

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" "unanalogous" 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.

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3

PSYCHOLOGICAL ASPECTS OF THE WORK OF IMMANUEL VELIKOVSKY

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In that all of us come from different academic disciplines it seems necessary for me to identify myself and to explain my interest in Dr. Velikovsky's research. I am an art historian specializing in the application of psychiatry and psychoanalysis to the study of art. I also work as a psychotherapist which explains the involvement you will see in the paper with case material, although I have avoided individual cases with which I am working because most of them are not reaching the depth of material that I will be discussing today.

It was my interest in the application of psychoanalysis to historical reconstruction that brought me for the first time into contact with Dr. Velikovsky. In Princeton, as some of you know, he is a bit of a legend, if not a *bête-noire*. The origin of this particular bit of research dates to an afternoon in April 1971, which I spent with Dr. Velikovsky discussing the psychological aspects and implications of his work and his personal involvement with psychoanalysis and Freud. At that particular time Dr. Velikovsky was deeply involved with research for the book *Mankind in Amnesia*. He was filled with questions about Freud's and Jung's conception of what we call inherited racial memory, and I left Dr. Velikovsky that day with the intention of assisting him by investigating this topic in the writing of Freud and Jung, and thereby clarifying for both of us exactly what the views of these two men were on the possibility of inherited mental contents. My remarks today should be seen as a belated and certainly partial effort to fulfill that intention.

The fact that Dr. Velikovsky is a psychoanalyst has tended to be obscured. The enormous range of his later investigations have covered over his original orientation. He himself has pointed out

on several occasions the importance of the psychoanalytic viewpoint and also its clinical procedures, in guiding and stimulating his approach to the reconstruction of history. In the Princeton lecture of 1953 he stated:

I came upon the idea that traditions and legends and memories of genetic origin can be treated in the same way in which we treat in psychoanalysis the early memories of a single individual [1].

And in the preface to *Worlds in Collision* Dr. Velikovsky characterized the work that he was going to undertake as an "analytic experiment on Mankind." [2]

I have a feeling that when Dr. Velikovsky first published *Worlds in Collision* he may have chosen to conceal that he was an analyst. Although he talks about using an analytic method, he never really points to the fact that this was his training. I am not sure why that might have been, but the following quotation explains the way he saw the work he was going to do:

The task I had to accomplish was not unlike that faced by a psychoanalyst who, out of dissociated memories and dreams reconstructs a forgotten traumatic experience in the early life of an individual. In an analytic experiment on mankind, historical inscriptions and legendary motifs often play the same role as recollections (infantile memories) and dreams in the analysis of a personality [3].

Dr. Velikovsky can and should be seen as a member of the third generation of Vienna-trained analysts. He knew Freud and met with him on a few occasions, and of course he published in the psychoanalytic journals of the time and Freud would have known his work. His own analytic training was carried out under Wilhelm Stekel, who was a close co-worker for some years with Freud. Dr. Velikovsky went on to practice for a number of years in Israel as a psychoanalyst.

The ability of this man as an analyst is commonly ignored. The psychoanalytic community as a group has been, probably deliberately, reticent about according him his rightful place as one of the more brilliant minds to come out of the Vienna circle. I hope that Dr. Velikovsky will forgive me if I quote from a

letter which to some extent corrects this omission on the part of his analytic contemporaries. This letter was written in 1947 by Dr. Lawrence Kubie, a major American analyst who recently died, and in it he quotes Dr. Paul Federn, certainly one of the most prestigious followers of Freud, as follows:

A genius. A great man. An excellent psychoanalyst. An M.D. member of the Palestine group. Some revolutionary scientific ideas that some people think are crazy, but he is a genius. Would not consider him for a teacher, but as an analyst I have sent him some of my most difficult cases [4].

If you are interested in understanding Dr. Velikovsky as a psychoanalyst, the unusual perceptiveness which he has is best displayed in the essay which he published in 1941 in the *Psychoanalytic Review* entitled "The Dreams Freud Dreamed." [5] In that essay he presented some very interesting speculations about Freud's attitudes toward religion, and explored certain problems that Freud may have had concerning his personal relationship to Judaism. Those of you who know the Jones biography of Freud will know that Jones attacked Dr. Velikovsky on this point, totally irrationally. The essay is actually a brilliant piece of analysis. Dr. Velikovsky then went on to continue his observations about Freud in the chapter in *Oedipus and Akhnaton*, entitled "A Seer of our Time." That brief chapter represents the most insightful analysis of Freud's *Moses and Monotheism* which has been published to date. In it he points to Freud's curious failure to utilize psychoanalytic theory in his analysis of the Pharaoh Amenhotep IV, Akhnaton. Dr. Velikovsky's own writings have not avoided that challenge. He has cautiously applied psychoanalytic theory throughout his work. In the chapter in *Worlds in Collision* entitled "A Collective Amnesia" he put forth a series of speculative and highly controversial psychological hypotheses, some of the implications of which I want to look at with you today.

Psychology, and psychoanalysis in particular, can contribute in a number of ways to the study of Dr. Velikovsky's work. His theories, if they are looked at seriously, raise profound psychological problems. It is odd that so little has been written about the psychological implications of Dr. Velikovsky's theories. In *Pensée* for example there are very few articles that

concern themselves with a psychological examination of the Velikovsky hypotheses. One exception to that is Dr. William Mullen, who in his article entitled "The Center Holds" points out that if Dr. Velikovsky's psychological observations are correct, and that of course depends on the rest of the cataclysm theory, then his contribution to psychology would represent by far the most urgent aspect of his work [6]. know that in recent years Dr. Velikovsky has never failed in lecturing to discuss the psychological implications of his work. He has also told me that in the response he gets from his audiences (letters, discussions with him and soon), it is the psychological aspects of his work which holds the most interest for them.

As has been pointed out a number of times today, the reaction of the scientific community and others to Dr. Velikovsky's proposals obviously provides a worthwhile topic for psychological investigation in itself. As a psychoanalyst, Dr. Velikovsky could have predicted in advance that his findings would have awakened the most intense resistance. I think it strange that so much fuss is made about the strange behaviour of the scientific community. It was and is perfectly predictable and understandable in terms of the very psychological theories that are being proposed. The resistance would have to be intense if indeed a collective amnesia is involved.

Dr. Velikovsky identifies somewhat with Freud in assuming the responsibility of confronting mankind with information which provokes profound anxieties and defensive reactions. if the Velikovsky hypotheses are correct, these violently negative responses Are part of an understandable pattern urgently in need of change. If he is wrong, and of course, if he is wrong he is dramatically, gorgeously wrong, then the irrationality of the scientific community's response still demands a psychological explanation, except then the nature of the explanation would be quite different.

Freud, speaking of the equally violent irrationality of Darwin's critics, offers some words of solace to the belaboured bearer of unwanted reality. I quote:

The new truth awoke emotional resistances; these found expression in arguments by which the evidence in favour of

the unpopular theory could be disputed; the struggle of opinions took up a certain length of time; from the first there were adherents and opponents; the number as well as the weight of the former kept on increasing until at last they gained the upper hand; during the whole time of struggle the subject with which it was concerned was never forgotten. We are scarcely surprised that the whole course of events took a considerable length of time; and we probably do not sufficiently appreciate that what we are concerned with is a process in group psychology [7].

Freud, of course, was speaking from agonizing painful experience of the same kind.

There is a second direction in which psychology could be applied to the work of Dr. Velikovsky and that is in the area of psychobiographical investigation of Dr. Velikovsky himself. So far this particular approach has only been used in the vituperative attack on Dr. Velikovsky, confined to the somewhat unscientific goal of declaring him "crazy." But whether Dr. Velikovsky is right or wrong, and probably particularly if he is wrong, his life and work will eventually be the subject of intensive psychobiographical scrutiny.

As you will probably notice, the psychotic delusions of cataclysmic destruction of the world, which I am going to discuss briefly, could easily be turned against Dr. Velikovsky's theories and particularly against his personality. Should he be in error, this will unquestionably be the punishment history will inflict upon him.

The task of the psychobiographer I prefer to leave for the future. It is always easier to get away with when the subject under scrutiny is far away, usually in Heaven.

Now, I mentioned earlier, the curious lack of critical discussion of Dr. Velikovsky's psychological observations. I think that this can be explained not so much in terms of psychological resistance, although that plays a part, but as deriving from the fact that psychology is unsuited and at present unable to offer any decisive support for, or evidence against, the cataclysmic hypothesis. Nevertheless, it can contribute material which enlarges the scope of the discussion and stimulates enquiries in

new directions. But be warned: nothing that I am going to say will help to decide the case for or against cataclysmic hypothesis. I want to turn now to a brief examination of three points at which psychology enters into Dr. Velikovsky's reconstruction of history.

The suggestion that the earth was involved in a series of violent near collisions with its neighbours in space, as recently as -686, excites considerable skepticism in historians and archaeologists. The writing of history was, of course, fairly well developed by this time, and far less significant events managed to find their way into historical records. Dr. Velikovsky has indicated that there-are, in fact, a large number of texts which can be understood as detailed accounts of the cataclysmic events, which he feels he has rediscovered. Nevertheless, the failure of a series of such terrifying experiences to leave more of an impression on the memory and behaviour of mankind demands explanation. Such events cannot possibly have been merely forgotten; and Dr. Velikovsky is well aware of this, as he points out:

If cosmic upheavals occurred in the historical past, why does not the human race remember them, and why was it necessary to carry on research to find out about them [8]?

To account for this suspicious failure of memory, Dr. Velikovsky has suggested a collective amnesia, preventing these traumatic experiences from reaching consciousness.

It is a psychological phenomenon in the life of individuals as well as whole nations that the most terrifying events of the past may be forgotten or displaced into the subconscious mind. As if obliterated are impressions that should be unforgettable. To uncover their vestiges and their distorted equivalents in the psychical life of peoples is a task not unlike that of overcoming amnesia in a single person [9].

In extending findings, derived from individual psychology to mankind as a whole, Dr. Velikovsky follows in the footsteps of Freud of *Moses and Monotheism*. It is a jump which even Freud made with some hesitancy. In the chapter of *Moses and Monotheism* entitled "The Analogy," he "invites the reader to take the step of supposing that something occurred in the life of the human species similar to what occurs in the life of the

individuals." [10] To proceed from the traumatic experience of the individual, to the suggestion of a collectively experienced trauma and a collective repression of painful memory is a considerable jump, with massive implications for both history and, as well, for social psychology.

One wonders, for example, to what extent the memories of the Nazi death camps or the bombings of Hiroshima and Nagasaki have undergone what could truly be called repression. It can't be doubted that many individuals have dealt with these agonizing memories by utilizing this mechanism of defence, but to presume that a massive act of repression can occur, an act of repression so complete that it interferes with the conscious collective memory of mankind in general, is a step which should be undertaken with considerable trepidation. It can be asked whether the entire historical reconstruction proposed by Dr. Velikovsky depends on this defensive operation having occurred. (It should be stressed that when we talk of repression we are talking about an unconsciously activated mechanism, totally distinct from the conscious suppression of unpleasant memories. The only evidence for repression of material having occurred would be an unexplainable vacuum in the mind in connection with vitally important experiences which might be expected to have left profound traces in the memory.) I believe that Dr. Velikovsky is correct in suggesting that the failure of such historical events to be remembered in elaborate detail would demand a psychological explanation. In short, if a collective repression of these memories didn't occur then there were no such events! The hypothesis of a collective repression is a crucial underpinning of the wider theory. The repression of events which he is postulating was neither instantaneous nor complete. The existence of numerous historical records which Dr. Velikovsky understands as references to a series of very specific worldwide cataclysmic occurrences indicates an effort on the part of at least some people in the human race to come to grips with this traumatic experience on a conscious level. As he has indicated, repression in this situation is not so much suggested by the absence of memories in the form of written history, as by the inability of later civilizations to comprehend the meaning of these quite specific and detailed accounts, or to their tendency to see them as allegorical images that mean

something quite different. And it is true that repression frequently operates as something of a psychological blind spot, rendering us unable to understand certain things which should be quite evident. A second psychological hypothesis which Dr. Velikovsky has put forward is far more controversial. He is of the opinion that the effect of the repeated experience of cataclysm was so intense that it was implanted in the human mind permanently, and in his view, the memories of these experiences are present to this day in the human unconscious mind, transmitted presumably by heredity.

The collective human memory retained an inexhaustible array of recollections of the time when the world was in conflagration; when sea engulfed land; earth trembled; celestial bodies were disturbed in their motion, and meteorites fell [11].

Here again Dr. Velikovsky is touching on a highly controversial hypothesis of Freud's, enunciated in its clearest form in *Moses and Monotheism*. My constant references to that book are not accidental. Dr. Velikovsky's work can be understood in many ways as a continuation and revision of that late publication of Freud. Anyone who is interested in Dr. Velikovsky's book would do well to read the essay *Moses and Monotheism*. Dr. Velikovsky came to America in 1939, the year of publication of the complete form of *Moses and Monotheism*, and the year of Freud's death, interestingly, and he came to do research on Freud in relation to Moses, Akhnaton and Oedipus.

It is little realized that Freud felt compelled to accept the idea of inherited racial memories. He usually used the term phylogenetic inheritance, but he means by this term the inheritance of collective memories. He was well aware that such mental contents would be collective in nature; a shared, inborn knowledge of the past history of the race, or, at least, of crucially important aspects of that history.

This Lamarckian conception of inherited experience is totally ignored by all current psychoanalytic theorists, in fact, one could go so far as to say that it has been suppressed by the Freudian group. There are few articles published by Freudians on the concept of inherited racial memory. They would prefer to forget

that Freud ever thought about this problem, or else they consider it an aberration on his part. On the other hand, Carl Jung based an entire psychology on the description of such inherited collective contents.

Again we can raise the question as to whether the phylogenetic hypothesis is an essential aspect of Dr. Velikovsky's general theory. I personally feel that it is not. But, it has tremendous usefulness, as you just saw in Professor Wolfe's lecture, in explaining the occurrence over all the earth over hundreds of years, of certain legends and images which seem to have exerted a curious fascination on the human mind.

Finally, in recent years, Dr. Velikovsky has begun to stress the possibility that unconscious memories (if they do indeed form a potent content of the collective mind of present day man) could be reactivated as a result of the compulsion to repeat. This powerful irrational tendency to act out or reexperience a traumatic event was described by Freud in his essay *Beyond the Pleasure Principle* (1920) where he characterized it in terms of the individual patient.

He is obliged to repeat the repressed material as a contemporary experience instead of ... remembering it as something belonging to the past [12].

In recent years Dr. Velikovsky has become deeply concerned that unless awareness of the cataclysmic events can be restored to consciousness, mankind may be compelled by unconscious forces to stage its own 'Weltuntergang man-made cataclysm on a near cosmic scale. It is this possibility which lends some urgency to the consideration of his theories. In this context, his psycho-historical reconstruction can be seen to have a therapeutic goal. More than merely a psychoanalytic experiment on mankind, it aims at rescuing mankind from its very obvious self-destructive tendencies. It is probably not without significance that the conception of *Worlds in Collision* took place during the Second World War when mankind was very actively involved in its own destruction.

I want to consider in slightly more detail the concept of inherited racial memory as it occurs in the writings of Freud. It is of

considerable interest to trace the evolution of this hypothesis from "Totem and Taboo" in 1912 where it first appears, to Freud's final and more elaborate discussion of it in 1939. It is usually suggested that Freud invented the idea of inherited racial memory because he needed it to support his speculative forays into the fields of anthropology and pre-history. In short, that the idea of inherited racial memory is the creation of Freud the novelist, rather than Freud the psychologist. Careful reading of all Freud's psychological oeuvre would quickly dispel this notion. The concept of phylogenetically inherited material is found everywhere in Freud and this despite the fact that he had an inherent resistance to the idea.

Writing to Jung in 1911, he displayed this ambivalence very nicely: "If there is phylogenetic memory" and then he goes on "which unfortunately will soon prove to be so" (he was prepared to admit it but he didn't like it one bit) [13].

In a meeting of the Vienna Psycho-Analytic Society in 1911, he spoke of the idea of inherited memory content with considerable reserve.

The influence of a phylogenetic inborn store of memories is not justified as long as we have the possibility of explaining these things through an analysis of the psychical situations. What remains over after this analysis of the psychical phenomena of regression could then be conceived of as phylogenetic memory [14].

It is highly probable that Jung's influence was a crucial factor motivating Freud to consider the possibility of inherited memory. As you know, the break between Freud and Jung occurred in 1912. Until that time Jung's ideas stimulated Freud to an examination of many areas which he might otherwise not have explored.

Less well known is the fact that Freud continued to consider Jung's theories even after they broke off relations. In 1912 we find Freud using the term 'collective mind,' a term which he thereafter avoided in his writings to avoid confusion with the Jungian term which carries implications far beyond what he or his followers could accept.

No one can have failed to observe ... that I have taken as the basis of my whole position the existence of a collective mind, in which mental processes occur just as they do in the mind of an individual [15].

In 1917, long after they were no longer friends, Freud read Jung's important essay, *The Psychology of Unconscious Processes*, and the next year, writing about the Wolfe Man case, he stated:

I fully agree with Jung in recognizing the existence of this phylogenetic heritage; but I regard it as a methodological error to seize on a phylogenetic explanation before the ontogenetic possibilities have been exhausted [16].

As he puts it,

All that we find in the prehistory of neuroses is that a child catches hold of this phylogenetic experience where his own experience fails him. He fills in the gaps in individual truth with prehistoric truth; he replaces occurrences in his own life by occurrences in the life of his ancestors [17].

As you will see presently, this tendency, if it exists, to replace individual experiences with experiences derived from the history of mankind could possibly represent a confirmation of the Velikovsky hypotheses. But Freud's warning must continue to sound in our ears:

... I regard it as a *methodological error* to seize on a phylogenetic explanation before the ontogenetic possibilities have been exhausted [18].

Elsewhere he warns against "mystical overvaluations of heredity." [19] What motivated Freud to suggest this idea of inherited racial memory? Certainly it was on the basis of experience derived from his work with patients. He pointed out, first of all, that the common heritage of symbols which he kept encountering, symbols in the unconscious which seemed to be shared by all men throughout history, pushed him in the direction of thinking about the possibility of some kind of collective inborn mental content. "it seems to me that symbolic connections, which the individual has never acquired by

learning, may justly claim to be regarded as phylogenetic heritage." [20] Then the structure and the content of certain kinds of phobic conditions seemed to point in a similar direction.

Among the contents of the phobias there are a number which, as Stanley Hall insists, are adopted to serve as objects of anxiety owing to phylogenetic inheritance [21].

The most significant factor which led Freud to postulate the existence of mental contents which are not derived from individual experience is the occurrence of what he termed "primal phantasies"; phantasies of castration, incest, cannibalism, parental intercourse, etc., in children whose actual experience precludes any possibility of acquaintance with such events.

I believe these primal fantasies are a phylogenetic endowment. In them the individual reaches beyond his own experience into primaeval experience at points where his own experience has been too rudimentary [22].

The behaviour of neurotic children towards their parents in the Oedipus and castration complex abounds in such reactions, which seem unjustified in the individual case and only become intelligible phylogenetically - by their connection with the experience of earlier generations [23].

Perhaps you remember that Dr. Velikovsky in his book *Oedipus and Akhnaton* has raised the interesting possibility that there may be an historical truth underlying the deeply rooted human resistance to incest:

... is the Oedipus legend based on historical occurrence? If the latter is true, its hold on the imagination of the literati through the ages could be explained as a real experience that has been echoed in the dark recesses of many human souls [24].

By 1937 Freud was prepared to make a leap of faith and to extend the concept of inherited mental contents quite far. He did so despite the very active opposition of Ernest Jones who warned him of the danger of accepting what Jones saw as an outdated Lamarckian biology. Freud, with extreme forthrightness and some humility, stated:

On further reflection I must admit that I have behaved for a long time as though inheritance of memory-traces of the experience of our ancestors, independently of direct Communication and of the influence of education by the setting of an example, were established beyond question. When I spoke of the survival of a tradition among a people, or of the formation of people's character, I had mostly in mind an inherited tradition of this kind and not one transmitted by communication. or at least I made no distinction between the two and was not clearly aware of my audacity in neglecting to do so

And then the crucial words:

I must, however, in all modesty, confess nevertheless that I cannot do without this factor in biological evolution; ...The archaic heritage of human beings comprises not only dispositions but also subject matter - memory traces of the experience of earlier generations. if we assume the survival of these memory-traces in the archaic heritage, we have bridged the gap between individual and group psychology [25].

Of course you wonder under what circumstances material experienced by our ancestors becomes transmittable, through heredity, or whatever. Freud suggests two possibilities or at least two situations in which this might occur. First, if the event occurred often enough:

The experiences of the ego seem at first to be lost for inheritance, but, when they have been repeated often enough and with sufficient strength in many individuals in successive generations, they transform themselves, so to say, into experiences of the id, the impressions of which are preserved by heredity [26].

