done by Immanuel Velikovsky. MacGregor, an art historian and psychotherapist, has applied psychiatry to the study of art. His paper is the result of the work done to clarify the views of Freud and Jung on the possibility of inherited transmission of memories. MacGregor examines dreams which

have cosmic content; patients often express inner disturbance in symbolism involving cosmic catastrophe. Although the dreams refer specifically to events in the patient's inner reality, the reason why a patient projects an inner crisis in terms of catastrophes in outer space is not always evident; it is possible that some of these dreams cannot be explained in terms of personal memories in which case they may be evidence for racial memories imprinted during past global cataclysms experienced by mankind.

The fourth paper, by William Mullen, compares apocalyptic writings from the Old and New World. These writings suggest that society is restructured after a catastrophe. The survivors seek stability through worship of what they think is an appropriate deity and through ritual activities. When another apocalypse is imminent, a new religion emerges or old religions are altered in an attempt to avert the impending disaster. Mullen shows how a catastrophe which occurred in the distant past becomes, because of religion, an apocalypse which will occur in the future.

Where Mullen has discussed catastrophe as it is expressed through religion, the next paper, by Irving Wolfe, proposes that catastrophic experiences are the inspiration for great works of narrative art, in particular Wolfe discusses Velikovskian overtones in two of Shakespeare's plays. Through narrative art, catastrophes may be discussed and examined without the society (composed of individuals) having to experience the traumas associated with enduring, but repressed, memories of the actual events. As "adult fairy tales" such narratives provide a way to imply a rational order to an otherwise irrational universe, thereby diminishing apprehension about the uncontrollable aspects of nature. The response of the individual to such literature also can be understood in terms of the harmonizing effect of that literature also upon the subconscious needs of the individual for comfort. Neither the author nor the reader nor the audience can admit that there is an anxiety in need of comfort but that it seems, is shy the work endures partly because it soothes a hidden fear.

George Grinnell, once a geologist and now an historian of science at McMaster University, shows how science has been altered to preclude all mention or examination of catastrophic disruptions. In the same sense in which the Egyptian rituals of the Old Kingdom, described earlier by Mullen, were designed to ensure a stable society, Grinnell shows how geological language was changed in the nineteenth century to provide a stable philosophical basis for the liberal movement which controlled urbanized industrial society in Britain. After a century of use, the new language is scientific dogma. To discuss anything other than evolutionary processes now requires that even the language of science be modified. It is not surprising then, within professional scientific circles, that little or no credence is placed upon attempts to introduce disruptive or revolutionary processes as part of everyday happenings in the Universe. Grinnell however ascribes their exclusion to immediate political expediency rather than to the wishes of scientists to forge dreadful catastrophes of the past. If Grinnell is correct, the violent emotional response of contemporary scientists to revolutionary hypotheses still requires explanation, especially in a world where political liberalism is declining.

The eighth and final paper, by Patrick Doran, examines life after a cataclysm. Assuming that western-industrial society has already produced an apocalypse for mankind, Doran suggests that realization of the catastrophe must emerge into consciousness before survival can be assured. In this case survival depends upon rejuvenation of earth's fragile bioenvironment. Like Mullen, Doran then deals with how a society recovers from catastrophe. He claims that the joy induced by realizing that one is a survivor is the key to freedom from the buried fears of catastrophes long past. The acceptance of Velikovsky's cosmology by western civilization is a first step to freedom from the despair induced by a crisis laden World. The World has been changed in the cataclysm; those who know they have survived now have the chance to redirect civilization to ensure continued survival.

In closing the Symposium, Dr. Velikovsky reminded those present that understanding mankind's traumatic past is the key to understanding the seemingly irrational motives behind the

contemporary behaviour of men. In summarizing his scientific and historical contributions, Dr. Velikovsky noted the response of scholars to his work and to the evidence supporting it, and pleaded for younger minds to carry on and complete the revolution started three and one-half decades ago.

It is my duty to report that two of the participants at the Symposium chose not to submit manuscripts for publication; therefore their papers are not included here [5]. These unfortunate decisions may reflect concern for the hostility exhibited by the scholarly community toward any works which deal with Velikovsky and his theories.

The question I ask is, why do the issues by Velikovsky invoke an immediate emotional response in the more conventionally-minded scholars of the academy? The answer in part seems to arise from the division of scholars in general (and scientists in particular) in to two broad and quite mutually exclusive groups, which I will describe, for want of better term, as evolutionists and revolutionists.

The majority group, the evolutionists, believe that we live, at a special moment, the pinnacle of creation, the end result of several billion years of gradual development wherein Homo Sapiens has achieved dominion over planet Earth and through technology has finally achieved understanding, albeit incomplete, of the rest of nature. This could be described as the centre or liberal view of the universe. Believers in this viewpoint live in a world where events are, in general, fully predictable, hence a rational planned life is possible. Occasional upheavals, described as Acts of God, mar the otherwise tranquil world from time to time, but afterwards the Universe resumes the normal process of unfolding as it should.

The other group, the revolutionists, to which Velikovsky and his supporters belong, believe that the history of the World, and of the Universe, is best described in terms of a series of abrupt large-scale and intensive changes in nature and life with periods of slow evolution in between [6]. Physical evidence of such changes is found in Earth's geological strata and on the exposed surface of the planets.

For the revolutionists the task is to re-interpret the evidence which has been described in the scientific and historical literature in terms of the evolutionary model, a project to which the evolutionists usually react with intense hostility.

To rewrite the literature in such a manner that it is freed of conclusions which are only valid if the evolutionary model is correct appears to be a difficult task, though in reality it may not be. The correctness of such conclusions really depends upon the validity of a small number of physical theories. By showing that these theories can be sustained only by making unwarranted assumptions, the evolutionary viewpoint is undermined. The foundation removed, the data can be re-analyzed possibly producing different conclusions. In astronomy the long-time stability of the solar system is a key theory which recently has been questioned by Bass [7]; even the nature of gravitation itself is still in doubt [8].

In geology and biology the currently adopted time scale depends upon the decay of long-lived radioactive atoms. The possibility that radioactive decays are environmentally induced has recently been proposed [9]. Without radiometric dating the rampant inflation in the magnitude of the cosmic timescale over the last century [10] will undoubtedly enter a sharp period of regression. This question will be debated in detail in time; for the present it is sufficient to say that if radioactive decay processes are not invariant, then many problems facing Velikovsky will vanish. The end result might well be a widespread reconsideration of Velikovsky's revised chronology. Similarly, if the cosmic time scale is drastically shortened, then the physical history of the Earth and Solar System will have to change.

In the interim, astronomical confirmations of Velikovsky's advance claims [11] are viewed with suspicion by those believing in the evolutionary viewpoint.

As an example of an advance claim I shall cite Velikovsky's descriptions of Saturn. In the keynote address Velikovsky refers to a nova-like explosion on Saturn [12] which occurred long before the events described in *Worlds in Collision*. In closing the Symposium Velikovsky notes how scientist and engineers will

not deny that Jupiter's magnetic field must influence other bodies moving through it [13]. Having concluded that Saturn once exploded, Velikovsky has predicted that Saturn will be found to emit low energy cosmic rays [14]. Pioneer 10 has recently measured the magnetic tail of Jupiter at the orbit of Saturn [15]. Saturn enters Jupiter's magnetic tail every twenty years, at these encounters Velikovsky predicted an enhancement of cosmic radiation's arriving at Earth from Saturn [16]. A similar prediction has been made by an unidentified writer in *Sky and Telescope* who claims that the Jupiter tail encounter with Saturn's outer radiation belts could produce disturbances detectable by radio antennas aboard passing spacecraft [17].

Synchrotron radiation emitted by the planets Jupiter, Saturn, and Uranus has been detected and cosmic ray sources have now been associated with these planets.

Velikovsky's contention that Saturn recently erupted is supported by evidence that Saturn, like Jupiter, emits more energy than it receives from the sun [18]. The usual explanation for this excess is the escape of primordial energy from the planet. Why the excess still exists after billions of years is not obvious. Again the difference between Velikovsky and the evolutionists is a time factor: the difference between 4000 years and 4000 million years. While such great differences seemingly cannot be reconciled easily, the reader is cautioned to remember that the time difference depends upon the correctness of assumptions made in applying theories based upon an evolutionary model to the data. Usually assumptions are being made because no proof is possible. Accepted assumptions represent the current consensus of opinions put forth by the scientific establishment [19].

The thoroughness of Velikovsky's scholarship is beyond question; his main heresy is to question the evolutionary view and to champion a recently forgotten revolutionary viewpoint²⁰ and his contention that electric and magnetic forces play an important role in the Universe. Consideration of Velikovsky's cosmology as a possible reality restores to its rightful place an old method of describing the cosmos; a method which had, at least in part, become inconvenient for political reasons [21].

The question explored here is how could the revolutionary world view be forgotten by mankind and why does its re-emergence invoke such an emotional response from the believers of the currently popular evolutionary world view. Glimpses of these answers, I believe, are contained in the papers that follow. Together they are an important statement relevant to the question of the validity of Velikovsky's revolutionary cosmology.

The fact that this Symposium took place at the seven-year-old University of Lethbridge and the fact that the University granted an honorary degree in Arts and Science to Dr. Velikovsky, generally regarded as a heretic, and even as an outcast by a few misguided individuals, are extraordinary events which warrant explanation:

I believe that two factors allowed the supporters of Velikovsky to be successful at Lethbridge in their attempt to have him awarded an honorary degree for academic reasons.

First and foremost there was the intense dedication of those persons working to document the case for granting Velikovsky's degree. Without their enthusiasm, nothing would have been accomplished.

Second, in a small university the lines of communication are short. When the case for Velikovsky was presented to the General Faculties Council of the University, those voting on the matter were friendly with those supporting Velikovsky. When one is sufficiently informed about an issue it is hard to oppose known and trusted colleagues with good academic credentials. The isolation which normally prevents frequent communication between members of different departments is minimized at Lethbridge, as all are in one large and long building. Given our size and the common cause, daily contacts in the corridors, cafeteria, or library became more than occasions for passing social discourse; they became occasions for the exchange of ideas. This was a precious period in the intellectual growth of this University, especially for those intimately involved in the debate.

ACKNOWLEDGEMENTS

I would like to acknowledge the effort of the editorial committee: Paul D. Lewis, Jr.; Laurie R. Ricou, and Ian Q. Whishaw, who diligently refereed the papers, and helped otherwise with the publication of this volume. I appreciate the help of my wife, Joan, my secretary, Mrs. Elly Boumans, and Stan Heller, for their diligence in proofreading the final manuscript and Proofs.

I would be remiss if I did not mention the members of the committee which planned the Symposium; they are including myself, Lynne Pohle, Don Thompson, Ian Q. Whishaw, and most importantly, the chairman of the committee the man to whose memory this volume is dedicated, my close friend and greatly missed colleague, the late John T. Hamilton.

For his contribution to the Symposium I want to convey thanks from many delegates to the chairman, W. J. Cousins, Emeritus Professor of History. Throughout he directed the proceeding with fairness, introducing levity when the occasion called for it, but always maintaining decorum, especially where a chairman with lesser experience might have faltered.

Notwithstanding all of the acknowledgements above some persons who have rendered valuable assistance have been overlooked. To these persons I offer apology and thanks.

It is with gratitude that I acknowledge, for the University, the financial support awarded by the Canada Council, which in part paid the expenses of the scholars invited to address the Cultural Amnesia Symposium.

As well, special thanks are due to the senior academic administrators of the University, President William E. Beckel and Vice-President Owen G. Holmes, who from the very beginning supported this honorary degree and the concept of a symposium, who offered personal support and who committed University funds not only for the Symposium but also to ensure that this volume would be published, and could be sold at a reasonable price.

For me it has been a privilege to work with the authors preparing this volume. Several of them have extended much appreciated personal courtesy, warm hospitality and stimulating discussion during my visits to their homes and institutions both with respect to the revision of their papers and in the wider pursuit of our mutual interest in revolutionary genesis.

I want to recognize the debt I owe to Philip Connolly for the wise counsel he has rendered concerning decisions I had to make on the format and contents of this volume. His critical remarks on the editing have assisted me greatly.

Lastly, but with special emphasis, I must thank my secretary Mrs. Elly Boumans who persevered and worked very closely with me both in the difficult job of transcribing the tape recordings of the Symposium (in view of their technical content which discouraged others who tried to help), and in typing and proofreading of the several drafts of the manuscript while the editorial committee and the authors negotiated the final form. Without her dedication this volume would not be complete today.

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October 1977

Notes (Foreword)

1. Velikovsky *World in Collision*, (Doubleday, 1950), See-part 2, Chapter 6, pages 298f (Pocket Books, 1977) pages 302f; (Abacus, 1972) pages 286f. The pagination in the now out-of-print but widely distributed Laurel edition (Dell,1967) is identical to that in the Pocket Books edition. The pagination in the earlier Delta edition (Dell, 1965) is identical to that in the more recent Abacus edition, see ahead, footnote 3, page 21.
2. Doubleday (1960).
3. Press Conference, The University of Lethbridge, 8 May 1974.
4. The contents of this issue eventually were expanded to become the book *The Velikovsky Affair*, (University Book, 1965).
5. Both papers are reviewed in the periodical *Pensee* 4(5):47 (Winter 1974/75) published by the Student Academic Freedom Forum, Portland, Oregon. As well, both of these papers are included in the recorded proceedings of the Symposium. A set of nine recorded cassette tapes of the entire Symposium is available from the University Library. Inquiries as to the current purchase price for the set of tapes should be directed to the University Library Media Distribution Centre.
6. There is an increased awareness in scientific circles, particularly in the sciences, that not all data can be fitted to the existing theories which utilize only evolutionary process. For simplicity, most mathematical models of nature use linear system of equations, despite much evidence that many natural phenomena are clearly non-linear in behaviour. Discrepancies from linearity are in general, handled by introducing perturbing-terms into the equations or by postulating local-anomalies in the specific environment under discussion. Recently, Rene Thom has produced a catastrophe-theory which allows abrupt discontinuous changes to be introduced into otherwise slowly evolving systems. Doing so allows connection to be made between unconnected and differing sequences of behaviour for

an evolving system which seemingly exhibits markedly different behaviour in the present from that recorded in the past. A consequence of Thom's theory is that extrapolation of behaviour over many orders of magnitude, either in time or in quantity is inherently dangerous. An example is found in certain mechanically stable system which can unexpectedly undergo catastrophic breakdown, yet no apparent explanation for the breakdown can be found by extrapolating from the initial conditions. See : Montgomery, M., "Why Gondolas Derail", Boston Globe, 17 April 1976, page 32. Thom's theory is summarized in two recent articles published in New Scientist; see : Stewart, "The Seven Elementary Catastrophes", 68:447-454 (20 November 1975); and Walgate, "Rene Thom Clears Up Catastrophes", 68:578(4 December 1975).

7. Bass Robert, "Did Worlds Collide?" *Pensee* 4(3):8-20 (Summer 1974); "Proofs" of the Stability of the Solar System, *op.cit.*, pages 21-26.

8. The inability of Einstein to unify the gravitational field (general relativity) with the electromagnetic field (special relativity) may arise because the two fields are different descriptions of a single interaction. Until the nature of gravitation is realized, progress can be expected to be slow in finding a physical mechanism for Velikovsky's cosmology.

9. Dudley, H. C. "Phenomenological Causal Model Of Nuclear Decay, Assuming interaction with Neutrino Sea, "Lettere, *Nuovo Cimento*, 5(3):231-232 (16 September 1972); Anderson, John, and Spangler, G. W. "Radioactive Dating: Is the Decay Constant Really Constant?", *Pensee* 4(4) : 31-33 (Fall 1974).

10. Engle, A.E.J. "Time and the Earth" *American Scientist* 57:458-483 (Winter 1969) see pages 460f.

11. Dr. Velikovsky prefers to use the term 'advance claim' rather than prediction.

12. See ahead, Velikovsky, *Cultural Amnesia: The Submergence of Terrifying Events in the Racial Memory and Their Later Emergence*, page 21.

13. See ahead, Velikovsky, *Afterword*, page 149.

14. Velikovsky, "H.H. Hess and my Memoranda" *Pensee* 2(3) 22-29 (Fall 1972) see particularly page 28 Saturn from the Memo to Hess dated 11 September 1973.

15. "Dimensions of Jupiter's Magnetic Tail Believed Enormous" NASA News Release 76-55.

16. Velikovsky Copyrighted lecture 5 November 1962. Are Cosmic Rays Emitted by Saturn?

17. News notes: Jupiter's Magnetic Tail , "Sky and telescope 51(5):375 (may 1976).

18. The measured thermal excess of Saturn is greater by a factor of two over solar insolation. Reported by L.J. Caroff at the Northwest astronomy Conference Victoria B.C., 1975.

19. In astronomy ten thousand galaxies can be counted but astronomers apply theories to infer that one billion galaxies exist in the universe; thus there are about one hundred thousand unobserved galaxies for every one that we observe directly. A similar factor exists between stars that can be counted on photographs and the total number of stars believed to exist within our galaxy.

To alter the time scale of the universe by an equal factor would bring events of one billion years ago into the last Ice Age and events from the beginning of the Age of Mammals into the Christian Era.

Urey has proposed that collisions between Earth and comets occur from time to time. Such collision may explain massive animal extinction which accompanied breaks in the geological record. See Urey "Cometary Collisions and Geological Periods", *Nature* 242:32-33 (2 March 1973). That Urey, explicitly contemptuous of Velikovsky, can bring a comet to collide with

Earth millions of year ago, while Velikovsky cannot propose that a similar collision occurred thousands of years ago leads me to wonder if the recency of suggested events is proportional to their capability to produce discomfort in the evolutionist's mind: even catastrophic events if in the distant past are acceptable. Alteration of the timescale by de-evolutionizing the assumptions can bring cataclysmic events currently ascribed to the distant past into the historical period and thus to the time when the cataclysms may well have occurred and been recorded.

20. Stecchini, "The inconstant Heavens: Velikovsky in Relation to some Past cosmic Perplexities", *American Behavioral Scientist* 7:19-35, 43-44 (September 1963), see especially pages 22-27. This paper also appears in de Grazia, Juergens, and Stecchini, editors of *The Velikovsky Affair* (University Books 1966).

21. See ahead Grinnell, *Catastrophism and Uniformity*.

1

CULTURAL AMNESIA

The Submergence of Terrifying Events in the Racial Memory and their Later Emergence

Immanuel Velikovsky

I thank you Dr. Holmes for the introduction. My comments tonight consist of informal remarks on material that I cover in a systematic fashion in the book that I am writing. This book, *Mankind in Amnesia*, elaborates upon new aspects that follow from my other published works [1].

CATASTROPHES

In *Worlds in Collision* I describe two series of catastrophic events: The first took place in the middle of the second millennium before the present era, the second in the eighth century before the present era. The last of these catastrophic events occurred on 23 March -686 [2]. Fortunately, men were not illiterate at the time of these catastrophes.

One of the first clues as to what had happened I discovered in a book written over one hundred years ago, by a French missionary who worked in Canada, but who wrote about Mexico, C.E. Brasseur de Bourbourg [3]. He wrote several books on the subject of ancient Mexican beliefs and ancient Mexican history. He also wrote a small book investigating possible connections between Egyptian and Mexican beliefs.