(This is the process which Dr. Velikovsky has challenged to some extent in his suggestion that typical and commonly repeated events do not provide a basis for the creation of myth.) Then, secondly, and of much more importance for the theory of collectively experienced cataclysms, Freud suggests that a memory may enter the archaic heritage of mankind if it was of sufficient strength, a traumatic and collective experience of the human race;

An essential part of the construction is the hypothesis that the events I am about to describe occurred to all primitive men, that is, to all our ancestors [27].

As to when these events occurred Freud is very vague. At times he talks about "the childhood of the race," a very difficult era to locate, although I think we can be quite sure that he wasn't referring to the Bronze age or later. In *Moses and Monotheism* he places the events in the period when language developed, again a rather vague moment. Freud recognized that if there was mental content in the mind which was not individually acquired but which was inherited and which reflected our experience as a race, then that phylogenetic content could serve as a source of material for the investigation and reconstruction of the early history of the human race. He suggested, in fact, using dreams for this purpose:

The prehistory into which the dream-work leads is of two kinds: on the one hand, into the individual's prehistory, his childhood; on the other, in so far as each individual somehow recapitulates in an abbreviated form the entire development of the human race, into phylogenetic history - too. Shall we succeed in distinguishing which portion of the latent mental processes is derived from the individual prehistoric period and which from the phylogenetic one? It is not, I believe, impossible that we shall [28].

Psychoanalysis may claim a high place among the sciences which are concerned with the reconstruction of the earliest and most obscure periods at the beginning of the human race [29].

At no time does Freud ever refer to evidence of cataclysmic experience in material derived from his dream studies or from the psychoanalytic treatment of patients. He encountered no such contents. The phylogenetic memories that he referred to have nothing to do with memories of cosmic disturbance or violent natural events. I remember asking Dr. Velikovsky a few years ago whether he had himself encountered memories suggestive of such phylogenetically derived experience in his own analysis or in his analytic practice, and he was unable to recall anything of this sort. It is therefore of particular interest to investigate case

material in search of references to cataclysmic destruction, and such cases are not lacking, as you will see.

For the remainder of this discussion I want to accept two hypotheses as facts, and to go on to consider what would be the implications of these hypotheses.

First, let us assume (and many people here do more than assume), that a series of cataclysms on the scale suggested by Dr. Velikovsky did occur, that mankind was exposed to these terrible events and that some of them lived to deal with the consequences, particularly the emotional consequences. Second, let us assume that after a time memories of the experience, as well as the intense feelings stirred up by these memories underwent repression and yet survived, not only in the unconscious of the victims who actually lived through these traumatic events, but in the unconscious of their descendants up to the present day. I am suggesting that we tentatively accept Freud's hypothesis of phylogenetically inherited memory, and specifically, the possibility which Freud would not have put forward that one of the chief fragments or complexes in the mind is a derivative of the overwhelming experience of cosmic upheaval.

If such repressed memories are present in the collective unconscious of mankind now, we can expect them to reveal themselves in a number of more or less predictable ways. Remember that we owe what knowledge of the unconscious we possess, and it is very little, to the relative failure of repression and to the fact that unconscious contents frequently break through to the surface, or at least disturb the surface of the mind in characteristic ways, which tell us something about the underlying strata.

1. Amnesia

Repression, of course, as Dr. Velikovsky has pointed out, implies an amnesia of limited extent. Parts of the mind are withdrawn or "blanked out," not only the actual traumatic memories themselves, but, through the associational chains which connect the contents of the mind, this amnesia could be

expected to extend over considerable areas. In terms of the feeling aspect of our humanness, repression could be reflected in a precarious emotional coldness or unresponsiveness to whole areas of human experience. In terms of thought, it precipitates an inability to think about certain topics and a curious lack of curiosity about whole areas of human experience and knowledge. if you are interested in that aspect of repression, Freud's *Leonardo essay* provides a remarkable discussion of how intellectual curiosity can be "blanked out" in certain areas [30]. The failure of scholars to recognize the connectedness and significance of historical and mythological accounts of cataclysmic occurrences would be an example of repression interfering with the normal functioning of the intellect. if they have looked at this material over generations and haven't seen the implications that Dr. Velikovsky sees, it could be explained as a result of this 'blinking out' of the intellect.

2. Anxiety

The crucial factor which enables the psychologist to identify areas of repression in a patient is the anxiety which is triggered when the repressed areas are touched upon. This can vary from hardly noticeable anxiety responses, such as you obtain on the word association test, to massive reactions approaching panic or shock. The danger represented by such occurrences is the so-called "awakening of the repressed." You have come too close to the repressed material. Any event which duplicates the originally traumatic event can be expected to produce deeply irrational responses including stark terror. Typically, the person to whom this thing is happening would not know why he is reacting with terror to a situation which may very well be completely harmless. The recent visit of the comet Kohoutek might have been expected to produce such responses in terms of the Velikovsky hypothesis. Shortly after it was announced, I wrote to Dr. Velikovsky to point out that it would be very worthwhile to collect and study the variety of responses to this event as they developed over the course of weeks. it would happen in some people, but by no means all. If he is right you could expect panic, flight reactions, religious frenzy of various kinds, obsessional rituals and insanity. On a considerable scale all of this could be predicted with some certainty if this

hypothesis is correct. The reaction to Halley's Comet can be seen as supportive of the Velikovsky hypothesis, though by no means conclusive evidence. On the other hand, absence of any strong response beyond intellectual curiosity would, I think, represent fairly conclusive proof that there are no such inherited contents present in the human mind. Unfortunately, the fact that Kohoutek turned out to be such a dud tended to ruin the experiment. Nevertheless, it was interesting to observe the efforts that were made by a number of religious groups to try to artificially stimulate reaction, particularly among young people. We encountered them on the streets trying to convince everybody that the end was near.

3. Acting Out

The acting out response also involves an emergence of repressed content. It is rather strange that the human mind should contain a drive to re-experience those traumatic events which were once so painful, and yet, this seems to be the case. Motivated by an urge which Freud termed the repetition compulsion, the human psyche can create actual situations in the real world which duplicate the originally unbearable experience. Of course in so doing it goes against the usually dominant pleasure principle and even bypasses the self-preservative instinct to the point that self-destruction is a very real possibility. This tendency to act out memories in reality rather than allowing them to enter consciousness in the form of memories is extremely dangerous. When you have a patient who is doing this it presents serious difficulty. Instead of understanding the past and allowing themselves to know what happened, they will go out and try to relive it, which can be suicidal. It is this particular form of the emergence of the repressed which causes Dr. Velikovsky to warn of the danger of a man-made cataclysm, purposely designed, though unconsciously, to reflect as closely as possible the experience of cosmic destruction of the planet.

4. In Dreams

Freud, as I mentioned earlier, pointed to dreams as a source of information concerning phylogenetic memory traces. The study of cataclysm dreams would provide an extremely fertile field of

investigation in the search for cataclysmically induced memory fragments. In fact, there is a typical nightmare, which many of you probably know, in which the dreamer witnesses or experiences the destruction of the world, lives through the horror of the last moments, and the final explosion, and then awakens at that very instant with a start. Of course, it is not enough to point to such dreams. It would be necessary to examine them in detail to discover both their source and their typical structure as well as common associations to them. It would be of particular importance if there were no associations to dreams of this type. This would be a strong indication that there could be phylogenetic memory underlying them. Let me give you just one example of a dream of this kind. The dreamer, a woman of middle age, in psychoanalytic treatment, dreamt as follows:

On a palisade of bricks I saw reflected a white meteor,
which was about to fall and blow up the earth [31].

You are aware that dreams usually require interpretation before their meaning can be understood, and, presumably, interpretation of this dream would lead us away from the cosmic spectacle and into the patient's personal world. But it is worth inquiring why she chose to embody that inner reality in a cosmic framework, why she experienced whatever it was in her inner life that she was dreaming about in terms of meteors and the explosion of the earth. Perhaps it is merely a residue from the previous day. If so you could find out very quickly. But it is interesting that internal emotional conflicts are so often projected into the sky.

5. Symptoms and Symbols in Neurotic Illnesses

Some neurotic patients do project their emotional conflicts into outer space, not in the form of delusions but seemingly as a means of externalizing a painful inner reality in terms of more comfortable symbols and images. (Plate 1). This painting is the work of a 30-year old Canadian male who utilized painting and drawing as an aspect of his therapy. To assume that a painting such as this represents phylogenetic content would be foolish. Obviously, one would have to attend to the patient's associations to the painting, which in this, as in most cases, leads immediately away from outer space and into inner space. This analogy, by the way, is of crucial importance in understanding

the predominance of cosmic imagery. At most one would expect the phylogenetic content to influence the choice of symbols in which the patient embodied his personal reality. In this particular case, the patient's associations led to his identifying the planets with his family. He saw the blue planet as his father, the brown one as his mother and the small black one as himself. He was trying to talk about his family and how he saw the dominance in that family. He also saw that the influence of these cosmic

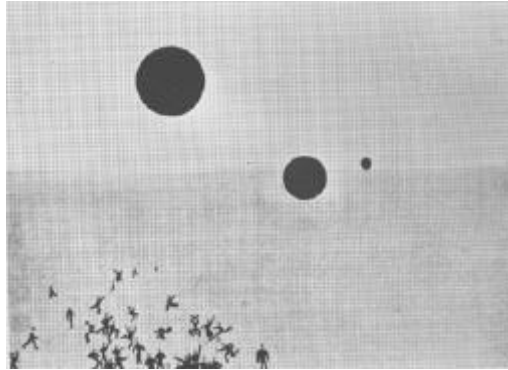


Plate 1

parents is seen on the figures below in the form of an astrological dominance of one parent planet or another. The different individuals are dressed in different colours relating to the planets above them. The figures could be in some kind of panic state, but actually, if you look closely at them, they appear to be much happier than that: they are dancing and turning somersaults. Since this painting fails to suggest anything of interplanetary collision or destruction, it would be unwise to push the phylogenetic interpretation into the foreground.

However, the same patient followed this drawing with another which carries his analogy still further (Plate 2). I should mention that these drawings were made prior to the publication of *Worlds in Collision*. Here we see the earth, identified by the lines of longitude and latitude, 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 and rivers, 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. While admitting the inevitable personal significance of such a drawing, perhaps we are justified in noticing that the imagery bears at least some relationship to the cataclysm theory. The symbols which the patient has chosen to embody his individual perception of his existential situation seem rather specific; a fantasy product that may well extend beyond the realm of personal experience, in the same way that the primal fantasies referred to by Freud did. But remember, we cannot be sure because these are not the fantasies of an infant but the drawing of an adult capable of utilizing experience and imagery drawn from an infinite variety of sources. Such drawings provide no proof, but merely parallels worth noting.



Plate 2

Another drawing by the same patient reveals how the idea developed (Plate 3). I have made no effort whatever to discuss the possible interpretation of these drawings because I feel that to do so would take us away from the problem of their phylogenetic component, if any. A Jungian analyst would proceed directly into an interpretation, which would involve very specific references to primordial experience and would have not the slightest doubt that the chief content of the pictures is a phylogenetic derivative. The patient himself had very few associations to any of the visual images that he produced, "he simply felt that he had to draw it like that." [32]

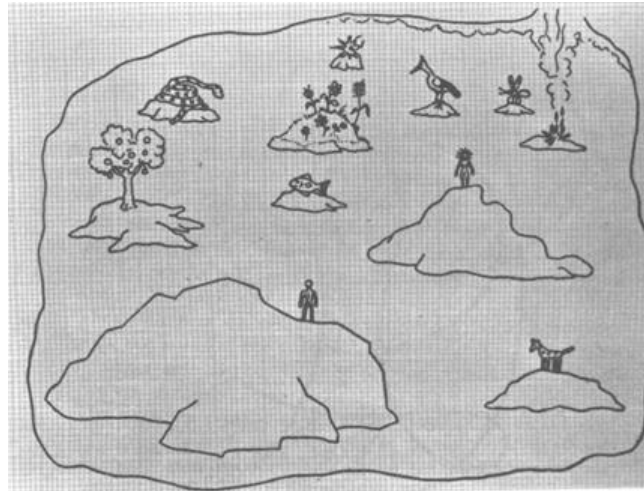


Plate 3

If phylogenetic memories of cosmic upheaval are postulated as present in the unconscious, then we would expect to encounter them in an almost pure form in the mental productions of psychotic patients. In such cases the defense mechanisms of the Ego are no longer sufficiently strong to inhibit the emergence of repressed mental contents. Although this material is still somewhat distorted and disguised, it provides our clearest insight into the nature of unconscious mental contents, including material from strata of the psyche not usually encountered in psychoanalytic therapy. Very few psychoanalyses reach this level of material. Such patients frequently develop complicated delusional systems which either completely obliterate their prior understanding of reality, or less frequently, these ideas form clearly circumscribed, or contained, delusional systems which are able to co-exist with normal behaviour and with more typical views of reality. Among these delusional beliefs, one that is very commonly encountered is the conviction that the world is about to end, or has already met its destruction. The patient has lived through this experience. I am not referring here to the religious fanatic who with amusing regularity predicts the world's demise, though they are also worth study, because in many instances their delusional beliefs are shared by a group of people so that they are particularly relevant to the Velikovsky theory.

Plate 4 is a painting called "The Explosion of the World" by a very seriously disturbed young boy. Psychotic individuals who are preoccupied with world cataclysm, either past, or to come,

usually develop very elaborate descriptive ideas about the details of this terrifying event, an event in which they commonly play a very central role. In fact at times they are themselves the cause of the cataclysm. A manic-depressive patient during the depressive phase of his illness wrote as follows:

If I could only kill myself, it might blow up the whole universe, but at least I would get out of eternal torture and achieve the oblivion and nothingness for which my soul craves [33].



Plate 4

His description of his experience is entitled *The Universe of Horror and the Universe of Bliss*, which gives some indication of the way in which the over-whelming experience of a psychosis appears, in the patient's point of view, to include the destruction of the whole universe, not only of himself. There is no question that the experience of psychotic illness does involve such drastic change in one's perception of reality that the world does really seem to have undergone violent, even cataclysmic change. The same patient said, "At times the whole Universe seemed to be dissolving about me." [34]

Let me read another account by a psychotically depressed patient which conveys very strongly the feeling associated with overall destruction of the world and what it is like to live through:

There was even a day when I stood by the table in my room. It was a sunny day, the curtains were flapping, and the daffodils were all out in the grass below when I had a sudden vision of the end of the world, a catastrophe caused solely by my fate ... As in some monstrous cosmic general strike, all mankind was engulfed, all movement ceased, I could see the steamships stopping in the middle of the ocean, while invisible waves of horror encircled the world [35].

In some cases other planets are involved, as in the following account:

Shortly after I was taken to the hospital for the first time in a rigid catatonic condition, I was plunged into the horror of a world catastrophe. I was being caught up in a cataclysm and totally dislocated. I myself had been responsible for setting the destructive forces into motion, although I acted with no intent to harm ...

Perhaps you notice I am quoting from the patient's own feelings, his own statements about what he felt. Notice also that if there were such a cataclysm, the people who lived through it would probably appear to feel that they were to blame, that they were personally responsible for what had happened. They are overwhelmed with guilt.

... Part of the time I was exploring a new planet, (a marvelous and breathtaking adventure) but it was too lonely... The earth had been devastated by atomic bombs and most of its inhabitants killed. Only a few people myself and the dimly perceived nursing staff, had escaped. At other times I felt totally alone on the new planet ... At times when the universe was collapsing, I was not sure that things would turn out alright. I thought I might have to stay in the endless hell-fire of atomic destruction [36].

Psychiatric theorists account for these cataclysmic delusions in a number of ways. They point out that the patient's sense of his body and of his ego boundaries is damaged to such an extent that he can no longer differentiate between what is happening to him and what is happening to the Universe. Since he feels destructive processes at work within himself, he assumes that this destruction must extend to the whole universe. Megalomaniac delusions are frequent and cause the patient to

feel that he is literally at the centre of the universe and that his fate must inevitably affect the planets and the stars. Inner processes are projected onto the sky, and the disintegration of the ego is experienced as natural catastrophe. The theme of world flooding and the submerging of continents is usually interpreted by analytically oriented psychiatrists as the inundation of the conscious mind by the contents of the unconscious. Patients threatened by "the rising waters of the unconscious" actually do develop preoccupations with flooding. (Those of you who come from Saskatchewan and Alberta will doubtless be relieved to know that a preoccupation with catastrophic flooding could also be the result of a recent experience of catastrophic flooding). There is a problem there actually. Are we talking about symbolic material in need of interpretation, or are we talking about memory fragments connected with actual historical events? Many analysts would tend to link the recurrent motif of the flood in literature with the shared human experience of birth. You remember Otto Rank's conception of the birth trauma, yet another primordial experience, occurring at the beginning of our own lives.

It is in schizophrenic illnesses that one encounters mental content which inclines one to consider the possibility of a phylogenetic derivation. Careful examination of these very bizarre delusional ideas, and the violent feelings which accompany them, has led to an awareness that despite the intensely private symbolic nature of schizophrenic language and imagery, the ideas represent an accurate reflection of their experience, and at times, they even represent an effort at communication. But what about the form in which these experiences are embodied and the choice of symbols? Could there be an underlying memory of far earlier experiences of terrifying cataclysm? No one doubts that the patient is going through his own personal experience of cataclysm, but is it provoking in him a possible memory of much earlier ones? Freud, referring to the delusional ideas of the insane, says:

We have long understood that a portion of forgotten truth lies hidden in delusional ideas, that when this returns it has to put up with distortions and misunderstandings, and that the compulsive conviction which attaches to the delusion

arises from this core of truth and spreads out on to the errors that wrap it round [37].

He knew there was truth hidden in psychotic ideas, but, of course, he was talking about individual truth. As you know, Freud's experience of psychotic patients was limited because he didn't work in a hospital setting. His most intensive discussion of a psychotic delusional system was based on a published autobiography of Daniel Paul Schreber [38]. Schreber represents perhaps the finest example of a man whose extremely mad ideas eventually came to be organized and limited to a well defined and clearly circumscribed set of delusions which he was able to cope with, living a normal existence out in the world, untroubled by any other signs of mental illness. He was convinced of the correctness of his views, but he was well aware that they were not shared by others and that they caused trouble if they were talked about. He saw his discoveries, as he called them, to be the result of a form of insight which was available only to him. Nevertheless, in generosity he sought to share his convictions about the nature of reality with others by publishing an account of his unique experiences and his systematized delusions in a fascinating book entitled *Memoirs of My Nervous Illness*. I will quote a few lines from the book in order to give you an impression of the detailed cosmic content of psychotic delusions and of the difficulty of using this material as evidence for historical speculation or reconstruction.

Connected with these phenomena, very early on ... (came) recurrent nightly visions ... of an approaching end of the world, as a consequence of the indissoluble connection between God and myself.

Bad news came in from all sides that even this or that star or this or that group of stars had to be 'given up'; at one time it was said that even Venus had been 'flooded,' at another that the whole solar system would now have to be 'disconnected,' that the Cassiopeia (the whole group of stars) had had to be drawn together into a single sun, that perhaps only the Pleiades could still be saved, etc. etc. While I had these visions at night, in daytime I thought I could notice the sun following my movements; when I moved to and fro in the single-windowed room I inhabited at the time ... It was as if single nights had the duration of centuries, so that within that time the most profound

alterations in the whole of mankind, in the earth itself and the whole solar system could very well have taken place. It was repeatedly mentioned in visions that the work of the past fourteen thousand years had been lost -this figure presumably indicated the duration the earth had been populated with human beings and that approximately only another two hundred years were allotted to the earth. If I am not mistaken the figure 212 was mentioned. ... Later ... I thought this period had already expired and therefore I was the last real human being left. I lived for years. in doubt as to whether I was really still on earth or whether on some other celestial body. Even in the year 1895 I still considered the possibility of my being on Phobos, a satellite of the planet Mars ... and (1) wondered whether the moon, which I sometimes saw in the sky, was not the main planet Mars [39].

The idea that some of this material could have a phylogenetic origin finds support in Schreber's own conception of what was happening to him. He tells us that he was in communion with departed souls from all periods in history. If you were encountering phylogenetic contents, ranging back through time, it would be like an experience of being in contact with departed souls. He describes visionary experiences in which he traveled back in time.

In one of (the visions) it was as though I were sitting in a railway carriage or in a lift driving into the depths of the earth and I recapitulated, as it were, the whole history of mankind or of the earth in reverse order; in the upper regions there were still forests of leafy trees; in the nether regions it became progressively darker and blacker; ... I advanced only to a point 1; point 3, which was to mark the earliest beginning of mankind [40].