When I read Brasseur's books on the ancient history of Mexico I found it strange that he, being a clergyman, did not observe, or did not dare to report that in the Scriptures many pages deal with the very same events he was describing. He reported that cataclysmic events had been found in Mexican lore, events also described by several Spanish historians of the sixteenth century. These were events of great violence. Mountains rose and moved; many volcanoes erupted from the North-Pacific Coast of North America all the way to Tierra del Fuego at the southern tip of

South America. The ocean rose like a wall and moved, accompanied by terrific winds. Fiery bodies were seen fighting in the sky. Stones descended from above, followed by rains of naphtha. Men were maddened by the din and the paramount danger. Houses collapsed and were carried away, hurricanes tore out great trees of whole forests with their roots. If such a great catastrophe occurred today, what impression would it leave in the survivors?

The catastrophe of the second millennium has been remembered on very many pages of the Biblical Prophets and the Psalms. Our whole life is pervaded by influences originating in these and other catastrophic events that took place in earlier ages. The catastrophes survive in the liturgy still used today, only we choose not to examine them as such. Whatever area of life we select to explore we find some vestige of the terrifying events of the past. The calendar is a good example, either the Jewish calendar or the Christian calendar or that of any other creed. Throughout the year the holidays are reflections of catastrophic events. The midwinter holiday celebrated as either Christmas or Hanukkah, the Week of Light, is a renewal of the Roman Saturnalia. If you read about the Roman Saturnalia you recognize immediately almost all of the rites of Hanukkah or Christmas, now celebrated at the end of December. They commemorate events of the days when the planet Saturn exploded into a nova, long before the events that I describe in *Worlds in Collision*, Seven days before the Universal Deluge began, the solar system became illuminated as brilliantly as if by a hundred suns. In the Deluge, not only the Earth but also other planets of the solar system were engulfed. Nature was wanton: the destruction was great, Mars, Mercury, and the Moon, as the space pictures now reveal, became flying cemeteries. Nothing living remained, although probably there was once life on those planets its destruction was complete. In comparison, the Earth fared well and thus mankind could call itself the "Chosen People": not because all men survived, not because there was no destruction; in fact there was decimation, even extinction of whole genera, and massive mutations, caused mainly by cosmic rays and X-rays emitted by Saturn. Subsequent to the Deluge an environment was created on Earth in which life could not only exist, but could flourish, with an abundance of water, a change

of climate with changed seasons, with a magnetosphere now giving protection from cosmic rays and an ionosphere giving protection from ultraviolet rays. The new orbit the Earth circled was not too close to the Sun, not too far from it, a climate unlike that of Mars (too cold) or Venus (too hot).

The Universal Deluge was not the first catastrophe to decimate life on our Earth: other calamities preceded it, Dim memories from these more ancient times survive in mythology. Before the age of Kronos (Saturn's "Golden Age") there was the age of Ouranos [4], Egyptian myths of great antiquity relate stories of battles and changes in the sky and of vast destruction on Earth, changes that we neglect to investigate and know in our desire to believe that we live on a planet that is stable and safe.

AMNESIA

The phenomenon of racial amnesia occupied Freud's mind in the last decades of his life, in fact it became his obsession.

Initially Freud claimed that the impressions made upon a child's mind dictate the child's future and cause also neuroses in juvenile and adult life. Later Freud reversed his thesis and claimed that man's destiny is triggered by images which exist within the racial memory, deep within the unconscious mind.

From psychoanalytic studies we know that a traumatic experience, either of a physical or psychological nature, leaves a strong vestige deep within the human soul. Such vestiges are in the heritage that comes to us from antiquity. They are found in most of the written documents that survive from the civilizations of the past; from Mexico, China, Iceland, Iran, India, Sumeria, Rome, Greece, Egypt, and Judea. They also survive from traditions carried from generation to generation, by word of mouth, in races that do not know how to write. These latter traditions eventually are written down by anthropologists, who collect together stories of catastrophes from north and south, from west and east, from Lapland and the South Sea islands. We ask why we do not recognize this evidence the vestiges of which exist within the souls of men, The answer is that because these

vestiges are buried so deeply we are unable to see the evidence before us.

The story is repeated in the records of the stones and bones uncovered at every latitude and longitude.

Chief Mountain [5], that you can see from here, was once overturned. The fossils that belong near Chief Mountain's summit are found at its base. The Matterhorn in the Alps has been moved to its present location northward from Lombardy and overturned. In several different places in the Bible you can find verses describing mountains moving or overthrown. Such biblical verses appeared even to fundamentalists as metaphoric expressions. Today many theologians prefer to regard the Old Testament as a book of poetry rather than what it seemingly is. The inability to see evidence which is clearly written down and evidence so clearly presented by nature is a psychological phenomenon. Because the evidence was so clear, it was not necessary for me to look far to find it. When I started to collect the material for *Worlds in Collision* it was not the scarcity of material but its abundance that was my impediment. I was able to use but a small fraction of what exists in the surviving literature.

Amnesia is one of the defense reactions of man. Those who immediately survived did not necessarily become victims of amnesia, though this may have occurred. We know the effects of battle-shock on soldiers. It is likely that the larger amnesia took some time to develop.

In the older Greek authors, the Pythagoreans and the Stoics, you find definite statements indicating that catastrophes which occurred in the history of the human race and in the history of our Earth were not abnormal events, they were actually dominant, repeating themselves again and again. But from the historical records we see that the knowledge of the catastrophes disappeared slowly into oblivion.

Plato described cataclysms in several works: he wrote about worlds destroyed and rebuilt. In his *Timaeus* he noted that the Greeks do not remember ancient catastrophes, besides the

Deluge. He adds that the people of his time, as the priests of Sais told Solon, were unable to remember these catastrophic events. In another work, whose authorship is probably wrongly ascribed to Plato, he is presented as believing in a peaceful universe. Plato's pupil Aristotle refused to believe in catastrophes. The scholarly world has accepted Aristotle's view that the planets can never change their motions. He, more than anyone else is responsible for the continuing belief that we live in a safe world, on a planet to which nothing like collisions can happen. Aristotle argued that those who believe in celestial catastrophes should be brought to trial, and if convicted, punished by death.

In the first century before the present era Lucretius knows of, and writes about these catastrophes and their terror. Cicero, like Aristotle, denies the possibility of the planets changing their orbits and advocates that people believing this should be brought to court and severely punished.

ARMAGEDDON

At the beginning of the Christian era, or in the century before it, mankind awaited another catastrophe. This catastrophe was expected because seven hundred years had separated the last series of upheavals of the eighth-seventh centuries from the one of the fifteenth century. This expectation created an eschatological literature and the appearance of Messiahs. The Book of Revelation is one of the great books of this eschatological literature. The end of the world is painted with the experience of the past serving as a model. Look at Michelangelo's *The Last Judgement*. Sadism is as predominant as masochism in this Christian description of the events of the Last Day. The catastrophe, the Last Day, has now been transferred into the sky, into heaven, but not an astronomical heaven; these are different heavens. In reality Michelangelo is painting events already described by the prophets Isaiah, Joel, Amos, and Micah, who lived during the catastrophes of the seventh and eighth centuries before the present era.

Because of man's aversion to knowing his past, science has been greatly retarded, pretending unreality to be as truth. This explains the fury of the opposition that declared war on my

book, *Worlds in Collision*. If the book were fantasy, would it not have had its season and died down? it has not died down. It survives. But scientists have not investigated my claims nor tested the evidence presented, nor have they searched for new evidence. Instead, scientists have chosen to oppose me and my book in most ingenious ways, substituting name-calling and mockery for discussing and testing. Scientists are followers of a cult, defending dogmas with which they do not wish to part. Scientists have proclaimed these dogmas to be established laws, when in reality they are nothing but views, and erroneous ones at that.

In my book *Worlds in Collision* there are footnotes which allow the reader to check the sources of my claims. In twenty-four years those scholars who have taken time to check my sources have found that my quotations have not been taken out of context. But, of course, I do not claim infallibility. Establishment scientists, despite their proclaimed idealism, deserve to be labeled pseudo-scientists. In science, claims are accompanied by proof; in pseudo-science proof is omitted and any discussion that questions the dogma is suppressed. In the discoveries of the Space Age there is now an independent proof of the claims made in *Worlds in Collision* and *Earth in Upheaval*. The Moon, and Mars, and Mercury, and also other planetary bodies went through paroxysms.

The subconscious desire of man to know his past was the basis of progress which led to the development of science. The aversion to accepting the truth about the past inevitably blocks the road. Scientific efforts are directed away from the right channels, and so science briefly progresses, and then regresses. For a full hundred years Darwin not only advanced, but also retarded the development of science. My work has also produced both a positive and a negative effect. Claims have been maintained that would not have been maintained if the scientists had not felt obliged to contradict the iconoclastic views expressed in *Earth in Upheaval* and *Worlds in Collision*.

SUPPRESSION AND REGRESSION

In postulating that the Earth was a planet travelling around the Sun, Aristarchus was the precursor of Copernicus. Copernicus realized this, because in the original preface to *De Revolutionibus*[6] he referred to Aristarchus, but removed the reference before the book was published in the year of his death. Between these men are seventeen centuries yet both were opposed by the scientific minds of their day. Mankind has the need to live in an unreal world. Men did not wish to believe that their planet travels through space. A moving planet might not be safe, it could collide with something. The thought that the Earth could collide is by itself traumatic.

No ancient scientist is considered greater than Archimedes. Archimedes was irreverent toward his senior contemporary, Aristarchus, for believing that the Earth revolves around the Sun. Archimedes won, and after the time of Ptolemy (second century of the current era) the victory was complete. Science accepted this untruth, not just for centuries, but for more than a millennium.

Despite the fact that Aristotle did not profess beliefs which in any way resembled the beliefs of Christianity, a strange symbiosis developed between the writings of Aristotle and the Bible. Aristotle was the authority that dominated Christian thinking for many centuries. Copernicus' theory was rejected, not because of the Bible, but because of Aristotle.

In this century there was great opposition when I proposed that the Earth had nearly collided with other planets. Science, too, is torn between the desire to know and the aversion to knowing. But my revelation was really just a rediscovery, the evidence was always there. I did not read any hidden texts, the words were clearly written, they were shouting at me from all bookshelves.

The Darwinian Revolution was also a regression. Disturbing evidence was ignored; it was as if he worked with closed eyes. Darwin proposed that only the fittest survive. He believed that, through competition alone, the first unicellular bodies could

evolve into more complex life forms, as different as man, worm, and bird. Darwin did not know about mutations.

His notebooks from the only field trip he ever undertook contain descriptions of cataclysmic disruptions. He wrote that nothing less than the shaking of the entire frame of the Earth could result in the mass annihilation of life forms that he observed. On the continental scale he observed that life forms, large and small, were extinguished or decimated from Tierra del Fuego to the Bering Strait. Darwin did not accept the implications of the evidence that he saw with his own eyes.

The Darwinian Revolution was the rebirth of Aristotle, whose ideas had lost ground, if not at the time of the Renaissance, then in the Age of Enlightenment. Even in the Age of Enlightenment men espoused ideas of a peaceful earth. Jean Jacques Rousseau believed that there was a happy beginning to the human race and that because of man's sinfulness, he has become what he is today. That paradise existed in the past is another dream.

In the days of Rousseau and Voltaire there lived in France a man whose name is probably not familiar to most of you. He was an engineer named Nicolas-Antoine Boulanger. He wrote an article on the Deluge for the great French *Encyclopédie*, published by d'Alembert and Diderot. Boulanger also wrote *l'Antiquité dévoilé par ses usage's*, a work in several volumes. Voltaire and Rousseau and other great names pale in my eyes before Nicolas Boulanger. At my request, Dr. Mullen [7] was kind enough to bring two of these volumes from the Princeton University Library. I have displayed them on the floor as material evidence of Boulanger's work.

I discovered Boulanger rather late in my research. First I read about him in Stecchini's paper in the September 1963 issue of the *American Behavioral Scientist* [8]. Although I still have to study Boulanger's work carefully, his findings surprise me greatly. I realized that he was the precursor of Freud, and in many respects of myself. I do not know what led Boulanger to his discovery. He writes mostly of the Deluge, but not only does he realize that there were catastrophes, he draws some conclusions about the mental effects they caused.

The recognition of past cataclysms opens new vistas in all fields of inquiry, even in morals and ethics. I wish to draw your attention to a book by Pitirim Sorokin [9] in which he discussed calamities like world wars and famine. He discovered that two reactions occur. One reaction is to help (a humanitarian reaction), and the other reaction is to harm (a destructive reaction); he saw evidence for this in the excesses of the Russian Revolution. Sorokin's idea of dichotomy is illustrated on the one hand by the way the escapees from Egypt interpreted the noises caused by the folding and twisting of strata, noises of the screeching Earth described also by Hesiod - the Israelites heard in them a voice giving ethical commands.

Elsewhere on the tortured Earth, other races responded differently: Compare Olympus to Sinai. The Homeric scandals on Olympus occurred at the time of the cataclysms; this was the other reaction. Another example comes from Heraclitus¹⁰, who compared the different descriptions of the Pantheon by Plato and by Homer. We see then, past and present, both reactions to calamity.

PLANET GODS

The inability to accept the catastrophic past is the source of man's aggression. Astronomy preoccupied all ancient peoples - in Mexico, in Babylonia, and elsewhere. It was the dominant occupation of the sages. The ancients watched the planetary bodies because they were afraid that another disaster would occur. Astrology has its beginning in the deeds of the planets. Many of the liturgies since antiquity are echoing in catastrophic events. Around the world peoples of all faiths worshipped astral bodies. Great temples were erected to the planetary deities. The Parthenon was built to honour Athene. In Athens, a few columns of the temple to Zeus are still standing. Temples were erected to Jupiter in Baalbek, and to Amon (Jupiter) in Karnak. The worship and sacrifices to the various deities of the past have the same genesis, as do the establishment of priesthoods and priestly rituals, many of which are still used. Even in the Christian era, temple architecture has memorialized these events. The Gothic buildings of the Middle Ages refer to unconscious catastrophic

memories and to lingering mnemes of terrifying apparitions exemplified by the dreadful figures of Notre Dame. The greatest feat of engineering of the past, the great pyramids of Egypt, were royal shelters against possible repetition of catastrophic events.

In his *Despotisme orientale*, Boulanger discusses those ancient kings and tyrants who behaved as if they wished to be regarded as earthly equivalents of the planetary gods. Only rarely did they desire to be called sun gods because the Sun was never the supreme deity. Today, we find this strange because we do not recognize the catastrophic history of our Solar System. Macrobius, a Latin author of the fourth century identified Jupiter of mythology and of religion as the Sun. Modern authors do the same thing when they say that Amon was the Sun, or Nergal was the Sun; they were not. Around the world mythology and folklore testify that some ancient terror underlies the origin of many social institutions. The sacred prostitution of the past became the secular prostitution of today. Warfare has its origin in the same terror. As the ancient Assyrian kings went to war they compared the destructiveness of their acts to the devastations caused by the astral deities at the time of upheavals. In creating symbols, men were depicting battles in the sky; the Mogen David of ancient Israel or even of Israel of today the five-pointed star of Communist Russia and China, and of the US Armed Forces are emblems of Athene-Pallas. The dragon, be it Chinese, Assyrian or Mexican, or the dragon fighting with St. George or with Michael the archangel originates from the apparition first seen on the celestial screen in the days of the Passage of the Sea. All Mayan, Olmec and Toltec monuments and temples are constructed to Quetzalcohuatl, the planet Venus and other planetary bodies which superceded in their dominance one another in planetary ages. Quetzalcohuatl is omnipresent in Yucatan, a winged serpent or dragon, exhaling burning water or naphtha.

WAR

The after-effects of what took place millennia ago do not lose their grip on the human race. If anything, the trend continues and accelerates. Wars made by irrational nations led by irrational governments have been recurring since the time of the Assyrian

kings, and have been growing in scale as preparations for war continue. In the last century the Russian philosopher Vladimir Solovyov recognized that almost all technology for peaceful uses had firstly originated and developed to serve destruction. The awarding of the Nobel Peace prizes has been of no help in preventing military conflicts.

Freud exchanged with Einstein famous letters on the subject of 'Why War?' - but he resigned himself to the unavoidability of human carnage. Due to the persistent urge for destruction in man, already early in the development of his theory he realized that traumatic experiences, whether of physical or psychological nature, cause amnesia in the individual; and further, as years passed, he realized that the victim of traumatic experience, whether still on his conscious mind, or submerged in oblivion, urges the victim to live once more through the traumatic experience, and sometimes, more often than not, making somebody else the victim. But Freud thought that man was reliving the regularly-repeated drama of the murder of the father by his grown-up sons which occurred in the caves of the Stone Age. Freud believed that an indelible vestige of this prehistoric trauma lurks deep within the human mind, and as years passed he came to the thought that possessed all his thinking. Racial memory of some traumatic experiences dominates man and society to the extent that the human race in his diagnosis, lives in delusion. But he did not know the true traumatic nature of the historical past, namely, the outburst of wantonness in nature itself, and so he insisted that each individual relives the catastrophes of the past, which he believed to be the murder of the father, the Oedipus complex. He opposed the biological view of his day, and of today, too, and insisted that this imprint was transported through the genes from one generation to the next. He did not come to know the true nature of the Great Trauma - born in the Theogony or battle of the planetary gods with our Earth, brought more than once to the brink of destruction - which was the fate of Mercury, Mars, and Moon. Freud died in exile from his home, when a crazed worshipper of Wotan was preparing another Götterdämmerung. The great riddle unsolved, Freud closed his eyes when the hakenkreutz (another ancient emblem) carrying troops marched into flaming Poland.

Another generation rose since the end of World War II. The technology of destruction since the days when a mushroom rose over Hiroshima has advanced tremendously. The human urge to repeat the traumatic experiences of the past did not subside, but grew, and he who tried to reveal them was reviled. How many atomic submarines have been built? How many mushroom clouds can be produced? In how many ways can we destroy all life on this Earth? A Damocles sword hangs over the human race. The planets have finally retired into peaceful coexistence. But mankind, though not in the center of creation, still, in its optimal place, is a pandemonium of races and nations, while the blueprint of Armageddon is on the drawing boards, and the arsenal to incinerate this globe and degenerate whatever population will survive is growing from day to day. The adversaries on both sides of the Atlantic, with many small nations emulating them are as if living with the urge to see again the unchained elements in a nuclear multi-head explosion over every locality of the Old and New Worlds.

I feel that I must speak out on this subject whenever and wherever I can. We are in a race, and I do not know if I can help, but I must try.

Unfortunately my attempt to cure the mental illness which afflicts mankind cannot use the methods of good psychiatry. You cannot put the human race on the couch. You cannot expect to cure using blunt statements about the past. Without preparation, without giving the patient a chance to prepare himself, you cannot slowly release from his subconscious mind the necessary recognition of the traumatic past. Above all others, the scientific community has experienced great paroxysms, and reacted in fury against the disclosures of a modern book.

The price for my revelation has been high, but what choice did I have? The enemy is time. I conclude with a verse which is not my own, and I don't remember it exactly, but the hour is late, and I will repeat it:

We are in a race with the Reaper
We hastened, he tarried, we won.

I wish I could hope that it will be that way, and not the other way around.