On the other hand any suggestion that this delusional material has a phylogenetic origin must take into account the long list of scientific books which Schreber was reading. Prior to his hospitalization he spent a great deal of time investigating the early history of the world and he tells us about a few of the books which he read:

1. Haeckel: *The History of Natural Creation*
2. Caspari: *The Primordial History of Mankind*
3. du Prel: *Evolution of the Universe*

4. Maedler: *Astronomy*

5. Neumayer: *History of the Earth*

Given the list, there is no particular reason to jump to phylogenetic explanations.

Another quite similar case about which we have considerably less information is that of Oskar H. It is a nineteenth century case which has the advantage of excluding experience of the World Wars and the Atom Bomb as the basis for such catastrophic delusions. A recent study has pointed out that the bomb has not in fact entered the repertoire of psychotic productions to any significant extent. Oskar H. was a butler, hospitalized with typical symptoms of schizophrenia. His fame is based on a group of very fine water colour paintings (Plate 5) of delusional materials. This painting is called "Mrs. Gern". Oskar was in the habit of writing lengthy texts to explain the pictures and these texts give us some idea of his delusional system and his preoccupations. He was concerned at this time with a number of scientific matters including, in this painting of Mrs. Gern, references to electro-magnetic currents, hypnosis and magnets. The electro-magnetic currents you can see streaming out of her head. Those things which he mentions are all part of the therapeutic equipment of 19th Century psychiatry.

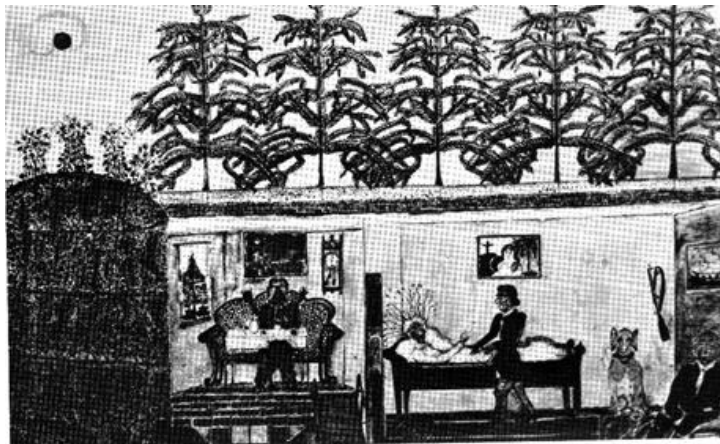


Plate 5

His unique importance for us derives from a series of pictures which he painted of the destruction of the world as a result of the

collision of comets (Plate 6). The text which accompanies this painting reads as follows:

Explanation about end of the world. On 3rd April 2053 in consequence of collisions of the ice comet with comet Biela main comet in indescribable distance on western horizon, sun moon stars darken; drop vertically into endless night. O.H. General Director of Royal Mental Clinic [41].

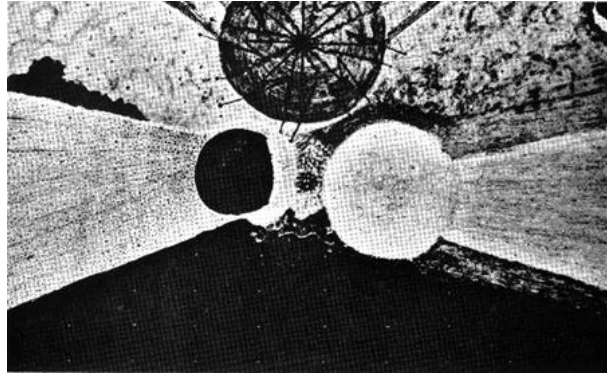


Plate 6

As you can imagine, verification of the Velikovsky reconstruction of history would result in an extremely different understanding of materials such as this, and would in fact involve considerable disturbance in the fields of psychiatry and psychology as it has in other disciplines. Whether any of the material which I have discussed can play a part in contributing to the task of verification of the theory of inter-planetary catastrophe, I leave to Dr. Velikovsky to decide.

Notes (Psychological Aspects of the Work of Immanuel Velikovsky)

1. Velikovsky, Immanuel, *Earth in Upheaval* (Doubleday, 1955), Supplement, page 272); (Laurel Edition, 1968), page 254; (Abacus, 1973), page 338; (Pocket Books, 1977), page 246. This Supplement to *Earth in Upheaval* consists of a lecture delivered by Dr. Velikovsky before the Graduate College Forum of Princeton University on October 14, 1953.
2. Velikovsky, *Worlds in Collision* (Doubleday, 1950), Preface page viii; (Pocket Books, 1977), page 12; (Abacus, 1972), page 9.
3. *Ibid.*
4. Letter to Mr. Clifton Fadiman, dated October 23, 1947.
5. Velikovsky, "The Dreams Freud Dreamed", *The Psychoanalytic Review*, Vol. 28 (October, 1941), pages 487-511.
6. Mullen, William, "The Center Holds" *Pensée* 2(2):32-35 (May, 1972); this article has been reprinted in *Velikovsky Reconsidered* (Doubleday, 1976), pages 239-249.
7. Freud, Sigmund, *Moses and Monotheism* (Amsterdam, 1939). Citations from Freud in text are to The Standard Edition, Edited by James Strachey (London, 1964), Vol. XXIII, page 67.
8. Velikovsky, *Worlds in Collision*, *loc. cit.*
9. Velikovsky, *op. cit.*, page 300; 304, 288.
10. Freud, *Moses and Monotheism*, Vol. XXIII, page 80.
11. Velikovsky, *Earth in Upheaval*, *op. cit.*, page 274; 255; 239; 247.
12. Freud, *Beyond the Pleasure Principle* (Vienna, 1920), Vol. XVIII, page 18.

13. Freud, *Letter to C.G. Jung*, 1911.
14. Freud, Minutes of the Vienna Psycho-Analytical Society, November 8, 1911.
15. Freud, *Totem and Taboo* (Vienna, 1913), Vol. XIII, page 157.
16. Freud, *From The History of an Infantile Neurosis* (1918), Vol. XVII, page 97.
17. *Ibid.*
18. *Ibid.*
19. Freud, *Analysis Terminable and Interminable* (Vienna, 1937), Vol. XXIII, page 240.
20. Freud, *Introductory Lectures on Psycho-analysis* (Vienna, 1917), Vol. XV, page 199.
21. Freud, *op. cit.*, Vol. XVI, page 411.
22. Freud, *op.cit.*, VI, pages 371.
23. Freud, *Moses and Monotheism*, Vol. XXIII, page 99.
24. Velikovsky, *Oedipus and Akhnaton* (New York, 1960), page 20.
25. Freud, *Moses and Monotheism*, Vol. XXIII pages 99-100.
26. Freud, *The Ego and the Id* (Vienna, 1923), page A
27. Freud, *Moses and Monotheism*, Vol. XXIII, page 81.
28. Freud, *Introductory Lectures*, Vol. XV, page 199.
29. Freud, *The Interpretation of Dreams* (Vienna, 1900), Vol. V, page 549.

30. Freud, *Leonard DA Vinci and a Memory of His Childhood* (Vienna, 1910), Vol. XI, pages 59-137.

31. The personal meanings of this dream, and the patient's association to it, are discussed in: Garma, Angel, *The Psychoanalysis of Dreams* (New York, 1966), pages 164-166.

32. For a very detailed discussion of this case with reference to the personal and archetypal significance of the drawings, see: Baynes, H.G., *Mythology of the Soul* (London, 1969), pages 515-911

33. Kaplan, Bert, ed. *The Inner World of Mental Illness* (New York, 1964); see Custance, John, "Wisdom, Madness and Folly", pages 56-57.

34. *Ibid*, page 59.

35. *Op. Cit.*, see: Brooks, Van Wyck, "Days of the Phoenix", page 86.

36. *Op. Cit.*, see: Anonymous, "An Autobiography of Schizophrenic Experience", page 95.

37. Freud, *Moses and Monotheism*, Vol. XXIII, page 85.

38. Schreber, Daniel Paul, *Memoirs of my Nervous Illness*, (London, 1955).

39. Kaplan, *op cit.*, from the Schreber case, pages 126-130.

40. *Ibid*, page 128.

41. A discussion of this patient and his art is to be found in: Prinzhorn, Hans, *Artistry of the Mentally Ill* (New York, 1972), pages 80-83. A further case of great importance for this discussion, which I omitted because of lack of time, is found in

Jung, C.C., "*A Study in the Process of Individuation*" (Zurich, 1950), Vol. 9, pages 290-354. (Also of value in terms of this discussion is Jung's essay "*Flying Saucers: A Modern Myth of Things Seen in the Sky*" (Zurich, 1958), Vol. 10, pages 309-433.

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4

STRUCTURING THE APOCALYPSE: Old and New World Variations

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My project here is a kind of spectral analysis of religions - Egyptian, Hebrew, Christian, Islamic; Teotihuacano, Mayan, Hopi, Aztec - and since the subject of religion has traditionally involved polemic, I would like to begin by considering calmly for a moment the most effective means by which polemic can be avoided. We have had a taste of an ongoing scientific polemic at this symposium, and need only remind ourselves of the greater heat generated in the past by religious polemics to understand why both are best dispensed with. The work of Velikovsky is in fact susceptible to use in religious polemic as well as scientific. This has already been begun by the publication in Fall 1973 of a book entitled *God is Red* by Vine Deloria, a Sioux. I intend to take as a starting-point some of Deloria's ideas, but I would like to preface that with a Sioux tale he recounts on the subject of civility in the exchange of religious beliefs. The tale goes this way:

A missionary once undertook to instruct a group of Indians in the truths of his holy religion. He told them of the creation of the earth in six days, and of the fall of our first parents by eating an apple.

The courteous savages listened attentively, and, after thanking him, one related in his turn a very ancient tradition concerning the origin of maize. But the missionary, plainly showed his disgust and disbelief, indignantly saying: "What I have delivered to you were sacred truths, but this that you tell me is mere fable and falsehood !"

"My Brother," gravely replied the offended Indian, "it seems that you have not been well grounded in the rules of civility. You saw that we, who practice these rules, believed your stories; why, then, do you refuse to credit ours?"[1]

Dr. MacGregor [2] has drawn here a picture of the possibility that mankind is traumatized by catastrophic events, and of the more distant possibility that memory of them is phylogenetically transmitted. We should not let these possibilities make us entertain fatalism. Nor should we let a mechanistic account of mythological events lead to pure materialism, a rejection of all the spiritual values experienced and formulated by our ancestors obsessed with catastrophe. All religious systems contain with them the possibility of a broad spectrum of discourse, ranging from the oral tale to the sacred book, and from the practice of reconciling theology and philosophy to the techniques of mysticism. I hope this is kept in mind as I give some necessarily very broad accounts of several religions, for I consider each of them susceptible to the same variety of interpretation in the hands of their practitioners. What we need is a simple language that can describe religion by accommodating the catastrophic elements within a larger structure. This may be conceived as a prolegomenon to the reconciliation of religion and reason. We sometimes forget that such was the very effort in which western man was engaged in the century before the uniformitarian dogma took sway. In Eighteenth Century France the names of Voltaire and Boulanger stand out; in Germany there is the work of Kant; and on this continent we have the effort of Thomas Jefferson (usually neglected because he refused to consider it other than a private preoccupation). I say this by way of supplementing the account given by Dr. Grinnell of what happened once Darwinism began to be railroaded through [3].

Deloria's book, which in some ways renews the tradition of reconciling religion and reason, contrasts Christianity with the tribal religions of North America in an effort to articulate a clear language by which religious systems may be measured. He argues that the content of the Judaeo-Christian religions is structured around their emphasis on the action of divinity through time, while the tribal American religions are more directed towards the presence of divinity in space. I would like to take up those terms to further the articulation of a comparative language. It is, of course, pointless to make the distinction between space and time without considering them together, and Deloria does not do this, though in simplifying his argument I have made him seem to. Space and time together are the

necessary categories in which we experience events occurring. Whitehead has said that the event is the unit of things real; and it seems that modern physicists, in describing what they detect at the subatomic level, find it more convenient to formulate their observations in terms of events rather than locations in space and actions in time separately. If events are necessarily unfolded in space and time, this is also true of divine events, the central subject of every religion.

Catastrophes, as divine events, were experienced as alterations of space and time. The celestial bodies by which time is marked changed their courses, and therefore the units of time were altered; simultaneously, the face of the earth, the space in which we live, was transformed. The religious reaction to this kind of divine event is in almost all cases to see an imperative in it. The divinity, through reshaping space and time, gives some kind of imperative to mankind, and the driving question of ancient religions is: What kind of behavior does this alteration dictate?

It comes to a question of syntax. The basic proposition is something like this: "Heaven and earth are being remade" - a statement in the present tense. When this is then transferred into the past tense, several deductions can be made. The simplest and most unquestioning is, "Heaven and earth have been remade; great destruction was caused, and this we lament." It is actually a lament, the papyrus of Ipuwer, which Velikovsky uses as the starting-point for his reconstruction. The alternative to lament comes by making the same statement, "Heaven and earth were remade," and then adding to it, "Stability has now been achieved, and this we celebrate." What follows on the ritual level is a celebration involving reenactment by human beings on earth of the events which took place in the sky, and the logical end of the ritual is the triumph of stability. So far, so good. It is when theories of divine motivation come into play that the syntax becomes more complex and more dangerous. One can say, "Heaven and earth were remade because of something the gods suspected or decided in regard to man," or, "Heaven and earth were remade because of something man did." In either case, obsession begins to grow with preventing reoccurrence of the catastrophe by acting differently towards the gods. Syntactically the proposition becomes transferred to the future

tense: "Unless the gods feel thus and so, unless man does this or that, heaven and earth will be remade." Finally, once obsession has reached the pure stage where propitiation seems hopeless, the proposition becomes absolute: "Heaven and earth are going to be remade; act accordingly." And that is the apocalypse.

Let me now apply these simple terms to some real cases. The religions I have chosen to analyse are simply those which we, as inhabitants of this continent with a certain tradition behind us, find most imperative. Through our language and culture the Judaeo-Christian religions keep a hold on us, and they cannot be ultimately understood without the Egyptian elements they react to or incorporate. Through our habitation here the archaic American religions also have a kind of authority over us.

To start with Egypt, then, The Old Kingdom precedes the catastrophes reconstructed in *Worlds in Collision*, and Velikovsky has promised a separate volume dealing with the earlier catastrophes [4] which Egyptians in the Old Kingdom were concerned to memorialize. All the religions I am using as examples make references to these earlier events, particularly the Deluge, but in none of the others are there religious texts available in materials which actually predate -1500. (Other cultures, such as the Sumerian, do possess such texts in abundance; Old Kingdom Egypt will suffice for one example here.) The events with which the Egyptians were obsessed from the beginning of their civilization were those of the Deluge, and it can be shown that there are three distinct words or phrases in hieroglyphic writing for a flood of water; one designating the annual inundation, a second the primeval waters beyond the sky, and a third "The Great Flood which comes from 'the Great Lady'" the great lady being heaven [5]. The Deluge events in Egypt, as Velikovsky has pointed out in some of his talks, were translated into the story of Osiris, Isis, Seth and Horus. Osiris was great king whose brother Seth murdered and dismembered him, whereupon his wife Isis reconstituted his body and conceived a child to avenge him, the god Horus. Velikovsky takes these as events involving Saturn and Jupiter. The primary Egyptian reaction to these events was a massive effort to create political and agricultural stability by coordinating all activity along the Nile, and at the center of this stability was the

institution of divine kingship. The living king was conceived to be the planetary divinity which had won the struggle in heaven: the planet Jupiter was the god Horus, and the living pharaoh was the god Horus. The king's activities were largely dictated by the rituals reenacting these events, and the reenactment was meant to celebrate, ultimately, the stability that succeeded them.

Now the only flaw in such a system is that the king is mortal. The experience of the incarnate god's death precipitated a catastrophe on the ritual level which had to be resolved. This was done by conceiving of the dead king as the god Osiris, who had been reborn and instituted as king of the underworld. The living king who succeeds him and honors his cult then becomes the god Horus. At the time of the king's death, his body was embalmed and kept aside for a ritually correct date of entombment. The new king acceded to the throne, but before he could be crowned he had to move throughout the land of Egypt performing a mystery play which reenacted the struggle between Horus and Seth. The dead king was then entombed at the end of the prescribed period with a solemn ritual of resurrection. It is carried out in the pyramid built as his tomb, and the so-called "Pyramid Texts" are the words inscribed on the walls of the pyramid's inner chambers and recited during it. They are extraordinarily complex because the dead king is in fact reborn as many different gods, but his identity as Osiris is one of the primary among them. This ritual has a living descendent in the Christian Easter midnight liturgy. Like the Old Kingdom entombment rite, the Easter liturgy memorializes the death and rebirth of a god who once lived on earth and then descended to the land of the dead; occurs at the season when vegetation returns; and consists of the reenactment of a passion followed by the celebration of a resurrection.

Most of the spells in the Pyramid Texts have as their direct goal the transfiguration of the king into one or many celestial divinities. Because Egyptian tenses are not easy to reconstruct, the tense in which these texts are composed may be taken as either the present, the subjunctive, or the imperative: "The King lives as Osiris", "May the King live as Osiris", or "Live, O King, as Osiris". But there are also spells, often inscribed on separate sections of the pyramid inner chambers, in which we find the

first trace of apocalyptic syntax in Old Kingdom Egypt. They take the form of a threat by the king; if he is not permitted by the celestial gods to be reborn as one of their company, he will cause a celestial catastrophe. Here is one such passage. The priest reciting for the king addresses the supreme god and then the sun, and makes the following threat:

God whose name cannot be known
make a place for this single lord!
Lord of the radiance of the horizon
give place to the King !

If no place be made the king shall curse his father Earth,
Earth speak no more,
decree no more!
Whom the King finds in his way he will eat limb by limb !

The Pelican shall prophesy,
the company of nine come out,
the Great One rise,
and the gods in their nines cry:

"A dam shall dam the land,
cliffs crumble and banks unite,
ways be lost to the wayfarer,
steps of the land collapse on those who flee it!"[6]

It should be stressed that this is a text inscribed *inside* the pyramid. It is not a mode of thought accessible to the general population of Egypt, but rather, if you like, an esoteric text. In Old Kingdom Egypt it was celebration of stability that constituted the public experience, and this kind of apocalyptic syntax was held in check.

In turning to the Hebrew experience one must begin with the Scriptures, and since Wellhausen it has been agreed that to work with the Scriptures intelligently at all one must be able to distinguish the times at which different strata were composed. Unfortunately, it is impossible by this method to determine with any certainty when the central Hebrew concept of monotheism emerged. The earliest remembered moment in the specifically Hebrew religious experience seems to have been the covenant of Abraham with the god of a nomadic desert people, and the nature of this god is difficult to make out. The major moment

thereafter was that of -1475, and it was passed on in memory as a law giving at Sinai by the god who "caused" the catastrophic events of that time. We cannot easily say whether he was himself originally a planetary god or was rather conceived of as a god who controlled the planets, since the latter conception had already been developed before the rescension in a text of the present account of the lawgiving. The next major episode is the attempt to institute kingship in Israel. This was not destined to last long, possibly because the king was not conceived by the Hebrews to incarnate a divinity who walked on earth or even to be the high priest of the Hebrew religion. He was a strictly political creation, the result of a demand by the Hebrew people to have a king like other nations. What follows the unsuccessful attempt at kingship is described in the second part of *Worlds in Collision*, which analyzes the writings of those prophets of the eighth and seventh century who were contemporary with the last series of celestial disturbances. The great phrase of these prophets is "The Day of the Lord." Again, we cannot say with certainty if the Lord is a planet or a god manipulating the planets, but the day of the Lord is in either case an experience of the reshaping of heaven and earth. Velikovsky has indicated in some of his talks that it may be only in the later prophets, Ezekiel and deuterio-Isaiah, that a clear monotheistic and transcendental concept emerges. He has stressed that this is a very speculative line of thought, certainly not one which he wishes to introduce as an integral part of his work.

The only way to organize such a multileveled experience is to say that, for the Hebrews, Yahweh acted over a long period of time for the benefit of his chosen people. He remade heaven and earth for them; he altered space and time for them; and he did so in a series of events so qualitatively differentiated from one another that there could be no hope to telescoping them all into one ritual. Rather, the people that conceives of itself as chosen must sustain the tension of this operation of their god through time intellectually, and thus they become the people of the Book, whose existence is organized around the scriptural record of the different events in their sequence. The concept of their chosen-ness denied them the security of living in a world of immanent deity where the acts of the gods could be reenacted in a yearly cycle. Rather, they had constantly to keep in mind the

entirety of their varied history. It is this sustaining of a tension that produced the rabbinical tradition of elaborate interpretation of the Book.