Notes (Cultural Amnesia)

1. Dr. Velikovsky has previously published *Oedipus and Akhnaton*, the reconstruction of a human tragedy, at the end of the house of Akhnaton, with the help of Greek legends, *Earth in Upheaval*, discussing paleontology and geology, *Ages in Chaos, Volume one* and *Peoples of the Sea*, the concluding volume, discussing archaeology and ancient sources, and *Worlds in Collision*, discussing folklore and mythology.
2. Which is the astronomical way of indicating 687 B.C.
3. See *Worlds in Collision* (Doubleday, 1950) page 122, footnote 10; (Pocket Books, 1977), page 134; (Abacus, 1972), Page 127, footnote 3. Because of their importance Velikovsky's books will be cited for three editions. The footnotes refer in the following order to the hardcover Doubleday edition, the new Pocket Books edition, and the Abacus Paperback edition.
4. Velikovsky is suggesting that the Ouranos referred to in myths might be the planet Uranus, rediscovered in the eighteenth century by William Herschel, or the planet Neptune, rediscovered in the nineteenth century by Adams and Leverrier.
5. *Earth in Upheaval* (Doubleday, 1955), pages 71-72, footnote 5, (Abacus, 1973), pages 64-65; (Dell, 1968), page 75; (Pocket Books, 1977), pages 66-67.
6. *De Revolutionibus Orbium Coelestium* was published in 1543.
7. Dr. William Mullen, Hodder Fellow in the Humanities, Princeton University.
8. "The Inconstant Heavens", pages 19-35,43-44; this article has been reprinted in de Grazia, Juergens, and Stecchini eds., *The Velikovsky Affair* (University Books, 1966) pages 80-126.
9. *Man and Society in Calamity* (Greenwood Press, 1968).

10. Heraclitus, author of *The Homeric Allegories* (1st century present era) not to be confused with Heraclitus of Ephesus.

2

**THE PALAETIOLOGY OF FEAR AND
MEMORY**

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Palaeo-anthropology has reached a stage of agitation perhaps unparalleled since the nineteenth century discoveries of palaeolithic man. Serious questions of chronology have been raised. On the one hand, it appears that hominids have been long on Earth, perhaps even five million years by certain radiodating, and have used tools for just as long a time. On the other hand, the end of the ice Age has been pushed ever nearer to the present, and with it many of the early creations of man, so that speculation upon a neolithic revolution of mind and culture flourishes. That is, human nature is proposed both to be extremely old and extremely young.

A second prominent question concerns the nature of invention. increasingly we understand that every human "invention" or practice that is a "first" cannot be called first if only because every invention is a complex of usages requiring a species that is functioning holistically. An elaborated club requires a tool for its making, a sense of design, a visualized succession of futures in which it may be used, a notion of property, a hierarchy of force, and a directed memory. Add a firehearth with its myriad implications and you have a culture.

If palaeochronology is correct even in general, and I am not sure that it is a *Homo* of hammer and fire appeared exceedingly early. But, if so, then why the hundreds of thousands or millions of years of stagnation? If a club, why not a panzer division and an automated whaling expedition in the next two thousand years thereafter?

It may be that the datings are quite wrong. Or perhaps *Homo* has undergone sharp genetic change on one or more occasions in the middle of his long course of life. Or maybe some set of profound

experiences propelled him into the modernity of the neolithic age.

Without addressing itself to the first two possibilities, this paper argues the last of them. It maintains that mankind was goaded to leap into modernity by a series of horrendous environmental changes. These events of the sky and earth closed down the age of palaeolithic hammer-plus-fire people and introduced modern humans in their stead. A furious socialization and inventiveness possessed an already acculturated people.

The transformation, according to this theory, must have forcefully involved as leading elements in its development the systems of human fear and human memory.

PART I

FEAR

By our third year of life we are already communicating catastrophic experiences to others. If we have not yet been catechized by religion, we may have learned to chant of catastrophe by means of fables. We may have heard repeatedly of Chicken-Licken (alias Chicken Little, Henny-Penny, "The End of the World"), and we wish to join the procession of animals that hope to be sheltered from the falling sky, seeking the protection of the king (authority), fearful lest the fox (a wicked force) eat us up in his cave, or hopeful that an owl (knowledge) will tell us that we are only imagining disaster (dreaming). This same story, with some variations, is found in many cultures. The same mental process and types of output are found everywhere. People sense fear, share it with others, and treat its symptoms by means of fable.

A FIRST APPROXIMATION

Psychology has long tried to pinpoint a "primal fear" or "primal anxiety" that seems to be born with us or infects us soon thereafter. The fear seems to originate very early; else why would we as infants be so eager to enter upon our therapy through chant and fable? Such therapy appears to be attachable to any object, outside or within the developing organism.

By "attachable" (or should we use the term "displaceable"?) and by object," we mean that early fear can be stimulated by, and subjectively perceived as caused by, a hand, bottle, spasm, sight, noise, lifting or sinking in space, or whatever may occupy, overlay or reinforce certain neural paths that course among our glands, brains, and organs; the fear appears to have a preexisting depository somewhere within us. It has been observed to be more intense among infants who were not handled, than among those who were moved about and played with.

Close observers of the experiences of infants can see that a practically undifferentiated combination of organs may respond to stimuli in all major categories of life thrusts. The earlier in life that stress is applied the more quickly the total development of the organism. Stress stimulates the organism's hypothalamus and pituitary glands, as well as its spinal cord and celiac plexus, and the aforesaid glands release hormones (ACTH) into the blood stream that activate the adrenal cortex to release more hormones that accelerate metabolism. The system functions a few days after birth. In these senses, there is no reason to deny the assertion that primal fear may be hereditary or even pre-natal.

We may categorize the life-thrusts as centered upon control of the environment, affection, and well being (ingestion and excretion); that is, operationally, reactions to stimuli and stress can be placed into these three groupings. Later on, these categories branch out: well-being ramifies into purely organic health and the symbol system connected with it and into far-flung-economic systems with their symbols; affection spreads over an area of sexuality, respect, and altruism; control is refined into power and knowledge. The categories need not be defined here, but are merely illustrative. Behavioral patterns (and institutions) emerge from, cluster about, and fixate upon such categories. For example, infantile sexuality gives rise to sexuality, then to family control, or control of attendant's response, also to dominance, and to hierarchy - with all of their differentiated patterns from place-to-place and person-to-person. "No two snowflakes are quite alike." Here, too, we need not go farther.

ANIMAL AND HUMAN FAILURES ALIKE

Primal fear, we must admit, is observed in animals, whether infant or adult. When we say of a person "she jumped like a startled doe" we begin metaphorically what could be a minute comparison of all respects in which mammals respond to events with fearful behavior. We go to accounts of disasters, which may be read into fossil palaeontology or come from histories of earthquakes, volcanic eruptions, and floods. We note such facts as, or see that, animal and humans flee alike and together into caves to avoid flood and fire. Mammals, like people, become desperate with hunger, become aggressive and seductive with sexual lust, and learn to exploit their environments.

But now we come to that well-worn concept: "the range of response." The range of searching and reacting is very much greater among humans, marvelously greater, and even "qualitatively" greater. Human behavior is immensely expanded; furthermore, by imagination in the "hall of mirrors" that symbolism furnishes.

We discover that we have large brains. We think, "Here is the source and solution. The one unique trait of humans!" Our vastly superior range of behavior results from a capability for cerebral reflexes on a grand scale. We can gain more impressions, store more, classify them more flexibly and finely, and use them more logically to solve problems.

Our triumph is short lived. The human of today does not have a larger brain than do various fossil skeletons that were unearthed in an environment of deprivation and squalor comparing badly with the hives of bees and the houses of beavers. Yet this style of life lasted for many thousands of years. For that matter, a number of living groups and members of groups seem to be only one step ahead - largely in symbolism we mark - from the mammals around them. Moreover, we must admit that we cannot solve the most important problems that beset all animals - food, death, and survival of the species. We have solved them "in our minds" perhaps, but perhaps the animals have, too.

Actually we must beg the question to proceed further. We have to say "Granted our preferences, we are the best animal on earth to achieve them." That is, we like what we like. Very well. What is it that we wish to achieve. And then we say what any animal would say if it could speak: "Self-fulfillment! We wish to be all that we might be. That is, healthy, loving, and wise. With such variations of these themes as our species can enjoy."

Well, then, where is the place for primal fear in this scheme of things? Primal fear is the uncomfortable feeling that we are about to be denied some or all of all that we want, beginning with life itself, the prerequisite to health and all else. We have never been successful as a group in becoming healthy, loving and wise. Our failures in each generation, and the failures of those who train us, make us fearful.

With these obvious statements of fact, have we not solved the problem of the origin and transmission of primal fear?

THE DRIVE TO FAIL

We wonder how far this simple solution has carried us. The application of invention and administration to human societies has certainly erased fears, at some times and places and in certain areas of life more than in others. We write books, build skyscrapers, land on the Moon, muster armies, plough the land deeply and neatly with machines, and compound billions of aspirin tablets. True, we suspect that some of these activities and others as well have only in part to with becoming healthy, loving, and wise. Often our activities seem to resemble a dog chasing its tail, or more abstractly, they suggest a vicious cycle.

We suspect that a great deal of what we do, of what we achieve, of how we fulfill our desires to be healthy, loving, and wise - indeed all of our history shows it - is *not* to become healthy, loving, and wise, but just the opposite: to suffer, to hate, and to suppress knowledge! We choose very often the bad, if not for "us" then for "others" (a mere non-psychological and pragmatic distinction); we make the bad look good; diabolism, in a word. We can identify this diabolism, the evil principle of life, as a

product of the primal fear. Possibly Freud's "death - instinct" can be indicated as its product, as well.

How do we operationalize the concept "fear"? How many stones of the Cathedral of Notre Dame were laid by fear? Whatever stimulates in an organism reactions of chemical and perceived malaise, avoidance, and hostility produces fear. The greater the scope and intensity of the stimulus (which we may call deprivation, also) the greater the fear and anxiety.