The difficulty of sustaining such tension also in due time produced an apocalyptic literature among the Jews, but the rabbinical tradition worked against it, and it remains peripheral to the Jewish religion. Nevertheless, when Jesus of Nazareth entered his public ministry the apocalyptic notions were at his disposal; and in some sense the gospels may be characterized as a teaching of the ethics of the last days. If this historical figure was convinced of an imminent end of the world, he must also have been passionately concerned to tell people how they should act in regard to it. There is a different aspect of Jesus, though, which may have been available to the minds of his contemporaries, and was in any case soon developed by Paul into an essential part of Christianity. That is Christ in the ancient pattern of a dying and reborn god whose death and resurrection promise salvation to mankind, whether salvation in the form of the return of vegetation in the yearly cycle, or salvation in the sense of life after the human death, or finally salvation as survival during the process by which heaven and earth are next remade. Consider for instance, a passage like Mark 13, where Christ's apocalyptic warning and his connection with the cycle of vegetation are present together. He says:

For in those days, after that tribulation, the sun shall be darkened,
and the moon shall not give her light.

And the stars of heaven shall fall, and the powers that are in heaven
shall be shaken.

And then shall they see the Son of man coming in the clouds with
great power and glory.

And then shall he send his angels, and shall gather together his elect
from the four winds, from the uttermost part of the earth to the
uttermost part of heaven.

Now learn a parable of the fig tree; When her branch is yet tender,
and putteth forth leaves, ye know that summer is near:

So ye in like manner, when ye shall see these things come to pass,
know that it is nigh, even at the doors [7].

The passage is remarkable because the first part of it can be read in the traditional thundering apocalyptic voice, while the second is a tender parable from the realm of vegetation, of the kind used

throughout the gospels. Here two identities are present which need not necessarily have been well integrated in Jesus' actual conception of himself or in the perception of him by his contemporaries.

When Jesus died and Paul propagated the gospels, the apocalyptic literature of the Jews was ready to hand for imitation by Christians. The remaining history of the West has been deeply stamped by the fact that one such apocalyptic book was canonized, that of John the Divine, which has become our symbol for apocalyptic feeling in general. It is unnecessary to quote representative passages to give the tone, since even in our present culture it is impossible to escape exposure to it in the course of one's upbringing. But one passage in John is particularly remarkable for what it reveals about the syntax I have described.

And the angel which I saw stand upon the sea and upon the earth lifted up his hand to heaven. And swore by him that liveth for ever and ever, who created heaven, and the things that therein are, and the earth, and the things that therein are, and the sea, and the things which are therein, that there should be time no longer [8].

The last phrase is appallingly simple, for it represents the logical termination of apocalyptic thought, a psychological state in which endurance through time in fear of cataclysmic events becomes intolerable. What is left is only an utterly irrational desire that time shall cease. This reluctance to accept the temporal world, this demand that time end, has been with the West ever since. Yet the apocalypse did not come, and the shape Christianity took depended on that fact. With the failure of apocalypse in the generation succeeding Christ it was inevitable that the cataclysmic imagery be counterbalanced. Thus it was only a matter of time before the uniformitarian cosmology of Aristotle, diffused already through the Hellenistic and Roman cultures, should be grafted onto Christianity. Aristotle's entire view of the world is predicated on the assumption of an unending cyclical repetition of time in the natural world and among the celestial bodies. To use Aristotelian "reason" for the interpretation of apocalyptic "revelation" is therefore nothing

less than to attempt to synthesize two diametrically opposite views of the solar system.

In the Islamic experience it is remarkable that all the phases of Christianity are telescoped. Islam begins with the preaching of Muhammed at Mecca, in short fervent recitals or warnings called Surahs in the Koran, whose message is entirely that the world is about to come to an end and that when this happens the elect will be saved and the evil will be damned. After the Hegirah, in which he moved to Medina, Muhammed's preaching becomes legislative and longwinded, concerned with working out codes of existence. The world had not come to an end, and his apocalyptic fervor waned. Within a few generations after his death, schools of jurisprudence cropped up; debates were held on juridical interpretation of the Koran; theological controversies became heated; Plato and Aristotle were again grafted onto the apocalyptic message; and finally, in Sufism, there appears a mysticism concerned to transcend space and time altogether.

I now invite you to move across the Atlantic. In doing so I must admit from the start that what I have learned about the religions of the New World has inevitably been shaped by analogies conceived with those of the Old. As long as this is recognized it is possible to proceed. One cannot encounter something utterly strange without bringing analogies to it; on the other hand, one cannot make genuine progress in understanding until the power of the analogies has been separated out from the material itself.

In the New World there are no cultures that have left extensive evidence of religious beliefs actually held before -1500. There are many Deluge legends, but no archaeological remains from before -1500 to substantiate them. The archaeological starting-point is conventionally put between the 16th and 14th pre-Christian centuries, which see the emergence of the great cultures of Mesoamerica, pre-eminently that centered around the site of Teotihuacan outside Mexico City, where the so-called "Pyramids of the Sun and Moon" are located. Legends of many different cultures in Mesoamerica speak of a prolonged night following a celestial battle, during which the tribes and peoples gathered at "Tula," and it is simple to conclude that Tula was the name given to Teotihuacan. There is a later Tula in Hidalgo

modeled after it, but this was the original and central one [9]. After that gathering during the period of darkness, which lasted months or years, the tribes dispersed to wait for the sun each in a different place. They felt sorrow that they could not be with their brother tribes when the sun finally appeared, but they remembered their first unity at Tula. The civilization erected at the site of Teotihuacan in time became the dominant empire of Mesoamerica, and its capital city Tula can only be compared to Rome in the history of the West. Its earliest strata are from -1500, its great period of building is in the centuries immediately before Christ, and it was destroyed by invading armies in the fifth century. This is a very long existence for an empire with hegemony, both political and cultural, over the peoples around it; and the myth of the original gathering at Tula during the long night was undoubtedly one of the sources on which its claim to hegemony was based.

Unfortunately the symbolic language of the religion which unified the Tulan empire is not yet fully intelligible to us; we keep having to work back through later strata to get any glimpse of it at all. Certain themes can be isolated. The myth of the long night in which the peoples waited for the sun to rise involves the critical concept of sacrifice, to which the pyramids at Teotihuacan themselves are monuments. The original sacrifice was not of a man but of a god. The gods were in council at Tula in the darkness, and each offered to give himself in order to make the sun rise again. The legend of Quetzalcoatl is one version of this original sacrifice, and it is said that in his case, after the sacrifice, he became the planet Venus. The model of sacrifice was then practiced by the peoples ascribing to the various branches of the original Tulan religion. It should be observed that the practice of penitential blood-letting and other forms of self-mutilation was no less widespread than the practice of human sacrifice to the celestial deities. The compulsive logic of imitating the sacrifice of the god led to masochistic as well as sadistic expressions.

Given the lack of detailed knowledge of this first Tulan civilization, like to turn to the most highly developed and sophisticated Mesoamerican religion, that of the Mayans. It has been speculated that their rise to brilliance followed the fall of

the Teotihuacano-Tulan empire in the fifth century, and their classical period is known to be from the fifth century to the ninth. The signal feature of Mayan religion on is the way it deified not only the planets but also the cycles of time and religion numbers 1 to 13. Thus time in different manifestations - as a planet that changes time, as the cycle of time that results, and as the numbers by which that cycle is measured - all became divine. Time itself seems to have become the essence, or if you like, the substance, of divinity; insofar as divinity was incarnate it was incarnate in space, but its essential nature was as time. But these are western terms, and we had better stick to simpler preliminary statements.

The Mayans were clearly aware of the possibility, or inevitability, of repeated world destructions, and like the other Mesoamerican peoples, they spoke of four earlier "suns" or ages, thought of themselves as living in the fifth "sun," and expected that "sun," too, to perish by some celestial agent. But the remarkable point is that this expectation produced so little apocalyptic frenzy or fervor in the Mayans. On the contrary, they developed their system of time until contemplation of the beginning and end of a world age was held completely in check and acquired no obsessive force whatsoever. Using units of four hundred years, they speculated that the cycle between the destruction of suns was thirteen four-hundred-year periods, thirteen *baktuns*. Steles from their classical period refer to them as living in the eighth and ninth *baktuns*, and the date they gave for the last destruction of the world has been computed as -3113. But they also computed in smaller units. They worshipped the year in its present length of 365 days, and computed the quarter-day error with greater precision than their contemporaries in the Old World. They also worshipped two other sacred years, one of 360 days and another of 260. The simplest interpretation in the Velikovskian context would be that these were extended back before the last celestial disturbances; but it is also possible that they are different celestial cycles of other bodies than the sun. The 260 day year was the most sacred, and the obsession of Mayan numerology became to reconcile the cycle of 260 days with all longer cycles. This they did by conceiving of the simultaneous journey through time of different divinities who were themselves units of time and who

also bore time on their backs as they walked along the road. When a cycle ended, its god came to a restingplace and set down his burden. For the Mayans it was a sacred event when more than one such burden-carrying divinity arrived at their resting-places simultaneously.

The rituals developed for units of time smaller than the *baktun* must have played an especially significant role in reducing apocalyptic anxiety. Most effective was that of the *Katun*, the twenty year period, for this was the ritual by which time could be experienced in a single human lifespan. They conceived that each twenty year period had a god presiding over it, who bore it on his back. Ten years before that period began, they welcomed the god as a guest in their temples, propitiating him and the god of the present *katun* at the same time. This is a very civil process, a matter of good manners to the arriving god: it is also a religious experience easily accessible to the imaginations of those who live long after catastrophes, for it accords with the length of our own lives. It is thus a magnificent check against obsession with that distant day when the "sun" would come to an end.

The Hopis of northeast Arizona also trace their culture back to the great Mesoamerican complex of civilizations, even though they live far north of the area normally attributed to it. In them, one finds a conviction strongly parallel to that of the Jews, for the Hopis too conceive of themselves as a chosen people. They claim that during the last destruction of the world they, as a people, were chosen to survive, and that the divinity who reshaped heaven and earth instructed them to preserve a yearly cycle of rituals reflecting the pure pattern of creation, in order to prevent future catastrophes. Their theodicy also resembles the Judaeo-Christian, in that they believe that it was some fault in man, some moral failing, that precipitated the earlier world destructions. They are therefore concerned to bear themselves with both ritual and ethical correctness, in order to survive the next destruction as they have survived the previous ones. This ritual attitude is developed in the most minute details; even the steps of their dances reflect it. Here is a description of one such dance in which the cosmological symbolism is evident. It is the dance for *Niman Kachina*, a festival after the summer solstice,

when the spirits from the sky who have visited the Hopi for half of the year are sent home.

The pattern of the dance embodies the familiar cosmological concept. The dancers first enter the plaza in a single file from the east and line up on the north side, facing west. As they dance, the end of the line slowly curves west and south, but is broken before a circle is formed, just as the pure re pattern of life was broken and the First World destroyed. The dancers then move to the west side, the line curves to the south, and is broken as was the pattern of life in the Second World. Moving to the south side and curving east, the dancers repeat the procedure at this third position, representing the Third World. There is no fourth position, for life is still in progress on this Fourth World and it remains to be seen whether it will adhere to the perfect pattern or be broken again [10].

This concrete example gives a sense of what Deloria is talking about when he emphasizes the spatial nature of tribal American religions. The great events in time are transformed into the position of dancers in a plaza.

Finally there is the Aztec religion, easily the most barbarous aberration from the Mesoamerican civilizing norms. At the time when the Spanish arrived, the Aztecs' obsessional fear that the sun would collapse if not fed by human blood had grown so great that as many as twenty thousand people would be sacrificed in a single rite. Human sacrifice existed in Mesoamerican culture before, but it was used with great reserve, if one may speak of it that way; only in times of dire necessity would one person be sacrificed. Among the Aztecs, apocalyptic feeling had dislocated the syntax of the sacrifice and become obsessional in the highest degree. Scholars have reconstructed from Aztec chronicles the possibility that there may have been one particular king who initiated the idea of a ritual war for the purpose of gaining prisoners for sacrifice, and they have speculated that this idea was manipulated by the skillful politicians of the Aztec empire. In other words, these men were fabricating a kind of ideology or propaganda to justify their conquests. This would be merely one among many cases in which an ancient mythical obsession with preventing cataclysms falls later into the hands of people ready to use it quite differently from the original intention, and the result can clearly

be termed a barbarization. The Aztec culture itself was in such tension as it continued to witness these spectacles of mass sacrifice that when the Spaniards arrived it seemed to be experiencing a desertion by its own gods. It may be this experience more than any other which explains the immediate evaporation of such a large empire.

At the beginning I suggested that this talk might be some kind of prolegomenon to the reconciliation of reason and religion. Hence it is not intended to be normative. And yet inevitably when I come to something like the Aztec cult of sacrifice I call it a barbarization, and when I come to the spectacle of the Mayans courteously welcoming the god of the twenty year period I call it civilized. Such characterizations come instinctively from my concurrence with the thought on which Mr. Doran ended his paper [11]. That is, that the mind most definitely has the power to relieve itself of its apocalyptic syntax. We can become aware of it when it is used or manipulated, when it becomes part of either the conscious or unconscious behavior of others. And we can, whether by an attitude or a rite, celebrate the fact that we live in stability now. In submitting religions to spectral analysis, this last capacity is the wavelength to watch for.

Notes (Structuring the Apocalypse)

1. Deloria, Vine, *God is Red* (Grosset & Dunlap, 1973) page 99. quoted from: Eastman, Charles, *The Soul of the Indian* (Houghton Mifflin, 1911) pages 119-120.
2. See behind, MacGregor, "Psychological Aspects of the Work of Immanuel Velikovsky", page 47. (Ed.)
3. See ahead, Grinnell, "Catastrophism and Uniformity", page 131. [Ed.]
4. Dr. Velikovsky associates the Universal Deluge with a nova-like outburst of Saturn caused by a close interaction of Saturn with Jupiter. These events will be described in a volume with the title *Saturn and the Flood*. Dr. Velikovsky has not completed this manuscript. He discusses earlier catastrophes in his Address to this Symposium. See behind, Velikovsky, "Cultural Amnesia". Pages 21 and 22. (Ed.)
5. I have discussed these phrases, and the Pyramid Texts in general, at greater length in "A Reading of the Pyramid Texts", *Pensée* 3(1):10-16 (Winter 1973).
6. Pyramid of Unas, Utterance 254, Spells 276-279; my translation.
7. Mark 13:24-29; King James Version.
8. Revelations 10:5-6; King James Version.
9. For my discussion of the evidence supporting the identification of Teotihuacan with the original Tula, as well as for the catastrophic features in Mesoamerican civilization in general see "The Mesoamerican Record". *Pensée*, 4(4):3444 (Fall 1974). See particularly the second note at the bottom of page 39.
10. Waters, Frank, *The Book of the Hopi*, (Viking Press, 1963), pages 204-205. For a discussion of the reliability of this

book as a source, see "The Mesoamerican Record", *op. cit.*, page 39.

11. See ahead, Doran, "Living with Velikovsky", page 146.
[Ed.]

5

**Shakespeare and Velikovsky:
Catastrophic Theory and the
Springs of Art**

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*[Ed.] Parts of this paper were subsequently published in *Kronos: A journal of Interdisciplinary Synthesis*, (Kronos Press, Glassboro, N.J.) see 1(3):31-45 (Fall 1975) and 1(4):37-54 (Winter 1976).

I must begin with several caveats. First, I do not present these findings as a closed and substantiated set of hypotheses. They are suggestions put forth for discussion, not conclusions, but beginnings. Second, they are part deductive, part inductive, as they must be when one is mapping out terra incognita. Third, because I am addressing an audience fairly specialized in the sciences, but less specialized in literature and drama, I feel I can refer to the Velikovsky background briefly, but that I must treat the action of the plays in some detail.

Now to my paper. Quite simply, I have come across what appears to me to be astonishing Velikovskian overtones in Shakespeare's plays, which I wish to present to this assembly and then use to draw some tentative conclusions upon narrative art and the nature of man. I have chosen two representative Shakespearian dramas, one a seemingly light comedy, *A Midsummer Night's Dream*, and the other, *Antony and Cleopatra*, a worldly tragedy of lust and politics. Neither might at first glance appear to have much to do with catastrophism.

In this first section, I wish to analyse William Shakespeare's *A Midsummer Night's Dream* as an example of narrative art whose subconscious bedrock is Velikovskian. On the surface, the play is a typical public comedy, seemingly light, fanciful and gay, intended mainly to amuse. A significant portion of traditional criticism has treated it in just this manner. Beneath a surface

however, it is highly serious, like all of Shakespeare's comedies, in the sense that what it wants to say, or what it is about, is as meaningful and profound as the great tragedies. Indeed, some critics have argued that the comedies are more serious, in that their scope of reference is wider, more communal. I propose that there is also a deep level of seriousness in the play, a level which contains intermingled elements of terror and comfort whose true source can only be appreciated in terms of the ideas of Dr. Immanuel Velikovsky. I am arguing that we respond to the play in different ways, at least one of which is subconscious, and that the full nature of our subconscious response can only be understood if we perceive the catastrophic substructure which underlies the play.

At the outset, I want to stress the primitive, ritualistic aspects of *A Midsummer Night's Dream*. I feel we must see it, to begin with, as a fertility play, a genre whose roots go very far back into our past. Looked at in this way, the play is accessible to any understanding, from the most primitive to the most modern, because it embodies certain archetypal patterns of action which are universal. If we look at man's art as Jung looked at man's dreams, we discover certain archetypes produced by every society in every place and at every time in recorded human history [1]. We must conclude, as Jung did with dreams, that man as a species shows a tendency to produce such archetypes in his art, and we must then wonder why.

One of these archetypal patterns in narrative art is the genre of the comic fertility play. In it, we begin with an opening situation which appears to be stable, but contains the seeds of dangerous disruption. There is usually a conflict which has reached an impasse. Then, typically, in Shakespeare, a certain person who functions as a catalyst is dropped into the impasse, and his acts set a chemical reaction in motion. As a result, the oppositions are crystallized and the play is propelled into the second phase. This is a period of turbulence and confusion, of rapidly changing alignments, of a search for correct bonding, of apparent but always comic danger. Things appear to be insoluble, indeed disastrous, when suddenly a new factor is introduced which permits everything to be sorted out in the third phase. Here, everything that must happen to achieve a happy ending does, and

everything that had to be prevented, for the same reason, is. I would therefore suggest that Shakespeare's plays may be best understood if they are seen as falling naturally into three parts, or, as George Rylands calls them, movements, one arising from the other in a rather Hegelian sequence.

In Shakespeare's comedy, as in all fertility plays, the center of values is always and principally society. Everything occurs for the welfare of the tribe, the group. In primitive terms, the life of the tribe is threatened at the beginning by dangers within it. The tribe, to guarantee its continued fertility, must maintain a harmony with the divine and the natural, which are the major factors affecting physical existence. This means that every member must play his role, and the mating and reproduction, particularly among those at the top, must occur between those clearly chosen to be marriage partners, and under the most auspicious circumstances. All of this, which means the very life and future of the tribe, is threatened by the original situation, where power is in the hands of those no longer able to rule, and the wrong pairs are urged to mate at the wrong time, under the wrong circumstances. Of course, things must be altered before any irreparable damage has been caused to the future of the tribe. In the second part of a universal comedy, therefore, the confusions and turbulence take the form of dangers of identity, dangers of insufficient self-knowledge, dangers of irresponsible sex, and, comically, the danger of death. That is to say, all of the things which must be avoided for the welfare of the tribe threaten to happen, and none of the things which must be achieved - the purgation of youthful excess, of immaturity, of uncontrolled sexual response, of a facile tendency to bravado and recklessness and violence - appear likely. There is always a guiding force, however, which steers things in the right direction, and, at the end, when all has worked out well, the period of turbulence is seen as a time of ordeal, of testing and of purgation, by which those who survive doff their childishness and undergo a process of change of maturation, of *individuation*, if one may borrow the term, whereby they have been made ready to become responsible adult members of their tribe. One might say that, for the young lovers of a Shakespearian comedy, the action of the play is a sort of ritual initiation to adulthood, set in a context of affirmation of tribal harmony with the forces which

control and thus guarantee life and fertility. It is not an individual who triumphs; rather, it is tribal death which has been avoided, and tribal life which has been assured.

To apply this directly to *A Midsummer Night's Dream*, we must look briefly at the plot. It is a structure of four levels, or perhaps four boxes, each inside the next, from a group of yokels at the bottom to the world of fairy spirits at the top. It is set in ancient Athens, and the pivotal event about which the action occurs is the forthcoming marriage of its leader, Duke Theseus, to Hippolyta, Queen of the Amazons, with whom he had previously been at war. In fertility terms, Theseus' union with Hippolyta will bring political peace and a continuation of his dynasty. It is thus critically important for the future life of Athens that the marriage of its young leader occurs under the most auspicious circumstances.

The play opens four days before the nuptials. Theseus is impatient to enjoy his bride, but he must wait for the new moon, the right time for new beginnings and fertility, before he can ease his sexual frustration [2].

O, methinks how slow
This old moon wanes. She lingers my desires,
Like to a step-dame or a dowager,
Long withering out a young man's revenue.

1.1. 3-6.

Hippolyta politely but firmly tells him he must wait.

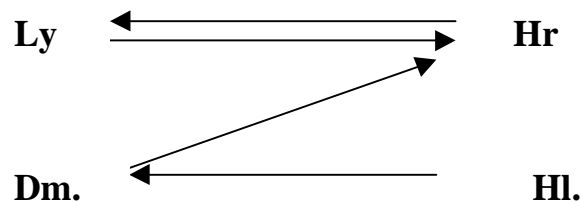
Four days will quickly steep themselves in night,
Four nights will quickly dream away the time;
And then the moon, like to a silver bow
New-bent in heaven, shall behold the night
Of our solemnities.

1.1. 7-11.

Her reply is full of unconscious ironies having to do with sexual frustration, with nightly dreams, with Theseus, frustrated, like a bow which is bent and ready to shoot, but not released.

We shortly meet two sets of young lovers, whose combined story occupies most of the action of the play. There are two

young men, Lysander and Demetrius, and two young women, Hermia and Helena, in a situation of love thwarted by obstacles. It is necessary that these relationships be clear, and so I will set them out in some detail. With regard to the first pair, Lysander and Hermia, he loves her and she loves him, but her father Egeus will not approve of the marriage, wishing his daughter to marry Demetrius instead. As for the second pair, Demetrius and Helena, she loves him but he does not love her, preferring Hermia instead. Thus, there is an obstacle in the case of each pair. This is presented in the following diagram as



Egeus, angry at having his authority challenged, hales his daughter Hermia and her lover Lysander before Duke Theseus and demands justice. The Duke tells her she must obey her father and marry Demetrius, or become a celibate priestess, or be executed. When they are left alone, the two lovers decide to flee to some nearby woods and make their way thenceforth to Sparta, where they will be free to marry. They reveal their secret to Helena, thinking her an ally, but she, in an attempt to gain favor, tells it to Demetrius, whereupon he vows to pursue the lovers into the forest to thwart their plan.

We thus have four young people fleeing Athens for the forest - Lysander and Hermia wishing to elope, Demetrius the rival wanting to stop them, and Helena wanting to be near Demetrius. At the same time, a group of yokels, preparing a rather inept play in honor of Theseus' forthcoming wedding, also decide to go to the woods, where they may rehearse secretly and so avoid the throngs of admirers whom, they are certain, would otherwise dog their heels.

So ends the first act. By this point we have met all the different levels of mankind in the play, from the yokels at the bottom to the four noble young people to Theseus and Hippolyta. We then

move to the woods to meet the highest level of creation, the world of the fairies ruled by Oberon and his queen Titania; and Oberon's attendant spirit, the mischievous bubbling Puck, fills in the rest of the picture.

As he explains it, an argument has developed between Oberon and Titania concerning one of Titania's attendants whom Oberon wants as part of his train. As a result there is discord in the fairy sphere.

And now they never meet in grove or green,
By fountain clear, or spangled starlight sheen,
But they do square, that all their elves for fear
Creep into acorn cups and hide them there.

2.1-28-31.

This description is replete with romantic and fertility symbols - the sacred grove, the magic green, clear water as the source of life, starlight as the natural environment of true love - but these areas, which should be blessed by a united fairy world so they can transmit their life-enhancing virtues to Athens, are now the setting for wrangling and arguments. As a result, the fairy world, with which Athens should be in harmony, cannot perform its fertility function because Oberon and Titania are not united. When they meet, he greets her rudely, and she replies

What, jealous Oberon! Fairies, skip hence,
I have forsworn his bed and company.

2.1.61-62.

We can thus see that the crisis of the male being separated from the female he wants applies throughout the whole world of Athens, human and spiritual. Theseus wanting Hippolyta and being told he must wait, Lysander wanting Hermia and being told by her father that he cannot marry her, Helena wanting Demetrius who rejects her, and now Oberon and Titania not mating as they should - the reiteration at all levels becomes a metaphor which delineates a situation of total infertility which has seized Athens' world the moment before its leader is to wed. All the males are like bows tightly drawn, but with nowhere to shoot. In fertility terms, if Theseus is to marry under such circumstances, both leader and tribe will be cursed. There is the danger of the total annihilation of the life of the tribe.

As a result, the country is under a pall. Its communal life appears desolate, for Theseus is forced to command his master of the revels

Go, Philostrate,
Stir up the Athenian youth to merriments,
Awake the pert and nimble spirit of mirth,
Turn melancholy forth to funerals;
The pale companion is not for our pomp.

1.1-11-15.

In a country like Elizabethan England, which was given to dazzling and elaborate pageantry on state occasions, Shakespeare writes a play in which, four days before a royal marriage, the monarch must plead for youth to be merry, mirth to be awakened, and melancholy to be thrown out as more suitable to funerals. Things are not well in Athens.

Titania, in a long speech, explains to Oberon the consequences of their discord. When I read a summary of Dr. Velikovsky's ideas in the May 1972 issue of *Pensée* [3], I was struck by the astonishing similarity between it and Titania's speech. I wish to compare them now, to convey the eerie feeling I experienced. It almost seemed as if Shakespeare had had the writings of Dr. Velikovsky at his elbow, or at least a copy of *Pensée*, when composing the play.

Here is Titania's speech

And never, since the middle summer's spring,
Met we on hill, in dale, forest, or mead,
By pavèd fountain, or by rushy brook,
Or in the beachèd margent of the sea,
To dance our ringlets to the whistling wind,
But with thy brawls thou hats disturb'd our sport.

2.1.82-87.

That is to say, since the time when the crops begin to grow and thus need sunshine and water, the meetings of Titania and on in appropriate places of fertility such as water fountains, mountain brooks, and the strip of beach which is neither land nor water,

where they must dance in magic circles to assure good growing weather, have been disturbed. The result is chaos.

Therefore the winds, piping to us in vain,
As in revenge, have suck'd up from the sea
Contagious fogs; which, falling in the land,
Hath every pelting river made so proud
That they nave overborne their continents.

2.1.88-92.

The winds can bring life, or destruction. Here, where the natural order of which Oberon and Titania are a part has been broken, the result is destructive. The winds have caused great rain clouds to form, which have rained so heavily that there has been widespread flooding. It must be pointed out that in Shakespeare, one of the most horrendous images he can think of to portray chaos is that of water swelling beyond its appointed limits and usurping the domain of the land. As a result, all cultivation - the main basis of primitive life in addition to hunting - has become impossible.

The ox hath therefore stretch'd his yoke in vain,
The ploughman lost his sweat, and the green corn
Hath rotted ere his youth attain'd a beard;
The fold stands empty in the drowned field,
And crows are fatted with the murrion flock.

2.1.93-97.

Planting has been made futile, the young grain needed to sustain life has decomposed before reaching full ripeness - another major Shakespearian image of waste, and no cattle are able to be raised, so scavenger birds - instead of men - eat the carcasses of the dead feed animals. The basis of settled civilized agrarian civilization has been demolished.

With this gone, all signs of human order disappear.

The nine men's morris is filled up with mud,
And the quaint mazes in the wanton green,
For lack of tread, are indistinguishable.

2.1-98-100.

The vestiges of human civilization, as in a long-forgotten archaeological site, are almost obliterated, because people have

no time - or inclination - to sport. Neither are they inclined to worship, with further worse results.

The human mortals want their winter here;
No night is now with hymn or carol blest.
Therefore the moon, the governess of floods,
Pale in her anger, washes all the air,
That rheumatic diseases do abound.

2.1-101-105.

The consequences continue to grow, in a proper Renaissance progression from the particular to the general, until the last image, which is one of universal chaos.

And thorough this distemperature we see
The seasons alter: hoary-headed frosts
Fall in the fresh lap of the crimson rose;
And on old Hiem's thin and icy crown
An odorous chaplet of sweet summer buds
Is, as in mockery, set. The spring, the summer,
The chiding autumn, angry winter, change
Their wonted liveries; and the mazed world
by their increase, now knows not which is which.

2.1.106-114.

Here we have reached cosmic chaos. Winter follows spring, summer follows winter, and no man knows season or time; and the blame for all this is to be laid squarely at the feet of Titania and Oberon.

And this same progeny of evils comes
From our debate, from our dissention;
We are their parents and original.

2.1.115-117.

Discord in the heavens has caused universal disorder on earth.

For those not familiar with Pensée's summary, I offer a few extracts [4].

In great convulsions, the seas erupted onto continents.

Climates changed suddenly, ice settling over lush vegetation, while green meadows and forests were transformed into deserts.

Fleeing from the torrent of meteorites, men abandoned their livestock to the holocaust. Fields of grain which fed great cities perished. Cried Ipuwer, "No fruits, no herbs are found. That has perished which yesterday was seen. The land is left to its weariness like the cutting of flax."

In the new age the sun rose in the east, where formerly it set. The quarters of the world were displaced. Seasons no longer came in their proper times. "The winter is come as summer, the months are reversed, and the hours are disordered," reads an Egyptian papyrus. The Chinese Emperor Yahou sent scholars throughout the land to locate north, east, west, and south and draw up a new calendar.

This is the situation which must be remedied in the play, for it is the cause of the vast disorder and infertility - symbolized by such patterns as the sexually frustrated males at all levels - which threatens the very life of the tribe. If accord is not achieved in the supernatural world, Athens is cursed. Something must happen - some chain of events - to turn all of this about.

At the human level, if the tribe is to continue to function healthily, not only must its leader marry auspiciously, but its best young noble blood must be well-mated too, for these people must be available to aid the ruler in governing the tribe. Hermia must end up marrying Lysander, while Demetrius must be brought to accept marriage with Helena, and both of these marriages must occur within and with the full approval of the society of Athens, if Athens is to reap the maximum benefit which such noble marriages can contribute to its future.

Conversely, among the things which must not happen are sexual relations before marriage, either between the young lovers or between Theseus and Hippolyta. In mythological terms, they must be preserved in ritual cleanliness and purity, to be free to share in the rites of social ordination at the end of the play. To Shakespeare, the institution of marriage is always sacred, as compared with promiscuous sex, because it represents the subjugation of sensual individuality to the interests of the group, or maturity triumphing over youthful selfishness.

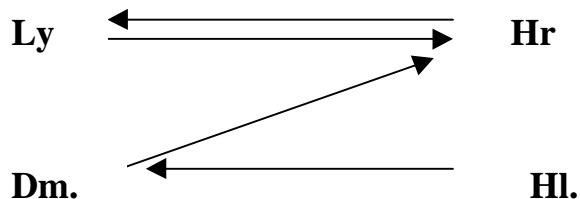
Equally, no violence must occur between Lysander and Demetrius, rival lovers, or they may be killed, wasted without having ripened to play their part in the continuation of the life of the tribe. The yokels too must be preserved to serve the state. Even the successful elopement to Sparta of Lysander and Hermia, without violence, would be a severe loss to Athens, and so this too must not happen. The lovers must be made free to marry each other in Athens.

The forest is the testing ground where all of these possibilities, whether for the life of Athens or against it, lie waiting. The second, third, and fourth acts, all set in the forest, are thus a period of growing turbulence, where all the impulses generated in Athens are set one against another. Confusion mounts upon confusion, hatred and disorder are unleashed, but, at the end, after all the tumult and passion, events are sorted out, order is restored, and all ends well. Very briefly, that is the action of the play. Let us now look more closely at the middle section.

When appreciated in performance, the action in the forest seems totally confusing. Things happen with bewildering rapidity, with great humor and imagination, until everything is sorted out, we-know not how. However, when we look at the action in tranquility, a certain pattern emerges. As described by Enid Welsford, it is the pattern of dance [5]. Because it is a sequence of changing partnerships, like a minuet or square dance, it can be efficiently set out as a series of diagrams.

In the opening situation, as the reader will recall, Lysander loves Hermia, who loves him, while Helena loves Demetrius, who loves Hermia. This was represented as

1.



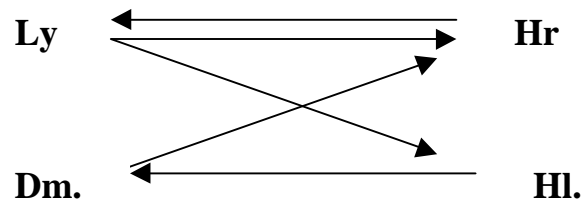
That is to say, both young men love Hermia, and neither loves Helena. Then, as we remember, Lysander and Hermia run off to the forest, and Demetrius and Helena follow. When Demetrius and Helena reach the forest, he looking for the fleeing pair, she pursuing him heartbrokenly despite his repeated insults, threats, and rejections, Oberon observes them invisibly and, offended by Demetrius' treatment of the girl, vows

ere he do leave this grove,
Thou shalt fly him, and he shall seek thy love.

2.1.245-246.

He then orders Puck to sprinkle a magic juice on Demetrius' eyes, so that he will fall in love with the next woman he sees, presumably Helena. Puck, not realizing there are two Athenians in the forest, comes upon the sleeping figures of Lysander and Hermia and sprinkles the juice on Lysander's eyes. No sooner is this done but Demetrius and Helena come into the clearing and, after some abusive language, Demetrius abandons Helena. She stumbles over the sleeping Lysander, who, awakening with the juice on his eyes, sees her and naturally falls in love with her and pursues her offstage, abandoning Hermia, who awakes and finds herself the one who is now alone. The second pattern, therefore, is

2.

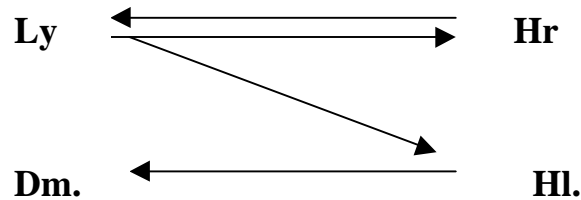


Each of the boys now loves the girl who does not love him.

The next exchange occurs when Oberon realizes Puck's mistake, as Demetrius pleads his love to the bewildered Hermia, who cannot understand why her beloved Lysander has left her, and fears Demetrius has killed him. Oberon charms Demetrius asleep and puts the juice on his eyes, ordering Puck to bring Helena where Demetrius can awaken and fall in love with her. In a moment, Puck has brought Helena back, with Lysander

protesting his love for her, and Demetrius is duly awakened by their arguing, whereupon he sees Helena and bursts out in rhapsodic love poetry for her. Thus the situation now is

3.



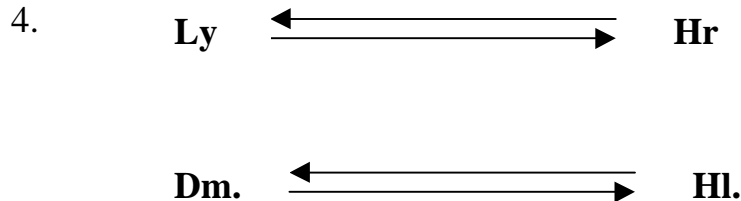
At the beginning, both young men had been in love with Hermia, and no one had loved Helena, where now both are in love with Helena, and neither with Hermia. The play seems to be weighing all the different possibilities. The two men, quite naturally, strut like rams at mating time, hurling threats at each other concerning the possession of the ewe Helena, and the situation is further aggravated by the arrival of Hermia. Helena, with the two men at her feet, cannot believe what has happened, and accuses the others of being in a conspiracy to mock her. Soon the two girls are tearing at each other's hair and the men run off to fight in another part of the woods. Puck is enormously amused by it all, but Oberon is concerned to set it all right. He orders Puck to keep the men apart by magic and tire them out until they fall asleep. He then gives Puck another magic juice, an antidote to remove the first from Lysander's eyes, so he will love Hermia once more.

Puck accomplishes his task swiftly and efficiently. One by one, staggering with exhaustion, each of the four young lovers is led by the disguised Puck back to the clearing, where each simply collapses and goes to sleep on the ground, unaware of the presence of the others. When they are all safely deposited asleep in the same clearing, Puck amends his first error by applying the antidote to Lysander's eyes, and the night of confusion comes to an end.

And the country proverb known,
 That every man should take his own, In your waking shall
 be shown.
 Jack shall have Jill;
 Nought shall go ill;
 The man shall have his mare again, and all shall be well.

3.2.458-463.

Shakespeare gives Puck generic and somewhat mocking terminology to make us recognize that what has just occurred is not a private event pertaining only to these four individual humans, but a universal sequence - Jack shall have Jill - relevant to all of mankind. And so the final pattern in the square-dance sequence, after all the confusing do-si-do's and bow-to-your-partner's, is



The confusion is over, and now the lovers and yokels - all the humans in the forest -

May all to Athens back again repair,
And think no more of this night's accidents
But as the fierce vexation of a dream.

4.1.70-72.

Things will at last come to the desired relationship. When the lovers awake, all will indeed be well. Jack shall have Jill.

In spatial terms, there has been a movement from a quadrangle to variations on a triangle, and then back to a quadrangle again. Figure 4, the quadrangle, existed before the play began, and will presumably exist after the play ends, but Figures 1, 2 and 3 are triangles, with the fourth element separated in each case. They represent the main action in the forest, but then, after Oberon's changes have been affected

The fourth act finds the quadrangle in its proper state, each man attached to the right woman, restoring a situation which predates the beginning of the play [6].

The change from a grouping of three to a grouping of four is particularly satisfying because it includes the missing element for the first time in an integrated relationship. In terms of Jungian

psychology, it is an archetypal move to fullness or wholeness, a reconciliation, and, in this case, a restoration of a beneficent previous order. This holds true in all ways, for, in practical terms, the result is good for all the parts of the whole.

Thus, the restoration of the proper love relationships also restores the friendships of all four. even Lysander and Demetrius, who were ready to fight to the death, are friends again at the end of the play [7].

That is to say, the scheme or structure in this play is so set up that the interrelationship of the whole - from the yokels to Oberon and beyond to all creation - depends upon the internal relationships within the constituent parts, in which one element in each must always dominate over the others, and yet all form part of an interdependent system. in poetic terms, this can be a description of the cosmos.

The remaining obstacle to Athens' happiness is, of course, the discord in the heavens. To summarize this plot level very briefly, Oberon had put the same magic juice on Titania's eyelids while she slept, and Puck, by magic, had given one of the yokels an ass' head and then led him to awaken Titania, so that she fell in love with an ass, a human ass. She proceeded to decorate him with garlands and have her fairies sing to him, and have him led to her bower. Oberon, pitying her at last, released her from the spell by applying the antidote to her as she slept, as Puck had done to Lysander. Now she awakes and greets Oberon with joy, and the fairy world is reunited as Oberon proclaims

(Music)
 Sound, music. Come, my queen, take hands with me.
 And rock the ground where on these sleepers be. [Dance]
 Now thou and I are new in amity,
 And will to-morrow midnight solemnly
 Dance in Duke Theseus' house triumphantly,
 And bless it to all fair prosperity.
 There shall the pairs of faithful lovers be
 Wedded, with Theseus, all in jollity.

4.1-88-95.

We can now see, in very general terms, what has happened in the forest. As the diagrams illustrate, it has been a series of changing relationships, as if different combinations were tested,

and rejected, until the correct relationship was at last achieved, whereupon the changes were ended and the final relationship fixed. In different terms, *all* of the dangerous possibilities outlined above were avoided, and *all* of the desired events have occurred. Shakespeare had sent into the forest a group of bumbling yokels, four angry, upset, even desperate young lovers, and a quarrelling King and Queen of the Fairies. It was a potentially dangerous mixture, for the individuals themselves but more particularly for the future welfare of Athens, and Shakespeare had stirred his ingredients vigorously, but nothing undesirable had happened - no uncontrolled sex' no physical violence, no permanent rifts between lovers, no misalliances. The Voyage Perilous through the Forest of Passion has terminated triumphantly. All have passed the test and are ready for ordination.

Very few critics have appreciated the latent, subtly-suggested dangers lurking behind the comic resolution in the play. To most, the play is gossamer; to some, it can hardly bear the defilement of close analysis; to only two or three it is sober.

Modern productions, overstressing the nondemonic, have seriously misrepresented the fairies as gauzy, fluttery creatures with no more mystery or authority than butterflies. Something is lost by this. Oberon is not harmless: he is a prince from the furthest steep of India, shadowy and exotic. Titania is a powerful force - "The summer still doth tend upon my state" - and Bottom is virtually her prisoner. The marital disturbances of these beings affect the weather and the natural cycles and result in floods, droughts, and famines. Their benevolent presence in this play serves to emphasize the comic context only if they are recognized as potentially dangerous [8].

Equally few have appreciated the vastness of the context implied by the surface action of the play.