The word "fear" more precisely denotes any one or a combination of chemical and behavioral activities of the organism the sheer enumeration of which would consume pages. The list grows, as more and more activities may be observed, in combination with others, to be prompted to some degree by fear. B.F. Skinner, for instance, once he acquired a keen perception of aversive training in all aspects of life, was driven to total reconstruction of society, a Walden II, where alone may all the interacting primitive mechanisms of society be avoided and substituted for by positive reinforcement of desired behavior.

Both stimulus and response may be social and/or personal, and either or both may be conscious and/or unconscious. Much of the time we find ourselves telling someone, "You don't know what's bothering you," which is all very well, provided that we know what is bothering him and can prove it. Down, down, we are led - and back, back!

FEAR STORAGE

Fear is stored as a potential response. The word "stored" is convenient but we cannot mean by it that a fear-bank is located somewhere in the organism like a slab of fat or a quart of blood. Presently, a fear-bank is a fear-capacity, that is: a capacity of a system to respond chemically and behaviorally faster, more intensively, and more extensively to a fear-producing stimulus, plus a corresponding capacity to perceive fear-stimulating events in the environment ever more finely.

The response is physically connected with objects identified by the person as the same or similar. But the identifications are not

easy and automatic. The logic is not according to a rational "is" but is experiential. One proceeds analogically and culturally. One is subject to the categories of mind, gland, and anatomy in general in matching a personal historical event of fear with a present cause now of fear. But to these are added social or "racial" or collective fears. One is subject simultaneously to indoctrinated matching of the historically experienced fear with the presently socially identified cause of fear which may or may not be (for many reasons) the "true" cause of the present fear here and now.

Suppose that we call the emotional load of historical and catastrophic and present fear the "affect" of fear, thinking of it as a kind of fear-depot. In what way, if any, may we say the stored affect is hereditarily transmitted, as well as socially transmitted? If we exclude chemical, radioactive and viral materials from the term "history," a historical experience appears to be incapable of having a genetic impact on an organism that is yet to be conceived. The organism is unaffected at conception by the impact and effect of historical experience. A child is not frightened by a bomb that his mother heard long before he was conceived, but by stories of its fearfulness.

Still the organic setting of the fear mechanism is inherited. Therefore, one's personal history, whatever the person experiences that is structurally analogous to the ancestral social experience will be organically experienced with

The same types of symptoms and affect. In other words, a maze of sensible and intelligible tracks is set up genetically, and is the natural system to be used for analogous experiencing by the person or for training purposes by the group as it organizes ancestral group experiences (as symbolized) and new future experiences (as interpreted). (This general condition varies within unknown limits according to individual constitutional sensitivities to fear.)

PRINCIPLES OF THE FEAR SYSTEM

We may recall now several principles that have occurred to us thus far:

a) The areas of fear coincide with the areas of life (the ubiquity of fear).

b) The greater the scope and intensity of the deprivation over the areas of life, the greater the fear (the fear/deprivation covariation).

c) The greater the fear, the greater the storage of fear-affect (fear-bank).

d) Any new experience of deprivation calls into being as response the affect that is anatomically and socially determined to be analogous (the analogous fear-response).

e) The greater the stored affect, the greater the new fear. (The over-response to fear).

Now I would suggest another principle that is not, in my opinion, difficult to accept:

f) The banking of fear-affect (of anatomical and/or social origins) is not confined strictly to a set of analogous areas of responses (the displacement of fear).

For example, anatomically there is no reason to believe that there is a distinctive mechanism in the adrenal medulla that regulates the flow of the potent drug, adrenaline, according to prescriptions marked neatly "to be used for sexual use only" or "use only in case of food deprivation," or "reserved for screaming bombs." The neural instruction to the gland is general: "Emit a little" or "Emit a lot," and there follows various juggling measures by other organs to handle the flow of adrenalin, hopefully advancing the body to a postulated, fictional "equilibrium".

The brain, especially the "higher" control centers in small crises (as perceived) and the "lower" control centers in great crises (as perceived), does manage to institute some kind of "cause-effect" or "stimulus-logical response" relation. So do many other more archaic elements of the body.

However, we must add another principle:

g) The greater the stored fear-affect and the greater the present experienced deprivation, the greater the overflow of responding affect that had been stored in remote "illogical" "unalogous" life-areas (Excessive fear-displacement).

Take, as one of many available illustrations, the expression, "When he thought he was about to die, his whole life flashed before him." In a most traumatic experience, it may occur that every area of life becomes instantly relevant, connected, and impressed. Specialization, in fear as in other areas of experience, must surrender to generalization in the face of crisis. Crisis mobilizes: psychologically, organically, and socially.

FEAR OVERLOAD AND FAILURE

Once more, we recall something already said, in order to fashion yet another principle. We said that historically humankind has been, if not a failure, then only a restricted success. The more marvelous and burgeoning our creations, the more reason we are given to believe that the very exuberance of our endeavors is itself a fatal sign that we have achieved little in the eternal struggle against fear. We have not become healthy, loving and wise.

h) Humankind has stored up too much fear to become healthy, loving, and wise (unhappiness through fear overload).

Wherever one is pricked by fear, the fear generalizes and is related to other areas of life. One does not have to experience on "one's own account" more than a minimum of fear-inducing experience. Most known societies have elaborate institutional and artistic machinery for building and reinforcing fears without the need of experiencing deprivations beyond the minimum. Societies carry an over-load of fear, which impresses generation after generation; hence individuals suffering frustrations must ordinarily respond with fears in a generalized rather than specialized, causally-connected way.

If this is true, what areas of life are to be held responsible for providing humankind with its most excruciating and enduring terrors? Would it be in the struggle for food? In the search for love? In the understanding of oneself and nature? Or what?

Let us speculate upon the history of these needs since the age of the hominids. Every single being who has ever lived has had a number of crises or encounters, many of them deprivational and frustrating, in all three areas. But meanwhile' in most cases, he has enjoyed certain indulgences, and he has seen that others, enjoying momentarily either better or worse experiences, are not overly agitated by his personal experiences. Whether the human race is five million or fifteen thousand years old, a continuous, varied lifetime of experiences has enveloped the individual human being.

At all times deprivation result in structural personal affect-deposits and social deposits. For example, the birth throes are agonizing for mother and infant. The anatomy registers the terror upon the infant for life, with some variance of intensity. The society encourages the mother and attendants to reduce infant pain as much as possible, and helps the mother by various rites and medicines through her agony. So with diseases, famine, sex rivalry, accidents, and conflicts.

If human existence had been nothing but these frustrations, would man be what he is today? No, we say. For he has suffered these always as an ordinary sensitive mammal. Could they have accumulated bit by bit in our customs and institutions to give us ultimately an overcharge of fear? Again we point to a largely unprogressive, artless primeval history.

But add now the experiences of local earthquakes, local storms, local volcanic eruptions and occasional meteorite falls. Would these be enough to create a person who in several thousand years moved from idiot to savant? Since these, too, have been among the eternal fund of human experiences, we must *a priori* deny them major effect.

CATASTROPHIC FEAR

However, consideration of these shocking experiences suggests that if a much greater disaster were visited upon the human species, inflicting severe deprivations of food, light, air, water, heat, affection, property, and control, extending simultaneously to practically all humans and animals, and suggesting in many ways an immense life force in human and/or animal form, then such a disaster would bring about a massive social fear which, on top of the uniformly accruing fears, might overload the total fear-affect-bearing capacity of the human race for thousands of years. That a series of such disasters occurred in the period of the dawn of civilization seems to be highly probable. We may cite here not only the striking documentation published by Immanuel Velikovsky from religious myths and secular histories of the earliest times, but also the researches of the Renaissance and Enlightenment scholars such as Giordano Bruno and Nicolas-Antoine Boulanger, surveys of Claude Schaeffer on the comparative stratigraphy of the Near and Middle East, and the ever-mounting geological evidence of widespread destruction in Holocene times, much of which was also compiled by Velikovsky. Humanity was literally born in an epoch of disasters, and it may be correct to say that man was created by disasters.

That is to say, by principle:

i) Natural catastrophes must be the origins of the overload of fear-affect that has driven man to create most of his goods and evils, his arts, and his institutions (the catastrophic fear).

And, if we accept this idea, we place it with our other principles, and say:

j) The super-experience, the super-fear, spills its affect upon other areas of life and makes them develop in multitudinous ways, all of them under the influence, the style, and the behavioral conditioning of the primal fear (the cultural ubiquity of the catastrophic fear).

This catastrophic element, the "Disaster-factor," overruns all other life areas and affects them all. The catastrophic "D-factor" becomes the most widely employed model for the design of life - of religions, of governments, of transportation and commerce, of sex practices and of conflict and war. That it has been until now the least obvious and the most unconscious of human fear-burdens does not negate its presence or diminish its quantity. Its deeply buried and fully generalized character contributes to the difficulty of discovering and elaborating its origins and operations.

Since D-affect has been most *pronounced* in the development of affects in all value areas of life, the accumulated D-affect is greater than any single source of fear and continues to supply chemicals and behaviors when these other sources are stimulated. In this sense, then, a person today responds to the disasters of several -thousand years ago. There have been 77 reproductive generations of 33 years each since the last catastrophe located by Velikovsky in -686. Calculated as Memorial or Mnemonic generations of 60 years, that is, the years between a child and an old story-teller of the clan, the elapsed time is 44 generations. One is responding today to D-events of 44 generations of collective remembering and reburial. One does so even when one (or an intimate observer) would claim that he is responding only to fear of assault, rape, thunder, hunger, punishment or whatever.