The most effective and memorable pictures in the play are not the glimpses of single figures and activities described above. They are the larger representations, full landscapes with a remarkable sense of spaciousness and distance . . . Throughout the night in the woods that follows, confined and hectic as it may be, we get glimpses of these magnificent views and distances ... As daylight returns to

the play, the panoramas regain full splendor ... The function of these panoramas is not difficult to discern ... Only such comprehensive vantage points would give us this sense of surveying all of nature in order to discover man's unique position in it [9].

Another critic unwittingly uses catastrophic language to defend the poetic richness of the panoramic descriptions, saying they are

... calculated to make the audience respond with wonder to the effortless reach of the imagination which brings the stars madly shooting from their spheres [10].

Within the panorama, nature is presented in two ways, as a force of metamorphosis, or change, and as an inscrutable, uncontrollable power. As one critic observes of *A Midsummer Night's Dream*

... the whole of nature is seen to be in movement. Everything is changing [11].

The impression created by the changes is that nature is unfathomable.

Those Shakespeare plays that specifically treat of nature more precisely, the nature of nature ... all posit a universe which has neither order nor discernible limits [12].

with the result that the action

... suggests that our knowledge of the world is less reliable than it seems [13].

Although man cannot understand or affect the forces of nature which control his societal existence, these forces are always pictured as benevolent in comic drama. To one critic, the pattern is society to *wilderness* to an improved society, while to another, schematizing the morality play, it is *fall from grace to temporary prosperity of evil to divine reconciliation* [14].

In the most universal terms, it has been a trip to the brink of chaos, but no further. The life and stability of Athens, and thus by analogy of human civilization, of existence itself, has been

threatened, but all dangers have been overcome. The correct alignments and bondings have occurred, and a night of confusion has given way to a morning of order and fertility. In Velikovskian catastrophic terms, we have seen the brink of catastrophe, but have been brought safely back.

There are other catastrophic, or at least celestial, overtones. For example, the whole play's action occurs during the crucial part of a lunar fertility cycle. It begins when the moon is on the wane, which is a period of danger and error in folklore, and so every impulse seeking to run its course during this period must be held in check, must be delayed until a time of better beginnings. The action then moves through a span of three or four nights of darkness and confusion, finally reaching the moment of the new moon. This is the correct time for beginnings, for impregnation and fertility, and that is precisely when all the discord in the play has been reconciled, with nothing irreparable having been previously set in motion. Thus, like the feminine moon, or the earth emerging from a catastrophe, the whole tribe or society has been cleansed and refreshed, and is in a sense reborn.

Secondly, the particular holidays which form the context of the play are originally pagan and astral. The first is May Day, and, more particularly, *Maying*, or *bringing home the May*.

No literacy was required for an audience to understand that the "rite of May" was both an individual and a communal means of celebrating the arrival of spring and reestablishing the human affinity with the natural cycles [15].

The bringing home of May acted out an experience of the relationship between vitality in people and nature. The poets have merely to describe May Day to develop a metaphor relating man and nature [16].

The other holiday is Midsummer Eve, the longest day and the shortest night of the year.

Midsummer Eve, associated with the summer solstice, is one of the oldest and most widely celebrated holidays on record. Originally intended as homage to the sun at the height of his powers, it had become by Shakespeare's time a night of general merriment with overtones of magic. Its

customary features included the building of bonfires and the carrying of torches [17].

In addition, J.G. Frazer's *The Golden Bough* contains a section entitled 'The Solar Theory of Fire Festivals' [18]. In sum, the mythological and folkloric context is suffused with the presence of the classical moon - Phoebe or the triple deity Hecate Diana Proserpina - acting at a time containing the double parameters of spring rebirth and solstice celebration. We need only add that, in Dr. Velikovsky's view, the joy of the summer solstice is a ritual born out of fear of celestial aberration [19].

Thirdly, there are what appear to be a cluster of catastrophic memories concentrated in Act 3, Scene 2, the largest and most important scene in the play, where, as I have described above, a series of oscillating relationships is presented, growing more and more intense, until all the possible variations have been experienced and the right one is achieved and fixed. I feel that the events in this scene, and the context in which they are set by Shakespeare, exhibit strong catastrophic overtones whose outlines I shall now try to set forth.

As we recall, the original pairings were Lysander-Hermia and Demetrius-Helena. We turn now to the point where, after Puck has placed the love juice on the wrong lover's eyes, Hermia is distressed to find Lysander gone and Demetrius in his place, pleading love, and she cannot understand the desertion of the former nor accept the affection of the latter. We shall now look at the rest of the scene through the optic of catastrophic speculation, which will involve an attempt to discern or reconstruct possible celestial events behind the actions of the characters, which must begin with an attempt to establish precise celestial roles for those characters.

When we come to assign specific celestial names to the major characters in the play, we must proceed with caution for several reasons. First, we cannot determine for certain whether it may be the events of the first set of Velikovskian catastrophes, circa -1475, which lie behind the scene, or the events of the second period, from -776 to -686, or a general collective memory of both cataclysms, and others. If Velikovsky is correct - and he insists that there were catastrophes previous to the two he

attempts to reconstruct then all such sources potentially are available to the artist's mind. Second, we do not really know how closely we ought to look for specific parallels, rather than general ones. That is to say, should we try to tie the action to catastrophic events as such, which is revolutionary enough in itself, or should we go even further, and link it to allegedly specific events? Can we expect that an artist, at least 2200 years after the fact, should be able to mirror precise occurrences, no matter how overwhelming those occurrences may have been? Third, before arguing subconscious inherited racial memory as the basis for the features of this play, we must take into account all possible conscious influences upon Shakespeare, particularly the works of Ovid and the writings of classical historians, from whom he might have derived the sort of cataclysmic worldwide images which we found in Titania's speech. On this basis, to make a long story short, I have concluded that the action of this scene may be both a surprisingly accurate recollection of precise celestial events as described by Dr. Velikovsky, and, at the same time, an artistically modified equivalent to those events. I might add that, if the memories of the original cataclysms were deeply burned into the racial memory of mankind, as Dr. Velikovsky argues, this is just what one would expect. I shall deal with the overt parallels now, and postpone a discussion of the covert relations for the conclusion of this paper. I suggest that one set of suitable equivalences may be

Earth - Hermia
Moon - Lysander
Mars - Helena
Venus - Demetrius
Sun - Theseus
Jupiter - Oberon - Zeus.

We note immediately a reversal of the usual genders - the Moon is a male, Mars is a female, and Venus is a male. This is not entirely unknown in Greek mythology, where certain planets are associated with both masculine and feminine heroes, nor, I suggest, should it be unexpected in the sublimating hiding-process of art. As I will try to explain in the conclusion of this paper, the creative mind must not let itself, nor the minds

which its art will affect, know consciously what it is doing, and a change in gender is a fine subterfuge.

Applying these equivalences, we can see how the action can mirror celestial events, and we begin by noting individual cosmic images. Hermia observes that Lysander is as true to her as the sun unto the day, 50-51. He is then described as having been driven forcibly away while Hermia was sleeping, 51-52. This may mean at night, or in the darkness of thick clouds which so obscure the Sun that day is like night, as if the Sun has abandoned the Earth at a time - day - when it should be true to Earth. This is followed by a puzzling solar image, 47-50, of the Earth being bored and the Moon plunging through to the other side and rivaling the Sun at noon, when it should be at the opposite pole. She then calls Demetrius a murderer of the Sun, 56, and describes him as appearing *dead*, or pale, and *grim*, or deadly, 57. That is to say, the rival in the sky who has driven off or killed the Sun is pale, because obscured by dark clouds, and grim because it causes destruction, which may poetically suggest the action of Velikovsky's Comet Venus. Yet Demetrius replies that he too has been wounded, 59, *pierced* by Hermia's cruelty, and then tells her that she herself looks as bright as Venus in the sky, 60-61.

Using these associations suggested by the words of the play, we can then derive more Velikovskian parallels. Hermia begs for Lysander back, and Demetrius calls himself a hunter who has killed Lysander and will let his dogs eat him. Hermia cries

Has thou slain him, then? Henceforth be never number'd
among men.

66-67.

or considered a member of a stable society, whether of men in a tribe, or, by extension, of planets in a solar system. She accuses Demetrius the Comet of cowardice, saying he could never dare approach Lysander when Lysander was awake, 69-70, meaning, in primitive terms, during the brightness of day, when the shining Sun is lord of the skies and thus drives off all enemies. in primitive terms, if the sky were to become dark during the day, it would be as if the Sun's power as lord of the heavens had decreased, and only then could an enemy - a *pale* but deadly

comet - rival or displace the Sun [20]. And in the very next image Demetrius the Comet, the rival Sun, is described as a Serpent, 72-73. It would appear that, with Shakespeare's imagination actively engaged, a series of primordial and apparently catastrophic memories emerges in one flood of connected imagery.

Then Hermia, the Earth, parts from the Comet, refusing to accept it as a substitute, 80, and the Comet does not follow. Helena, meanwhile, is described as sick, weak and pale, but then Oberon anoints Demetrius with the magic juice, saying of Helena

When his love he doth espy,
Let her shine as gloriously
As the Venus of the sky.

105-107.

If Oberon is Zeus-Jupiter, then perhaps the application of the love juice represents an electrical planetary interchange which begins a new phase in the celestial events. Ralph Juergens, one of the editors of *Pensée*, has argued that the changes and movements which the Velikovsky scenarios require do not refute conventional theories of celestial dynamics, but could have been accomplished by the action of celestial forces, particularly the clash of magnetospheres and electrostatic attraction and repulsion [21]. Velikovsky refers to such events in *Worlds in Collision*, where he discusses the transformation of Phaethon into the Morning Star.

This transformation is related by Hyginus in his *Astronomy*, where he tells how Phaethon, that caused the conflagration of the world, was struck, by a thunderbolt of Jupiter and was placed by the sun among the stars (planets).[22]

Helena duly appears in the clearing, shining indeed like Venus, and Demetrius awakens and sees her, and in an instant shifts his attention to her, or becomes attracted to her. Thus, she now exerts a strong attraction for both Lysander and Demetrius, an attraction powerful enough to draw Lysander from his accustomed orbit around Hermia, 185. Helena is now described as being unusually bright, 187-188, brighter than any other object in the darkened sky. When both men appear attracted to her, Helena complains that she and Hermia had once been very

close, 202-214, almost twins, and now Hermia has joined with the men to tear their former closeness apart, 215. What appears to be suggested here - and I proffer this with the greatest trepidation - is that Mars may once have been a sort of sister planet to Earth, perhaps before it was *thrown out of the circle*, as Dr. Velikovsky has said tantalizingly but enigmatically [23].

In any case, Lysander and Demetrius both follow after the sister planet, calling her a celestial goddess, 226-227, and neglecting Hermia-Earth. Helena-Mars asks to be released from her attachment to Demetrius-Venus, 314-316, and then the two girls clash, and now it is Helena who is accused of having stolen Lysander from Hermia, at night, and Hermia is described as being small and hot when angry, 323-325.

In the last stage of this turbulence, Puck and Oberon take control, as curative night forces who do not fear the light, 388. In a period of intense darkness, fog and noise, they keep Lysander and Demetrius apart, and do the same for the girls, until they can settle all the young lovers - or Earth, Moon, Mars and Venus - into a stable relationship, effecting these changes through the love juice and its antidote, or differently-charged Jovian thunderbolts. They sort things out for the good of Athens, and so the night, which is said to have been difficult, draws to a happy end. The pattern has been a seemingly orderly but actually dangerous situation at day's end, changing to confusion and threat Chaos in the night, but moving finally to salvation and then to seemingly total Chaos by light. The pattern is substantially Velikovskian, and is also quintessential to most creative art, myth, folklore, and religion. In Jungian terms, Oberon and Puck, as different aspects of the restorative agency, may be Hare and Trickster, indicating that the restorative process is beneficent in the total view, although troublesome at certain points.

To summarize, we are presented in this scene with a gamut of changes based on attraction and repulsion, set in a context of celestial images. In a period of nocturnal brilliance and oscillating movement, where individual entities suddenly become as blazing as the brightest planet, the Sun disappears, apparently killed and replaced by a pale and deadly comet-like rival, also

called a serpent, who does not deserve to be numbered among the planets. This causes temporary misalliances - the Comet pursues Earth, but then is repelled, after which another planet becomes bright and attracts both Comet and Sun. Then there is a change to darkness, fog, vast noise and the disappearance of guiding light, and in this context the forces of order arrive at last, realign the attractions, and the difficult dark period is over. In the play, because it is not a dream, the variations have been carefully, geometrically structured because they must fulfill a conscious dramatic function, but, if one also looks at them as possible products of a suppressed primordial memory, then the pattern of shifting electrical electrically-charged and luminously-varying combinations may reflect celestial catastrophic events of the past being safely realized in the sublimation of art.

It is only after this final and apparently desirable order has been established that the night, or extended cloudy darkness, comes to an end when the Sun-Theseus appears. The Sun-Theseus had left the play as soon as Demetrius-Venus had become attracted to Hermia-Earth, when night and conflict as possible total destruction had descended upon the forest. The second, third and fourth acts, in which all the varying alignments are worked out, take place in darkness. Then, when order has been restored in heaven and on earth, the Sun-Theseus reappears to mark a new day, a return of day, a new order.

This constitutes the main action of the middle and largest portion of the play, and the two other stories developing in the night forest - the argument between Oberon and Titania, and the adventures of Bottom - are simultaneously brought to a conclusion at this point as well. To leap ahead for a moment, the third and final section of the play culminates in the solemnization of this new order, and this is performed by Oberon-Zeus-Jupiter, who no longer shoots thunderbolts at warring planets, but gives his blessing to earthly stability and concord. The mind of man, stirred to uneasiness by the recalling in sublimated artistic form of terrible catastrophic memories, is calmed by this final picture, which the controlling artist provides, of cosmic stability approved by Jupiter, the very source of such stability - or disorder.

Before this point is reached, however, the bulk of the third section consists of the yokels' playlet and a general tying up of loose ends. It appears to contribute very little to the development of the action and has been considered by some critics to be a weak appendage, a simple attempt by Shakespeare to end on a purely comic note, to "leave 'em laughing." I contend that it is very much more, for in it Shakespeare proceeds to make clear the larger meanings in his play by throwing questions at us which we ourselves must weigh and find answers for, so that we are provoked, through our own efforts, to perceive and to grasp what Shakespeare is getting at.

There are very few authorial comments earlier in the play, few direct references to overall meaning, but, here in the third part, after the main action has been in effect virtually completed, Shakespeare begins to pile hint upon hint, signal upon signal, leading us to reflect upon what has happened and to grasp its meaning. This process begins as soon as the night has ended and the fairies have departed, when Theseus, Hippolyta and the court go hunting in the forest and come across the four lovers asleep in the clearing. Theseus awakens them and asks the young men

I know you two are rival enemies;
How comes this gentle concord in the world,
That hatred is so far from jealousy,
To sleep by hate, and fear no enmity?

4.1.145-148.

The question is also directed at us, of course. The lovers, totally confused by the past night's events, can offer no satisfactory answer, but their ineffectual gropings after the truth prod our awareness. Demetrius says of his conversion

But, my good ford, I wot not by what power -
But by some power it is - my love to Hermia,
Melted as the snow, seems to me now
As the remembrance of some idle gaud
Which in my childhood I did dote upon;
And all the faith, the virtue of my heart,
The object and the pleasure of mine eye,
is only Helena.

4.1.167-174.

This is what had to happen if Demetrius and Helena were to survive happily and contribute to the welfare of the state, and we have seen how it has occurred.

The process continues after the royal party leaves the stage and only Bottom remains, sound asleep. In a moment he awakens, minus his ass'head, ready to continue the rehearsal which Puck had interrupted the night before, but he sees that it is morning and that he is alone, and then he too, like the lovers immediately before him, begins to wonder about what had happened.

I have had a most rare vision. I have had a
dream, past the wit of man to say what dream
it was. Man is but an ass, if he go about to
expound this dream.

4.1.207-210.

But we have not slept. We have seen what happened. For us it is no dream, and therefore we are being prodded, as we were in the immediately preceding episode with the lovers, to reject Bottom's attitude, to think about the dream ourselves, or else we too are *but an ass*. We *must* expound it, but Somewhat more successfully than Bottom.

The eye of man hath not heard, the ear of man
hath not seen, man's hand is not able to taste, his
tongue to conceive, nor his heart to report, what
my dream was. I will get Peter Quince to write a
ballet of this dream. It shall be called "Bottom's
Dream", because it hath no bottom; and I will sing
it in the latter end of a play, before the Duke.

4.1.214-221.

If we are to perceive what Shakespeare is really getting at here, we must respond to the Biblical allusion to *Corinthians* in this passage, as a good part of Shakespeare's audience could have been counted on to do. Shakespeare is setting out to defend a play when plays were attacked as mere fancy, mere entertainment, and so he appeals to a higher level of truth.

And my speech and my preaching was not with
enticing words of man's wisdom, but in demonstration
of the Spirit and of power:
That your faith should not stand in the wisdom of

men, but in the power of God.

Howbeit we speak wisdom among them that are perfect: yet not the wisdom of this world, nor of the princes of this world, that come to naught:

But we speak the wisdom of God in a mystery, even the hidden *wisdom*, which God ordained before the world unto our glory:

Which none of the princes of this world knew: for had they known *it*, they would not have crucified the Lord of glory.

We are then told how we may perceive this wisdom.

But as it is written, Eye hath not seen, nor ear heard, neither have entered into the heart of man, the things which God hath prepared for them that love him.

But God hath revealed *them* unto us by his Spirit: for the Spirit searcheth all things, yea, the deep things of God.

For what man knoweth the things of a man, save the spirit of man which is in him? even so the things of God knoweth no man, but the Spirit of God.

Now we have received, not the spirit of the world, but the spirit which is of God; that we might know the things that are freely given to us of God.

Which things also we speak, not in the words which man's wisdom teacheth, but which the Holy Ghost teacheth; comparing spiritual things with spiritual.

But the natural man receiveth not the things of the Spirit of God; for they are foolishness unto him: neither can he know them, because they are spiritually discerned.

But he that is spiritual judgeth all things, yet he himself is judged of no man.

1 Corinthians, 2, 4-15.

This *hidden wisdom* is available to spiritual man, to he who is attuned to *deep things*. *Natural man*, like Bottom, can never

know such truth, for his dreams have *no bottom*, and so to him *they are foolishness*. With consummate elegance, Shakespeare leaves it to us to choose what we will be as we watch the last act - natural man or spiritual man.

What follows - the play presented by the yokels to celebrate Theseus' wedding - has been considered by most critics a bit of lightweight burlesque spoofing the inadequacies of inferior actors and theatrical traditions. It is this, undeniably, but it is much more, and there are several major clues to its real significance.

First of all, we must notice the similarity between what happens in Bottom's playlet and what happens in the play itself. Many critics have pointed out that the Pyramus-Thisbe story bears some similarities to the story of Romeo and Juliet. Whether this be true or not, however, is hardly as important as the relation between Pyramus-Thisbe and the story of the four lovers in the same play, which very few critics have noticed. Pyramus and Thisbe are in love, like Lysander and Hermia, and, like them, parental obstacles prevent their marriage. Like them, Pyramus and Thisbe flee into a forest and a sequence of confusions is set in motion; but, unlike the lovers, the story of Pyramus and Thisbe does not end happily. Pyramus, seeing Thisbe's shawl which the lion had torn, assumes she is dead and kills himself in grief, whereupon Thisbe returns, sees the dead Pyramus and kills herself. Thus, the ending is precisely opposite to the story of the lovers, and the reason for it is precisely the absence of Oberon and Puck. No supervisory force with extrahuman power intervenes. The final meaning of the whole play will be derived in part from the juxtaposition of these two stories.

Second, we must situate this playlet in its proper context. It occurs after the wedding, but before the first physical consummation of the marriage bond. Theseus asks

Come now; what masques, what dances shall we have,
To wear away this long age of three hours
Between our after-supper and bedtime?
Where is our usual manager of mirth?
What revels are in hand? Is there no play
To ease the anguish of a torturing hour?

5.1.32-37.

In other words, the yokels' playlet which fills the gap here between Theseus' frustration and the approved time of sexual release, is like the sequence in the forest which filled the gap between Theseus' original frustration, as illustrated in his first lines in the play, and the time of his wedding. There is thus a structural parallel established between the whole forest episode and the playlet.

That is not the only similarity. Indeed, the connections between the two are many, and strong. If we are to appreciate the full importance of the playlet, we must see it in the following relationship - we must approach Shakespeare's play as Theseus' court approaches the yokels' playlet. That is

Audience : play
Court : playlet.

In such a framework, a third set of clues can be perceived - the peripheral comments upon the play made by the amused members of the court. For instance, when Theseus is told

A play there is, my lord, some ten words long,
Which is as brief as I have known a play;
But by ten words, my lord, it is too long,
Which makes it tedious; for in all the play
There is not one word apt, not one player fitted

5.1.1-65.

he replies

I will hear that play;
For never anything can be amiss
When simpleness and duty tender it.

5.1.61-83.

If we imagine that Shakespeare's play, like the playlet, is being presented before a noble audience, perhaps even at a noble wedding [24], we can see that this speech is a clue and an apology, a plea for understanding and tolerance, and that is how we must react. A few moments earlier, in his speech on poets, lovers and madmen, Theseus had been as *natural* as Bottom, denying the validity of poetic insight, but in a trice he becomes

Shakespeare's *spiritual* spokesman, telling us how we may perceive the truth embedded in the playlet. The point is made again moments later when Hippolyta, feeling sorry for the inability of the yokels and their unavoidable scorn before the whole court, says to Theseus

I love not to see wretchedness o'ercharged,
And duty in his service perishing.

5.1.85-86.

to which Theseus replies

Our sport shall be to take what they mistake;
And what poor duty cannot do, noble respect
Takes it in might, not merit.

5.1.90-92.

That is to say, the fun for Theseus will not lie in the ridiculousness of the playlet, but in *taking* what they *mis-take*, in perceiving the sensible meaning behind the ludicrous form, for *noble respect* - royal understanding - judges the intention of the effort, even if the execution or *merit* of it is clumsy - and so must we, we are being told, even if we find Mr. Shakespeare's play clumsy. Even utter dumbness must be eloquence to the perceptive audience, as Theseus found when faced with a welcomer so tongue-tied with fright he could hardly speak a word.

Trust me, sweet,
Out of this silence yet I pick'd a welcome,
And in the modesty of fearful duty
I read as much as from the rattling tongue
Of saucy and audacious eloquence.
Love, therefore, and tongue-tied simplicity
In least speak most to my capacity.

5.1.99-105.

The playlet itself, which occupies most of the fifth act, is excruciatingly funny, but Shakespeare's hints tell us there is some method behind this apparent madness.

His speech was like a tangled chain;
nothing impaired, but all disordered.

5.1-125-126.

It is up to Theseus' court - and, by extension, to us - to perceive the chain beneath the tangle. As the action continues, even the sympathetic Hippolyta is driven to exclaim

This is the silliest stuff that ever I heard

to which Theseus replies, in a clear authorial signal

The best in this kind are but
shadows; and in the worst are no worse,
if imagination amend them.

5.1.211-213.

That is to say, all plays are not real, all acting is feigning, a mirror *or shadow* of real life, and thus the worst production can be as usefully instructive as the best one, if the spectator fleshes out the production's weaknesses with his own imaginative understanding.

When the playlet draws to an end, leaving the noble audience weak with laughter, Theseus does not permit an epilogue, for

The iron tongue of midnight hath told twelve
Lovers, to bed; 'tis almost fairy time.

5.1.365-366.

The whole court leaves, with the three newly-married couples heading for their wedding-night beds. The play had begun in universal sexual frustration, but it ends in universal sexual fertility, properly *controlled* within the social bonds of marriage so as to furnish the most *lasting* happiness both for the individuals and for the tribe. Nothing remains but the blessing of the fairies, and the marriage of the leader of the tribe, complemented by the marriages of those who must help him rule, will have occurred under all the necessary auspicious conditions. Puck heralds the entrance of Oberon, Titania and their combined train, and the blessing is performed in a magic ritual of words, music and dance. The saga of Pyramus and Thisbe, however funny, was tragic. The tale of the lovers and their King is salvation and rebirth.

So the play itself ends, with everyone gone but Puck, who delivers Shakespeare's epilogue. Our response to it must color our response to the whole play. It has a rather humble tone, a very apologetic manner, and the act of making amends for any offence the play may have caused is referred to three times outright, but I suggest that the true feeling communicated by this speech is not apology, but authorial suggestion.

Here are the important lines.

If we shadows have offended,
 Think but this, and all is mended:
 That you have but slumb'ed here,
 While these visions did appear.
 And this weak and idle theme,
 No more yielding but a dream,
 Gentles, do not reprehend:
 if you pardon, we will mend.

5.1.425-432.

If we take these words at their surface value, Puck is *saying* that anyone who may have been offended by the play need only consider it a weak and idle dream, and dismiss it as such. What he *implies*, if we have responded to the previous authorial hints, is precisely the opposite. That is to say, if one has not understood the play, then, like the humans in the forest, they can dismiss the play's events

And think no more of this night's accidents
 But as the fierce vexation of a dream.

If, however, one has been intrigued rather than offended, then one's reaction must be totally different. The play, the *shadows*, are then seen not as idle *dreams*, but as mirroring that which is truly real, like Plato's cave, and the wise spectator has, not *slumb'ed and seen visions*, but has been awakened and seen symbols of universal truth, themes which are not *weak, idle* and *unyielding* of important ideas, but full of significance. And so the final choice is left by Shakespeare to us - we can react like Bottom, like human asses, failing to perceive the order behind the disorder, the chain behind the tangle, or we can be like Theseus, picking meaning out of jumble, taking what the action mis-took, seeing the grand pattern at work behind the play's

seemingly chaotic events, a pattern which, when understood, communicates the author's vision of the meaning of life.

I have stressed the didactic nature of the third section because I wish to make clear what I believe is the vision of life embodied in the total action. It is a vision in which, to those caught up in the course of the events, there seems to be little cause for or purpose in what is happening. To those outside the events, like Theseus and his court watching the yokels' playlet, or we, the audience, watching Theseus in Shakespeare's play, there is a meaning, a purpose. The next step in this progression, obviously, is that God, watching us and *our* lives, sees the meaning of what happens to us, even if we sometimes do not. It is thus Shakespeare's intention in this play to explain the ways of God to man. Shakespeare is saying that the world, life itself, may appear to be veering to catastrophic destruction from time to time, but that a supernatural force - in this case represented by the omniscient and omnipotent Oberon - will intervene when necessary and sort things out *for the welfare of the state*, which always comes first, and sometimes for the good of the individual, who always comes second, or last. This is Shakespeare's comic vision, as it is the vision of most great and enduring comedy. Such a play moves from an opening situation fraught with danger, to a middle section of turbulence, fear, disorder and confusion, to a final stasis of order, happiness and fertility. There is the feeling of a new birth to a new and vastly better world, where all the dangers existent at the beginning have been eliminated, where all the changes necessary for a happy future have occurred, where, barring new difficulties, those who survive the ordeal of the middle section and manifest the desirable qualities are ordained into the new order of things at the end. Total societal chaos, which seemed a clear possibility at one point, has been averted, perhaps forever, through a process of reintegration into a harmonious relationship with the supernatural forces which determine the life and future of all tribes.

In the last section of this paper, I shall develop more fully the consequences of this general action in relation to Dr. Velikovsky's theories on cultural amnesia and to my own hypotheses on the nature of creative art. For the moment, let it

rest at this - what happens in *A Midsummer Night's Dream*, transposed without much difficulty into geophysical and astrophysical terms, bears a satisfying resemblance in form and meaning to the cosmological dramas reconstructed by Dr. Velikovsky in *Worlds in Collision*.

I turn now to *Antony and Cleopatra*, a play saturated with catastrophic images and themes. First, Antony is consistently associated with Hercules and identified with Mars, as Cleopatra is with Venus and Isis. Their love, therefore, and the perturbation which it causes, is portrayed as an attraction between heavenly bodies which threatens the earth. Antony *glows like plated Mars*, 1.1.4, he is *Herculean*, 1.3.84, his faults shine like stars in the sky, 1.4.12, he is *The demi-Atlas of this earth*, 1.5.23, and when he utters sound, he can speak *as loud as Mars*, 2.2.6. Cleopatra, even when she suspects his fidelity, never questions his greatness.

Charmian,
Though he be painted one way like a gorgon,
The other way's a Mars [25].

2.5.115-117.

He is a giant, a colossus who

with my sword
Quartered the world and o'er green Neptune's back
With ships made cities

4.14.57-59.

and when he loses his military prowess, it is believed that Hercules' power has left him, 4.3.15-16.

Cleopatra is both Isis and Venus. The love between her and Antony is described as an attraction between Venus and Mars, 1.5.18, she is given to actually dressing as Isis, 3.6.16-19, and, at her death, where she again costumes herself for the role she will assume, she is addressed specifically as Venus, 5.2.308, the suggestion that carries through her death and colors the final memory we have of her. Thus, both of the lovers are presented in cosmic and significantly Velikovskian roles.

Second, the power contest between Antony and Octavius is likewise given worldwide terms. It is not a local political struggle between petty rivals for a petty piece of land, but a battle for the whole of the civilized world, for the territory of man. Antony is the *greatest soldier in the world*, 1.3.38, *a grand sea*, 3.2.10, and in his face *the worship of the whole world lies*, 4.14.86. Octavius is *The universal landlord*, 3.13.72, and the whole world listens to *his all-obeying breath*, 3.13.77. Together they are

The senators alone of this great world,
Chief factors for the gods.

2.6.9-10.

Thus, because Octavius is given a cosmic or at least worldwide dimension, the mythical magnitude of the love affair is matched by that of the political conflict.

The consequences for Earth acquire the same significance, and indeed a greater one. In Old Testament terms, Egypt is the locale of the Exodus, and overtones of this event are recalled for us in Cleopatra's exclamation

Melt Egypt into Nile, and kindly creatures
Turn all to serpents!

2.5.78-79.

This is reinforced at the Battle of Actium, where Scarus, Antony's lieutenant, compares Antony's defeat to

the tokened pestilence,
Where death is sure.

The image carries through in Shakespeare's creating mind, for Scarus then

Yon ribaudred nag of Egypt
Whom leprosy o'ertake !

3.10.9-11.

In three lines of dialogue, there is a conjunction in Shakespeare's mind of pestilence, death, Egypt and leprosy.

Yet, while the defeat of Antony may have overtones of a divine Old Testament holocaust, its consequence, the victory of Octavius, is cast in a New Testament mould. To quote from one critic:

Octavius - Caesar as he is always called in *Antony and Cleopatra* - was to become Augustus, perhaps the greatest of Roman emperors, creator of the Pax Romana that closed the long period of unrest, revolution, and war, with the time of peace in which Christ was to be born. Thus, in the war with Antony, when Antony's allies have deserted and sympathy for him is at its strongest, Caesar redresses the balance by a brief but significant reminder of his future role in history:

The Time of universal peace is near.
Prove this a prosp'rous Clay, the three'nooked world
Shall bear the olive freely [26].

Thus, the political story acquires a vast religious dimension - it clears the way, prepares the ground, for a new life, for Christ. The turbulence in this tragedy leads to a welcome, beneficent stasis, a new situation much better and safer than the old one, and it is the same process which we discovered in the comedy.

We have thus established that the lovers, who cause so much damage to the Roman empire, are portrayed as Mars and Venus in dangerous conjunction; that Octavius, Antony's antagonist, is also given cosmic stature; that the defeat of Antony is Biblical in character, and that the whole process of the play is a movement from danger to conflict to order. if we now take the step of transposing the action into possible astronomical or catastrophic terms, as we had ventured earlier with the comedy, we can see that Antony and Cleopatra are presented as heavenly bodies, specifically Mars and Venus, who have abandoned their roles, or left their accustomed orbits, to pose a vast danger to the Roman Empire, or Earth. They are then opposed and defeated by Octavius, who may be the Sun. When they are dead, their names and memories can be safely elevated to myth, just as Dr. Velikovsky tells us that the actual planets Mars and Venus, once so prominent in the skies and so threatening, are now safely

distant, in fixed orbits, presenting no living danger to the Earth, and so they too can be safely venerated.

If one has read Velikovsky, the general *action* in *Antony and Cleopatra* is clearly catastrophic, and it is on this basis that I wish to analyze the corresponding celestial and catastrophic *imagery* which Shakespeare has used to characterize the lovers at every important stage of their story's development.

Once they are in love, Antony's proximity or distance directly affects Cleopatra's brilliance, 1.1.9-10. Their attraction takes them beyond all established bounds to *find out new heaven, new earth*, 1.1.17. When Antony renounces Rome for Egypt his words are made to unknowingly prefigure the worldwide destruction this will cause.

Let Rome in Tiber melt, and the wide arch
Of the ranged empire fall !

1.1.33-34.

To him, *Kingdoms are clay*, 1.1.35, or ground covered by floods, and of Cleopatra's passions, it is said sarcastically but with unknowing truth

We cannot
call her winds and waters sighs and tears; they are
greater storms and tempests than almanacs can
report.

1.2.149-152.

When trouble brews at this level

whose quality, going on,
The sides o' th'world may danger

1.2.194.

it is immediately associated with a serpent, 1.2.195-196, a quintessential primitive symbol of celestial disturbance, as Dr. Velikovsky has pointed out [27].

When Antony protests his love to Cleopatra, he does *in swearing shake the throned gods*, 1.3.28, and his propensity to violence is governed by her influence, 1.3.70-71. Cleopatra is

the serpent of old Nile, 1.5.25, and when she is aroused, she is unwittingly made to predict her fall, like Antony, in catastrophic terms.

O, I would thou didst,
So half my Egypt were submerged and made
A cistern for scaled snakes!

2.5.93-95.

The image is as reminiscent of the Exodus as of Velikovsky, as indeed it should be if Dr. Velikovsky is correct, for he dates the Exodus to the time of the first catastrophe described in *Worlds in Collision*.

Later, when Octavia fears a battle between Octavius and Antony, what she says bears an eerie resemblance to catastrophic upheavals and floods.

Wars 'twixt you twain would be
As if the world should cleave, and that slain men
Should solder up the rift.

3.4.30-32.

We think of the evidence Dr. Velikovsky presents in *Earth in Upheaval* of rock fissures choked with massed broken fragments of bones [28].

She herself, if considered a heavenly body consistent with the major personages, is drawn from Octavius to Antony, and then back to Octavius again, as if she represented the Moon, and her final return to the orbit of Earth is surprisingly tranquil, with no accompanying army, no troop of horses, no noise or debris, as may have been the case earlier.

Nay, the dust
Should have ascended to the roof of heaven,
Raised by your populous troops.

3.6.48-50.

Later, when the two triumvirs do at last meet in battle and Antony abandons his fleet, Scarus cries out

The greater cantle of the world is lost
With very ignorance

3.10.6-7.

where *cantle* means a segment of the sphere, the globe, and Antony ascribes his errancy, his flight from orbit, to Cleopatra's astrophysical influence, because she knew

Thy beck might from the bidding of the gods
Command me.

3.11.60-61,

Having lost humiliatingly to Octavius, he feels bereft of divine guidance, as if

my good stars that were my former guides
Have empty left their orbs and shot their fires
Into th' abysm of hell

3.13.145-147.

and Cleopatra's apparent treason appears to obscure the Moon and foretell Mars' destruction.

Alack, our Terrene moon
Is now eclipsed, and it portends alone
The fall of Antony.

3.13.153-155.

When she protests her innocence, her words ironically predict the destruction of Egypt accomplished by hail from a comet's *cold heart*, 3.13.159, which will also be poisoned, and will destroy all generations of life, leaving the dead unburied, prey for scavenging insects, 3.13-159-167.

For a brief moment, Antony's fortunes seem to improve, and Cleopatra becomes his *Sun - O thou day o' th' world*, 4.8.13. His soldiers are like scourges of heaven, fighting

As if a god in hate of mankind had
Destroyed in such a shape

4.8.25-26.

and they glow *like holy Phoebus' car*, 4.8.29, like the chariot of the sun god. When Antony pictures himself and his love reuniting, he imagines such vast noise

That heaven and earth may strike their sounds together,

Applauding our approach.

4.8.38-39.

There is a striking parallel in *Worlds in Collision*, where Dr. Velikovsky describes the approach of comet Venus as accompanied by loud worldwide noise [29].

The false hope does not last long, for in the next battle Antony's forces are soundly defeated, and it appears that Cleopatra has truly betrayed him this time. Antony is driven into uncontrollable anger, and compares himself to the frenzied Hercules, who, near death through a poisoned garment, hurls the bearer of it *on the horns o' th' moon*, 4.12.45. We remember how Dr. Velikovsky showed that many myths of divine and sometimes horned animals scourging the earth are symbols of the catastrophic tempests [30], and so it is with the failing Antony, who Cleopatra says is

more mad
Than Telamon for his shield; the boar of Thessaly
Was never so embossed.

4.13.1-3.

We perceive that Antony's magnitude is diminishing, and it is accompanied by great noise and rending.

The soul and body rive not more in parting
Than greatness going off.

4.13.5-6.

Antony's last description of himself is of inundating dissolution. He compares his self, his identity, to a cloud which continually changes shape and so becomes nothing, a process which

makes it indistinct
As water is in water.

4.14.10-11.

In this last part of the play, concerned as it is with the deaths of Mars and Venus, the catastrophic images cluster most noticeably. When Anton is told of Cleopatra's alleged death, he describes himself as no longer incandescent, nor errant, and so

the torch is out,

Lie down, and stray no farther.

4.14.46-47.

He then tries to kill himself, and, as he lies wounded, his soldiers too seem to recognize that an era is over, that their former astral guides are gone, and a new time, a new calendar, will begin after Antony's darkness, as two of them observe

The star is fall'n.
And time is at his period.

4.14.106-107.

Dr. Velikovsky, of course, has argued that following each of the major planetary interactions there was indeed a new time new lengths of day, month and year [31].

With the approach of Antony's destruction, the relevant imagery becomes violently catastrophic. When Cleopatra, from her monument, sees Antony's body being brought onstage, she cries out

O sun,
Burn the great sphere thou mov'st in; darkling stand
The varying shore o' th' world.

4.15.9-10.

When Antony speaks his last and expires, she erupts in imagery which might almost have been drawn from Dr. Velikovsky's theories.

The crown o' th' earth cloth melt. My lord !
O, withered is the garland of the war,
The soldier's pole [which may be the pole-star] is fall'n:
 young boys and girls
Are level now with men. The odds [that which was
 distinctive and projecting] is gone;
And there is nothing left remarkable [there is nothing
 topographically distinctive, as if all is smooth and
 flat, like after Noah's Flood]
Beneath the visiting moon.

4.15.63-68.

She faints, and is revived, and conjures herself

It were for me

To throw my sceptre at the injurious gods,
 To tell them that this world did equal theirs
 Till they had stol'n our jewel

4.15.74-77.

which may suggest that, with Mars no longer incandescent, nor nearby, it no longer lights up Earth's space, so Earth no longer possesses its own star. She then continues the reference to Antony as a burned-out star.

Come, away.
 The case of that huge spirit now is cold.

4.15.87-88.

In life it was hot, bright, and life-giving, but in death it is dark, cold and contains no spirit. Velikovsky informs us that Mars, which is now simply a tranquil distant point of light in the night sky, was once a fiery, menacing, destructive entity much closer to Earth.

When Octavius first learns of Antony's death, he is surprised by its lack of catastrophic noise.

The breaking of so great a thing should make
 A greater crack [explosion]. The round world
 Should have shook lions into civil streets
 And citizens, to their dens.

5.1.14-17.

He then explains that the solar system could not entertain two rival suns, and so a conflict between them was inevitable, 5.1.37-40, and one of them would have to *decline*, or set.

Cleopatra remembers Antony as a figure of cosmic dimension and stability, whose

face was as the heav'ns, and therein stuck
 A sun and moon, *which kept their course** and lighted
 This little O, th' earth.

5.2.79-81.

[* Italics the authors]

This celestial phenomenon was a colossal being who threatened the Earth.

His legs bestrid the ocean: his reared arm
 Crested the world; his voice was propertyed
 As all the tuned spheres, and that to friends;
 But when he meant to quail and shake the orb,
 He was as rattling thunder.

5.2.82-86.

Dr. Velikovsky tells us that, at certain times during the catastrophes of the eighth and seventh centuries B.C., Mars appeared to be a giant warrior with his sword spanning the sky, and that, when in this aroused state, his approach caused such extreme havoc and thunder that the whole globe tottered, or shook [32].

With Antony gone, with Mars defeated, Octavius the Sun is the only ruler of the skies, or, as Cleopatra calls him, *Sole sir o' th' world*, 5.2.120. There remains, then, the death of Cleopatra. It occurs distinctly apart from Antony's. Like Antony's, it is described as a loss of brilliance and an explosion accompanied by loud noise and the breaking of surfaces. Just before her death, she refers to herself as almost extinct, although ready to flare up if provoked again.

Prithee go hence,
 Or I shall show the cinders of my spirits
 Through th' ashes of my chance.

5.2.172-174.

As she prepares for her suicide, her handmaiden again emphasizes the loss of brilliance.

Finish, good lady, the bright day is done,
 And we are for the dark.

5.2.193-194.

Once she has been poisoned, another handmaiden prays that her soul and body may *rive*, or break apart with a rending explosion, 5.2.310, and, when she dies, when her eyes close and so symbolically she can emit no more rays, exert no more power, she no longer poses a real threat to the Sun.