A "D-event" is both *general* and *terrible*. It supplies these two qualities. Because it is general, it can be associated with *all affect-types*, that is, with areas of health, affection, knowledge, etc. Because it is terrible it provides a substantial part of the "D-analogous affect" stored in relation to such affects. Thus ordinary behaviors, then, cannot be natural; they are already constructed of D-affect and loaded with D-associations that are drawn upon habitually. Sex is not sex; commerce is not commerce; war is not war. They are all this at a higher level of affect. Very ancient catastrophes at the dawn of human nature continue to have pronounced effects upon a very wide range of behaviors making it difficult even to speak of a pure event in love, commerce, conflict, and science.

PART II

MEMORY

Fear stands in a reciprocal relation to memory. Each exists in the other and builds upon the other. Memory is more than an instrument of fear. It is created by fear and yet alone makes possible the constructive (destructive) elaboration of fear.

The science of remembering and forgetting - what shall it be called - mnemonology? its scope ranges from the ridiculous to the sublime; from the "psychopathology of everyday life," as Freud put it, to the "collective amnesia" that Velikovsky asserts of ancient catastrophes and that German educators observe as they try to teach the history of Nazism. it must deal with myths such as the Love Affair of Ares and Aphrodite in Homer's *Odyssey* that mask world disasters, and with nursery songs that mask the murders of kings.

We may quote what Katherine Elwers Thomas found when she explored *The Real Personages of Mother Goose*:

The lines of Little Bo-Peep and Little Boy Blue, which to childish minds have only quaint charm of meaning, which suggest but the gayest of blue skies and rapturous-hearted creatures disporting in daisy-pied meadows, hold in reality grim import. Across all this nursery lore there falls at times the black shadow of the headman's block and in their seeming lightness are portrayed the tragedies of kings and queens, the corruptions of opposing political parties, and stories of fanatical religious strife that have gone to make world history.

For instance, the child sings of "four and twenty blackbirds, baked in a pie." And "When the pie was opened, the birds began to sing." Now, "Wasn't that a tasty dish to set before the King?" The child is singing of-actual history that was never heard or learned, of an incident in the grim struggle between the English Crown and the Church, during which, to appease the greed and hostility of the King, twenty-four deeds of Church land were sealed into a pouch of dough and delivered to his castle. in old slang, the "dough" was handed over; in new slang, the "bread."

Hesiod, a contemporary of Homer, in his *Genealogy of the Gods*, writes of Memoria, daughter of Uranus, the first great sky god:

In Pieria, Memoria, ruler of the hills of Eleuther, gave birth to the Muses out of union with Zeus, son of Chronos, and thus the forgetting of ills and a rest from sorrow.

The *Theogony* was composed after -729, that is, during or after an era of troubled skies; but it was a mythical work "reporting" on events that had occurred hundreds and thousands of years before.

A functional psychology rests in the quoted passage. "Remembering" was no mere scratching of experience upon a *tabula rasa* of the mind. Memoria or Mnemosyne or "Recollector" is the mother of history (Cleo). She has as her progeny the means of controlling herself, for Zeus is the ordering paternal force. There are nine (some said three or five) muses governing the arts and sciences - dancing, music, and singing, but also history and astronomy. They will lend human memory its possibilities of selective attention, delusion, illusion, abatement, extension, a shadowing and heightening -all that is necessary to achieve that combination of remembering and forgetting which makes social life possible on a level that is higher than the level of non remembering or total amnesia. Significantly, Memoria is the daughter of Uranus, who was the grandfather of Zeus; she is no mere sprite. Her Eleuthrian Hills are the realm of freedom, so she governs freedom.

Without further ado, we may assert that the muses were created "by Zeus" to control the human memory so that humans should forget their catastrophes, and in so doing get surcease from sorrows. And that the muses will achieve this by transforming events through art and song, through myth. The memory of disasters is doctored "by Zeus" ultimately to brainwash humanity and to present the new order of heaven as proper, "law abiding," and beautiful. Hesiod, reciting this profound truth, goes on to describe how the muses work, reminding us of a combined team for domestic propaganda and psychological warfare.

As a result, all the arts and sciences have been manipulated by the muses. What we know of the catastrophes must come from a "natural history" - geology, biology, physics and astronomy - and a politics, philosophy, and theology that have been censored by the muses. Additionally, we must obtain our historical material from myth, song, dances, and drama that were similarly screened. It is well to insist upon this premise, whether we come to the problem from an acquaintanceship with the natural sciences or the social sciences. The gods, and especially Jupiter-Zeus, who seems under various names to have developed the patterns of anthropological psychology among most cultures, have required this premise of us.

THE TRAUMATIC ORIGIN OF MEMORY AS SUCH

In a prescient passage Friedrich Nietzsche (*Genealogy of Morals*, 1887) stabs into the heart of the matter. He asks, "How can one create a memory for the human animal? How can one impress something upon this partly obtuse, partly flighty mind, attuned only to the passing moment, in such a way that it will stay there?"

And continues, "One can well believe that the answers and methods for solving this primeval problem were not precisely gentle; perhaps indeed there was nothing more fearful and uncanny in the whole prehistory of man than his *mnemotechnics*. 'If something is to stay in the memory it must be burned in; only that which never ceases to *hurt* stays in the memory' - this is a main clause of the oldest (unhappily also the most enduring) psychology on earth. One might even say that wherever on earth solemnity, seriousness, mystery, and gloomy coloring still distinguish the life of man and a people, something of the terror that formerly attended all promises, pledges, and vows on earth is *still effective*: the past, the longest, deepest, and sternest past, breathes upon us and rises up in us whenever we become 'serious'. Man could never do without blood, torture, and sacrifices when he felt the need to create a memory for himself; the most dreadful sacrifices and pledges (sacrifices of 'the first-born among them), the most repulsive mutilations (castration, for example), the cruelest rites of all religious cults (and all religions are at the deepest level systems of cruelties) -

all this has its origin in the instinct that realized that pain is the most powerful aid to mnemonics."

Unfortunately, after this amazing passage, Nietzsche collapses. Although he immediately goes hunting for the acts that provoked such *mnemotechnics*, he shoots a little rabbit: the primitive forms of contract between buyers and sellers. In order to trade, men had to keep promises; in order to ensure obligations, the failure to repay had to be punished severely: thus the genealogy of morals.

We are reminded of Sigmund Freud's alternate route to fundamental error: that in the Oedipal conflict and the slaying of the father, man achieved a (bad) conscience and the need to justify and to punish. The Oedipus myth has much breadth and staying power, but a still greater and universal fear had to be imposed to support *its* recollection. And it is difficult to conceive of anything more grand and durable than the catastrophes attendant upon the Holocene period of Earth history.

We assert therefore that man's memory itself, the prototypical remembering, is a consequence of catastrophe more than of any other incidental or habitual interest of humanity.

THE RULES OF MEMORY

All memory occurs under conditions that guarantee its imperfection. Given its mode of creation, remembering must function compatibly. No datum will enter the mind photographically. Rather the inputs will be screened not only by the senses, which themselves, in large part, perceive because of their prior social condition, but by the willingness to admit only censored data.

This holds true, as many careful studies have shown, for the most non-controversial and trivial kinds of experiences. Who says *remember* says *select*; who says *memory*, says *forgetting*.

By the time of Homer, for example, numerous natural disasters had befallen humanity. The perfect ease of the Song of Demodokos in the *Odyssey* of Homer about an adulterous love

among the gods attests to an approaching achievement of "perfect imperfection": nothing of the original truth need be omitted, so well under control are the conditions creating imperfections. We are on our way to the climax of artistic sublimation.

The concept of "accurate memory" is a useful fiction. We are even compelled to say that it is a theocratic fiction. For the content of what is remembered is in the broadest sense religiously and politically determined. The Homerids, reciting thousands of lines from memory, were the practitioners and teachers of "accurate memory" as defined to protect society against its anxieties. The ideal canons of registering and remembering set by modern science are evidence in themselves that "you cannot trust your memory" and "independent observers have to confirm the same facts." But also the establishment of scientists as a social system lays down the rules of what is to be watched for, what is to be ignored, and what is to be distorted.

The intensity of remembering is directly proportional to the gravity of a trauma. By intensity we mean sharpness, detail, and durability in conscious and unconscious form. By gravity we mean how deeply and adversely one is affected in the major regions of his life: his physical being, his cherished ones, his group, his wealth, his control, his beliefs about the good and the true. Machiavelli said to the rulers: it is better to be feared by the people than to be loved, if you cannot be both. Fear and anxiety drove primeval humanity to invent and to organize so that it could predict and control the world, and thereupon its fears. Fear mixed itself early with love, and produced the continuous ambivalence of sexuality that is exhibited throughout the most ancient literatures.

The most intense memories are likely to occur without "willing" them. This is understandable once we consider that no one will seek to subject himself to the conditions that produce painful memories. But one will try to will a pleasant memory. How many times do people think, "I shall never forget this beautiful sunset ... I shall always remember this kindness ... I shall never forget this orgasm," only to lose their grasp of the memory shortly thereafter. If a person remembers "a kind act" done to

him long ago, it is in the context of a generally unkind and fearful environment of acts. The most that can be done to "will" the memory is to tie it consciously and unconsciously to disasters and especially to institutionalize the disasters so that the group will continuously reenact them. All great historical religions are based upon these psychological operations.

The most intense memories are most likely to be unavailable to the conscious mind, and to be buried in dreams and myths. In these anxiety suppressing and anxiety-controlling mechanisms, the dream and myth language is likely to approach as close as possible to the ultimate universal, traumatic experiences, without becoming unbearable: it rides on the tracks of birth throes, sexual copulation, death scenes, violence, and conflict, including of course, all the conventional transformations of these materials into religious and political activities, routines, and institutions. This "step-down" principle works on the depth of a burial, and it brings about the selection of the next less traumatic kind of material as the screen for the more traumatizing type.

The speed of remembering is proportional to the intensity of the trauma. "The experience burned itself indelibly upon my mind," one says. A single experience is enough to cause remembering, if it is grave. If too grave, physical collapse occurs, and no further memorization is possible.

At the other extreme, in the absence of fear, interest, or even recognition, an abundance of knowledge moves, as they say of the classroom, "from the notes of the teacher to the notes of the student without passing through the mind of either."

The phenotypes of the myth are functions of the archetypes of the cultural personality. This is merely to say that the kind of story told, together with its details, are characteristics of the culture.

For instance, the Love Song of Demodokos in the *Odyssey* has Ares and Aphrodite (Mars and the Moon) trapped in adultery by Hephaistos, the smith god, or Vulcan, whom I identify with Pallas Athena. I place the story in the late 7th Century before the present era, 44 memorial generations ago. Some more ancient

pre-Greek and proto-Greek cultures practicing group marriage would have had to find a different plot and details to screen the reiteration of the Moon and Mars encounter. It is characteristic of our partially Greek-born culture, and a proof of our cultural ancestry, that the adulterous love triangle, descended from the Greeks, is still a favorite artistic theme.

FORGETTING

Forgetting is subject to the same rules as remembering. That is, amnesia is activated in the same way as memory. If we think of our list of rules of remembering, we substitute *forgetting* for *remembering*, and we get the following rules of forgetting.

Like remembering, forgetting is guaranteed to occur under all conditions, and to be imperfect, never complete. Nor is forgetting accurate: it is ragged, affected by many particular causes. If the popular metaphor speaks of the stream of memory, we can speak as well of the stream of forgetting. Forgetting occurs proportionate to the gravity of the trauma, and forgetting occurs without willing to forget.

The most intense forgetfulness is most likely to be available to the conscious mind; we must admit, "we cannot recall what it is that we have forgotten," when the thing forgotten is a matter of grave threat to the mind.

Forgetting, too, speeds up with the intensity of the trauma.

For this reason we can believe that events that occurred perhaps only a generation before Homer, or even in his lifetime, might achieve a complete aesthetic screen at his hands. Let us imagine what may have happened in a typical disaster of the "Age of Mars," that is in the 8th and 7th centuries. I use here a model that I have developed in a forthcoming book, but if you will, you can transfer the scene to Krakatoa in 1883 or Nagasaki in 1945. Immanuel Velikovsky has discovered a mass of particulars that he has grouped and recounted in *Worlds in Collision* and *Earth in Upheaval*.

An ordinary person is alerted and examines the sky with a foreboding of evil. A brilliant speck grows larger from day to day. He is told that it has done so before, with terrible consequences. The memory is already excited. Calendars are studied and worked over. Oracles are consulted. All group efforts are mobilized to control the menace: rituals of subservience and devotion; the stricter punishment of any suspected deviants in all areas of law and conduct; the destruction of enemies if they can be promptly engaged; the sacrifice of more and more valuable properties and persons.

Relentlessly the menace approaches. The sky is full of lights, shapes and turbulences. The Earth begins to respond - to live, to move, to split open, to smoke, to blow up strong winds, to shriek, to take fire. Thunderbolts strike down up n all sides. Our hero watches. He is exceedingly frightened, as are his family and neighbors. There may be a pandemonium in which he faints or is struck dumb; he may scramble into a temple or house or cave; he will cover his head. The young will observe more of the scene than the old.

The disaster occurs in successive kinds of turbulence, in all the various destructive -forms of earth, air, fire, and water, the primordial elements. Animals, both tame and wild, crowd in upon people, terrified, unsavage, unhungry. Eardrums are blown in or sucked out. Some are struck blind, others gassed. Strange objects and life forms drop from the sky. The sky reels. The waters gyrate madly and rush to and fro. The vista is one of universal destruction. There is nowhere to go. Cohorts disappear. Strangers appear. The survivors regroup after each incident. They are partially paralyzed with fear and despair, partly striving for survival and control.

'What god is angry?' they wonder, if they don't already know. What other gods can they appeal to and how? What trait of a god should they address themselves to? The most important religious and political decisions of their lifetimes are made; the most sacred instruments and skills of the immemorial past are called upon in the crisis. Nothing, nobody, will ever persuade them to behave differently, or their children, or, if they can help it, their descendants into the eternal future.

When the disasters subside, the survivors are crazed. They must regroup, recollect their thoughts, and do something about the memory. This is not a task for an astronomer sitting in the air-conditioned hall of a giant telescope in Arizona. Not for a sober historian. It is a task for any surviving priest-rulers: "We have been visited by gods and messengers of gods. The figures they strike in the sky are their various apparitions when destructive and punitive. Good gods and spirits fight evil ones. Our conduct displeases them: we must strengthen our observance of rituals; purify ourselves; expiate our sins; sacrifice ever more precious possessions; kill more enemies; control the libertarian; guard the names by which we call a god; and remind ourselves forevermore of the events of these days while we watch for their eventual recurrence."

Again history is quickly subverted; indeed, it has never existed in a value-free, fully detailed form. Instead memorial activities are planned by the community that will register whatever intensity on the memorial-screen is sufficient to suppress the pain of the memory of the original experience plus all preceding related and similar traumatic experiences.

We cannot be too explicit. No sooner is a disaster experienced than it is remembered; no sooner remembered than it is forgotten. All the rules about remembering are rules of forgetting.

What? Are we to believe that memory is a forgetting and to forget is to remember? We seem to be approaching this paradox; if it is not indeed an absurdity. Yet, if we resolve the paradox, we shall better understand the great mystery of myth, which bids us remember ferociously in order the more firmly and securely to forget.

The paradox disappears with one fact, well appreciated. The fact is that a memory can enter the mind, but can rarely leave it. Except by organic lesion, there is little 'forgetting.' The biological system can scarcely throw off a memory; it can readily manipulate it.

What we call forgetting is the internal bookkeeping system of memory. From conception to death and dissolution, the system will always show a net profit. But, like many a bookkeeping system in commerce, memorial bookkeeping has numerous ways of casting the balance so as to conceal the surplus. It is with the forgotten material that the mind works to create myth, art, and hypothesis. The concept of forgetting is needed to describe the handling of the transactions of memory that permit consciousness, instrumentally rational conduct, and normal behavior.

Where is the balance cast that makes these two opposites *indeed opposite*? It is the functional machinery of the mind, where opposites are coined according to the needs of the moment. Whatever stabilizes the organisms's "normalcy" is chosen; and the organism forgets conveniently. A kind of mnemonic homeostasis occurs. But the forgotten, the fearfully forgotten, becomes the Disaster-affect overload whose palaeiology was discussed in the first part of this paper, with its "good" and "bad" results.

Now the principles of the memory system may be elicited and put before you, as was done earlier with the principles of the fear system.

- a) Human memory was created and subsequently sustained by catastrophic D-Fear.
- b) Memory potentiates the constructive and destructive elaboration of fear out of its primeval and subsequent tracks through the forms of the arts and sciences.
- c) Memory (including history or group memory) is intrinsically imperfect and a reciprocal of forgetting (amnesia).
- d) Memory and amnesia increase directly with the severity of a trauma.
- e) Less fearful memories surface to consciousness to function as blocks to the surfacing of more fearful memories.

f) The act of forgetting is a human mental device that functions unconsciously to balance the complex transactions between repression and recall. This process may be called mnemonic homeostasis.

THE DIFFICULTY OF D-FEAR THERAPY

Given the fear and memory systems of humanity, is there some therapy that could rid a culture of its great fear and at the same time maintain a distinction between "good" and "bad"? We have seen that anatomical and social conditioners of fear and memory complement and supplement each other, first in permitting, then encouraging, then finally demanding the D-factor pattern of human development. A theory of genetic traits (post-human acquired) or of genetic mutation is probably not necessary to explain the eternal play of good/evil, and indulgence/deprivation. Neither, we stress, is it useful to postulate primeval economic encounters (Nietzsche) or primeval sexual encounters (Freud) or archetypes (Jung) as the origins of conscience and civilization. The ways in which such encounters are carried on are the work partly of themselves and of each other, but in large part of great prehistoric natural disasters, involving, perforce, changes in the conditions of the skies as well as of life on earth. Ruefully, we must admit: The creation myths are more right than we have been in their exposure of what made us human.

The prospects of personal therapy and public policy for the "Disaster-affect overload" are not bright. Obviously, if our analysis is correct, we are ill prepared to meet present fears on a one-to-one basis. Rather, we must overreact continuously, instead of reacting in proportion to the need to act and in relation specifically to proven causes. Furthermore, the worse the crisis, the greater the tendency to act non-rationally and over-generally - to fire all guns of our ship at once in all directions.

Moreover, to our disappointment, if we observe social and religious movements that have caught hold of the principle of "fear-affect reduction" as a way of fulfilling people's souls and making them happier, such as the Quakers or Buddhists, we remark upon two unfortunate concomitant and probably causally-related behaviors.

In the first place, such movements are themselves invariably subjected to severe social threats and deprivations in their efforts to free an obsessed society from fear. Hence, often they become too loaded down with fear themselves to be, as they desire to be, much less to cure the society. The paranoia, hysteria, and rigidity in the behavior of peace-seeker movements have not escaped comment.

Secondly, the arts and sciences, whether we speak of boiling a tasty soup or solving an abstract problem, are intricately meshed with the fear-producing institutions of society and their fear-laden histories. Therefore, fear-reducing movements tend to, and perhaps must, tear down the fabric of what is defensively genial as well as what is diabolic and fearful in a society. The Cultural Revolution of Red China, 1967-69, which attacked rigid and bureaucratic individuals and institutions, is a case in point. Even if we were to receive a lesser fear-load as a result of their activity, we would also receive a more barren culture.

Obviously there is much need for philosophy and social invention to address themselves to these two problems if a fearless benevolence is to be developed in the human race. The flamboyantly denominated *Homo sapiens sapiens* needs to be replaced by breeding and by cultural reconstruction. The new *Homo humanitatis* would lack a fear-overload and possess a pragmatic spirit.