Downy windows, close;
 And golden Phoebus never be beheld

Of eyes again so royal !

5.2.316-318.

Indeed, Phoebus the Sun, or Octavius and the Roman Empire, must never again be beheld or challenged as an equal by eyes so *royal*, almost as powerful as the Sun, and that is the point Shakespeare wishes to make. That is why he includes, at the very instant of Cleopatra's passing, a reference to the Sun, to the paramount position of Octavius, who *must* be the one who acquires sole power at the end. When she is dead, the Sun has triumphed and the Earth is stable, more stable than it was at the beginning.

I might add, in closing this section, that Halley's (then unnamed) comet was visible in Europe's skies about 1607, just before the generally accepted period of the play's composition, and Kepler's Supernova burst into prominence in 1604. The Supernova may not have been a matter of common talk, since the concept of change in the distant heavens was still a matter of fierce scientific and theological debate, but the comet may well have been a more popular sensation. This, however, is merely a tidbit, because catastrophic overtones appear in Shakespearian plays written before the celestial events I have mentioned, as we saw earlier, and also because I have not established to my own satisfaction any distinct point of view regarding the role of actual events in triggering catastrophic associations in an artist's mind.

Such is the basic story of the play. its meaning, however, has been the subject of much controversy, with opinion basically divided between those who side with the lovers, and hold the world well lost, and those who support duty and responsibility, seeing Octavius as the necessary winner. Most recent criticism has tended to strike a note between these extremes, arguing that Shakespeare balances love versus duty so carefully that neither is solely to be preferred, but both are given attractiveness and importance.

To deal with this issue more fully - and it is the major topic in current criticism of the play - I will turn in a moment to two quite recent studies of the play. I adduce them for one reason in particular. it may be argued that celestial imagery in Shakespeare's play is in order because he is dramatizing material

only recently available to his culture, material whose origin is Roman, and thus he might naturally use the Roman elements of the story, which include the celestial. One might even wish to explain the catastrophic as opposed to merely celestial associations surrounding Antony and Cleopatra in this way, as natural offshoots of their Roman identification with Mars and Venus, although this is much less plausible. The same, however, cannot be done for twentieth-century critics. If they show evidence of Velikovskian catastrophic overtones or parallels in their criticism, in a frequency and depth which seems to go beyond chance, one cannot attribute it merely to cultural fashion or historical inheritance. Instead, one may be led to wonder whether these similar features, produced some 400 years apart in relation to the same historical material, may have similar origins which lie beyond the conscious act of writing a play or commenting on it.

The first analysis I will deal with is by Robin Lee of the University of Witwatersrand, in Johannesburg [33]. He is not by any means a conscious Velikovskite, yet his analysis of the play produces results which are surprisingly Velikovskian. First, he acknowledges the *mythic, even divine status* which is given to the lovers [34]. Speaking generally, he claims that all great tragedies contain *archetypal patterns of general human experience*, with a stress on *general* [35]. In this play, he feels, the acts of the lovers *take on, in our imaginations as well as in their own, the dimensions of an archetypal human experience*[36]. In this way, the whole play acquires a *mythic quality* through the *ritual nature of several of the situations*[37]. He suggests no cause for these archetypes and rituals; indeed he seems to be suspicious of his own reactions for he hastens to assure us

I am not here proposing some form of dramatic collective unconsciousness; but he has nevertheless recognized and responded to the ritual suggestions, and mythic shapes which will be *felt* by the audience [38].

The questions we must put to ourselves, of course, are - Why are certain patterns felt to be archetypal? Why do we perceive certain actions, however vaguely, as ritual? Why do certain narratives, in prose or poetic or dramatic form, impress us with

these features? The answer to all of these, I suggest, lies in the Velikovskian catastrophes.

Lee sees Antony as a sacrifice, a scapegoat, and he notes that Antony, as Mars, is given a poetic greatness which is contradicted by his smallness of action [39]. I suggest that a conflation of these two roles - scapegoat and Mars - is a significant clue to Antony's value, and that it derives directly from catastrophic memories. It is logical that, if another entity destroys itself to save us, we can have our cake and eat it by giving this entity mythic status but making it deserve its destruction. In this way, we can enjoy the result of its action without feeling guilt over its ruin. If we make the entity repudiate us and our values, we then repudiate it and our morality is satisfied. This, I feel, is what happened to Antony, who suffers the fate of all scapegoats. To find a source for this pattern, we need only think of Dr. Velikovsky's Mars, the once-bright and honored planet which appeared to betray Earth by being drawn away by the comet, and was defeated and expelled by the god of light as a result, to take a lesser position than before. If we make Mars guilty, our consciences can tolerate the fact of its sacrificial destruction, and thus the Velikovskian catastrophe may be the primal pattern behind the scapegoat figure which appears so universally in human cultures. Velikovsky's Mars is certainly one of the patterns underlying most tragic heroes. What Velikovsky says about Mars is What tragedy shows happening to the tragic hero.

Specifically, Lee notes a vast decline in Antony. He says that Shakespeare describes him as Mars, but Mars weak, old and unstable - ready to become frenzied and erratic in behaviour [40]. In Velikovskian terms, the play pictures the last stages of the catastrophic events, and the actual features of the action, as Lee discerns them, are highly catastrophic. Lee describes the action as a series of vacillations or swings increasing in speed as they decrease in duration, until all movement stops and a final resting point is reached, so that he says

... the final point in time is the result of the swiftly alternating movement between different points in space [41].

In other words, the action impresses him as a process of (celestial) equilibrium.

The sequence of events in time reaches its stasis in these scenes, as does the sequence of events in space [42].

This quotation applies as readily to the catastrophic Mars and Venus as it does to Shakespeare's Antony.

Second, the image groupings which Lee discerns in the play also complement a celestial, and indeed catastrophic, interpretation.

The Roman life is associated with images of straightness and stability, the Egyptian with images of fluidity (o'erflows'), mingling ('stirr'd') and relaxation ('soft hours'). These patterns are projected through the play [43].

He tells us that the play moves in an atmosphere of ambivalence which becomes the medium through which the play is perceived [44], and that this ambivalence is the product of opposed images.

Egypt - and Cleopatra - are constantly associated with water [45].

The second basic pattern of images associates Rome with the earth or land ... This pattern begins as early as Antony's first speech, in which Roman 'earth' and 'clay' are opposed to the emotional quality of his Egyptian love. Through this association we feel the stability and solidity of the Roman world [46].

As the tone of this passage suggests, Roman moral attitudes are basically stoical. They endure rather than suffer [47].

Between these opposing images of water and earth, Shakespeare creates a series of images of the process of change. The most important of these are images of earth melting into water, and finally water mingling with water ... This pattern of images reinforces the sense of dissolution by perpetual movement between conflicting opposites that is so important a part of the structure [48].

Antony, wavering between solid Rome and fluid, changing Egypt, cannot keep his integrity whole, and so he melts.

Antony compares his sense of his own existence - even of his physical existence - to the tenuous stability of clouds drifting into clouds, and finally water mingling with water . . . in the phrase 'the rack dislimns', (Arden editor: 'the drifting clouds efface') similarities of sound suggest that he is undergoing almost a physical disintegration as a result of torture - being torn limb from limb on the rack [49].

We can thus see how the astronomic equivalences apply. Rome is Earth, land, that which must survive, and therefore Octavius is the Sun, Cleopatra the Comet, and Antony is Mars. In the configuration of important entities, Antony is not a mere average man, but part of a triumvirate which rules the Roman Empire, or the civilized world. In cosmic terms, Mars is not a harmless star in distant space, but an errant planet threatening Earth and the Solar System. In the social scale of values, Antony vacillates between love and duty. In the solar structure, Mars vacillates between a dangerous affair with Venus and a required role affecting the stability of the solar system. If Antony abandons his duty to pursue Cleopatra, the Roman Empire is menaced; if Mars leaves its orbit to pursue Venus, Earth is menaced. As we have already seen, the imagery in both cases is the same - land melts into water, the structure of existence breaks, nature is disrupted. For Mars, the result was extinction and expulsion. To Lee, Antony dissolves and is destroyed

..... because of an inability to hold a steady purpose or a steady view of himself [50].

Lee sees *Antony's need to break out of Cleopatra's sphere of influence [51]*. for Antony seems to recognize that this alone will save him. Like Mars, he becomes dangerous when drawn to her orbit, for then he loses his identity. He used to define himself in terms of soldiership, the army, and Rome. He then centered his world on Cleopatra and so lost his former role. Mars too, Velikovsky tells us, left its orbit and so lost its previous role.

With Cleopatra, the process is radically different, for

the images surrounding Cleopatra's death are conversely of steadiness and constancy [52].

Antony was steady, Lee says, and was ruined because he became inconstant. Cleopatra was inconstant, and was suppressed by becoming steady. Again, this applies equally to Velikovsky's Venus and Mars.

Cleopatra's stature increases as she dies, as if Venus emitted a final burst of brilliance before expiring. Her purpose is

To do that thing that ends all other deeds,
Which shackles accidents and bolts up change

5.2.5-6.

and the image is one of a passage from change to rest. When the poisonous serpent arrives, she says

My resolution's placed, and I have nothing
Of woman in me: now from head to foot
I am marble-constant.

5.2.238-240.

As she is being dressed in her final garments, she anticipates becoming a celestial body like Antony.

Husband, I come:
Now to that name my courage prove my title !
I am fire, and air; my other elements
I give to baser life.

5.2.287-290.

That is, she renounces her earthly aspects, earth and water, to become like a star - fire and air. She who had ravaged the earth, the Roman Empire, will go off into space and menace Earth no more.

As Lee sees it, death halts chance and change for Cleopatra. She passes to

.... the 'better life' that is impervious to the fluctuations of
fortune and change ...

and so her sacrifice *is an act that finally fixes our sympathy with her*[53]. We can afford to admire her now because in death she has at last become constant, and also less, for the process, in stabilizing her, has also diminished her. Thus, in her very last

moments, she is forced to subside and to settle into a safe orbit by the influence of Antony, whose

... power quite literally extends beyond the grave, and reaches out to modify her attitudes after his death [54].

When we last see her, she is brilliant but distant, and so we do not become emotionally involved as we watch her ritualistic death on the stage, her literal transformation into Venus, the Star of the East.

In conclusion, Lee says the attraction between Antony and Cleopatra produces

.....a universe in convulsion: the dramatic conflict between the characters is extended by symbolic action and by imagery, to suggest the involvement of the whole of the natural order [55].

This corresponds with what several other critics, equally unaware of Dr. Velikovsky, see in the play. To them, Antony and Cleopatra, each previously great in his or her own sphere assert a new order because they come together. This order is a challenge to what is and what must be, and so they are destroyed, which means catastrophic memories may underlie the pattern of Luciferian revolt. Furthermore, to these critics the overthrow of the lovers has consequences far beyond themselves.

Antony's political defeat and his and Cleopatra's individual tragedy are both set within the context of a larger process, simpler and more universal [56]

which we can recognize as a process of change, of a new order, in both the natural and political worlds. This is what we also discovered in the comedy, and so we may suspect that the form of most great narrative art is dictated by suppressed catastrophic experiences. Imagine that man, considering the catastrophes, had to see good in what happened, or his existence would become unbearably anxious. He might then construe the catastrophes as cleansing scourges provoked by the revolt of certain heavenly bodies who had been duly chastised, and thus, in such a story, the solar system is left stronger than it was before, albeit bereft

of several of its more spectacular entities. Imagine then that this rationalization, which has imposed a beneficent ethical meaning upon a horrendous physical event, is transferred to creative art. The result might well be a play like *Antony and Cleopatra*, in which William Shakespeare's depiction of Mars and Venus bears so great a resemblance to Immanuel Velikovsky's.

I turn next to another recent study of the play, by Clifford Davidson of Western Michigan University [57]. He stresses the iconographical, mythical and religious models which he feels underlie Shakespeare's play, claiming it is in large part

... based on archetypal patterns which appear to have their basis in literature, thought, and tradition of his own time [58].

These traditional models, as Davidson elicits them, trace back to the time of Christ and indeed earlier, and thus Davidson's linking of them to Shakespeare's play may indicate a form of continuity of idea between the actual times of the catastrophes and Shakespeare's day.

In general, Davidson's essay, like Lee's, seems almost to have been written about Velikovsky's theories, so often and so consistently do his observations apply. I hazard the guess that this is primarily so because the background which Davidson delineates - myth, icon, religious parallel - is only one step removed in literality from the events which gave rise to it. Thus, when I apply his discoveries to my approach, I feel I am simply carrying his materials back to their true source.

Cleopatra, says Davidson, is given traditional sets of qualities which relate her, among others, to The Whore of Babylon, a brilliant Queen, the temptress Circe, a provocative gypsy, and the goddess Venus. To this list we must add Velikovsky's Venus, for she is also given the qualities of a fiercely disruptive celestial body. For instance, Davidson describes her as

. . . active and hot - so hot that the seeming Cupids on her barge with their fans only make her "delicate cheeks" glow with their sensual warmth [59].

She is portrayed as a disturber of natural order.

She stands for excess, since she will not pause at the limits set by nature [60].

Her object is to disrupt a pre-existing scheme.

Thus she usurps the phallic role, Shakespeare suggests: of course, such usurpation is an attempt to achieve a reversal of the natural order, which was, after all, the object of the serpent in Eden [61].

Because she is associated with serpents, notes Davidson, Cleopatra's Egypt is hideously fertile, full of snakes, and poisonous.

She lives in a world which is reminiscent of Spenser's Bower of Bliss and which is fully as poisonous, especially to male visitors from Rome [62].

The poison affects Antony, who

... admits to Caesar that he had "neglected" his duty when poisoned hours had bound me up/From mine own knowledge (II.ii.90-91). This poison is obviously to be identified with the great Satanic enemy of life who in the guise of the serpent conveyed death into the fertile Garden of Eden and hence into the whole world of human beings [63].

Here we have the serpent, a poisonous Cleopatra and the destruction of Eden in one passage. If we recall what Velikovsky says about the relation between mythological serpents and the tail of Comet Venus, and about the poisonous consequences of Earth's contact with that very tail, and about its effects on the planet Mars, which might poetically be said to have *neglected its duty* in being forced to follow a new or errant course, the parallels are suggestive, as if the appearance of what seemed to be a giant serpent in the sky marked the apparent end of celestial stability. This also accords well with Cleopatra's role as Eve to Antony's as Adam, which Davidson also establishes.

She is also Circe, as described in Chapman's translation of Homer, holding out a cup of sensual pleasure which transforms

men into beasts - or stable planets into unstable bodies - and we are told her poison is associated with sweetness.

Not surprisingly, Chapman's translation describes Circe disguising her "harme full venoms" with honey as well as with other nourishing food and drink [64].

We might think of the connection Velikovsky makes between the poisonous atmosphere of Comet Venus' tail and the sweet honey-like manna produced by its hydrocarbons.

From Circe, it is but a short step to Venus, both in her earthly form, where she was considered *a planetary prostitute* [65], and in her heavenly form, which taught men to prefer eternal reality to immediate pleasure. She is also equated with Isis, just as Velikovsky has done, but the most prevalent image she projected for the Renaissance, Davidson tells us, was as a universal troublemaker, for

... though not true in every sense, the claim may be provisionally made that Venus ought to be seen in terms of discord ... Cleopatra likewise is in one sense also- viewed by Shakespeare as a major source of discord within the ancient Roman world [66].

If we apply the celestial equivalents which I have tried to establish earlier in my analysis of this play, we can see that the Renaissance picture of Cleopatra is much like Velikovsky's picture of Venus.

Next, we look at Cleopatra's effect upon Antony. It was generally considered, Davidson tells us, that Antony's attraction to Cleopatra debilitated him. The image Shakespeare uses is martial, but it could also be considered Velikovskian.

Thus Antony's sword is "made weak" by [his] affection [67].

The cause of this weakening, in medieval terms, is the sin of Idleness, or Sloth, and it is curious that Davidson refers to an illustration of Idleness by Cesare Ripa, in which an old woman, weak and poor, holds a fish. He quotes Ripa:

Fish, it was believed, when touched by a net or by hands become so stupefied that they cannot escape. Idleness affects the idle in the same way; they cannot do anything [68].

It is interesting that idleness, which traps Antony, is pictured as a fish immobilized in a net, which recalls Antony caught in Cleopatra's *strong Egyptian fetters*, 1.2.113, and also the net of Hephaestus trapping and immobilizing Ares and Aphrodite as they make love illicitly. This last is a major point in Alfred de Grazia's *The Torrid Love Affair of Moon and Mars*, where he draws a direct relationship between the celestial events of -780 to -687, as described by Velikovsky, and the Song of Demodocus from Book Eight of Homer's *Odyssey*, where the Ares-Aphrodite-Hephaestus love triangle is narrated [69].

Antony was of course identified with Mars, Davidson points out, and thus, when he rebels, it is described in geometrical terms as a rebellion against order - he does not *keep his square*, he does not act *by the rule*. instead, he is drawn erratically to the East, to Cleopatra, and the result is pictured as a startling disorder in the sky, with celestial objects appearing where and when they should not.

By his lack of control, he will gain mirth and another chance
"To reel the streets at noon" [70].

At another point, Davidson brings the love story even closer to the events described by Velikovsky, when he tells us that Shakespeare was familiar with the Ares-Aphrodite rod-Hephaestus triangle which de Grazia has seen as a mythological retelling of the Velikovsky scenario [71]. In this case it is the Roman version, involving Venus, Mars and the jealous Vulcan, as narrated in the fourth book of Ovid's *Metamorphoses*, where Mars' excessive attraction to Venus, or Antony's to Cleopatra, is given explicitly catastrophic dimensions by Davidson through reference to Shakespeare's own words, already quoted in another instance some pages earlier.

The greatness of this love can only be measured in terms of the degree to which Antony will neglect his duty. He will
"Let Rome in Tiber melt, and the wide arch/
Of the rang'd empire fall" (I.i. 33-34) [72].

Venus and Mars become hot when they join, but they are cooled by Vulcan.

Such an interpretation of the myth would seem to have been an important element in Shakespeare's depiction of Antony and Cleopatra [73].

Cleopatra is thus pictured as the Fatal Woman who destroys the male, and the image which Davidson uses bears an eerie resemblance to Velikovsky's own words.

Through her instrumentality, he loses his manhood and gives himself over to blind and irrational Fortune, who then flings him from her wheel [74].

When the warrior-like Mars came into conjunction with the seductive Venus, the result in Renaissance myth was that he was emasculated, he lost his warlikeness, but we must also think of Velikovsky, describing the celestial event, and saying enigmatically that Mars was thrown out of the ring [75]. This must lead us to wonder whether the role of Comet Venus as described by Velikovsky underlies the religious and mythological figure pictured variously as Eve, Circe, the Whore of Babylon, an evil temptress, a celestial prostitute and Cleopatra.

In political terms, which parallel the celestial events Dr. Velikovsky described, Antony-Mars should be master because of his status in the Roman Empire, for Cleopatra-Venus is a captive ruler, but he is subdued by Cleopatra, and

... as a result of his submission, he loses his potency. Hence there appears to be justified male bitterness when Candidus exclaims that his "leader's led/And we are women's men" (III.vii.69-70) [76].

Cleopatra is described as

... the debilitating queen - the fatal woman - who in the end will sap all his warlike heat and power ...

- What could be more like Velikovsky's picture of Mars and Venus? -

... and thus will lead him to utter defeat at the end of a mismanaged war [77].

Davidson at this point refers to a painting by Botticelli.

Mars, like Antony, has put aside his plated armor; nude and debilitated, he sleeps as if nothing could ever wake him [78].

We think of the planet Mars now, shorn of most of its atmosphere, terrain and hydrosphere, of its brilliance, nude and bare as in the photographs, and weak, meaning with little effect upon Earth or the stability of the Solar System. Dr. Velikovsky has called it a *flying graveyard* [79]. There is no question, says Davidson

. . . that Venus was the active agent: in other words, what Venus did with Mars was to render him her slave. As Ficino asserts in his astrological discussion of these divinities, "Mars never masters Venus." [80]

Yet, despite Venus-Cleopatra's role as a disrupter of order, despite her deleterious effect on Mars-Antony, Davidson emphasizes that the Renaissance saw a very positive conclusion to their affair, for

... the Renaissance generally remembered that the love of Venus and Mars was a *discordia concors* which led originally to the birth of a daughter, Harmony. The value of Venus' dominance over Mars will thus be found in the mitigation of the god of war's ferocity, for only through such dominance can conflict and war be reduced to harmonious peace ... in the end, the love of the martial Antony and wanton Cleopatra will lead historically to the end of the conflict between the triumvirs and to the harmony of "universal peace" into which will be born the Prince of Peace [81].

That is to say, the Venus-Mars turbulence, which appears so potentially troublesome, actually precedes the coming of a new order. This is certainly the case in Shakespeare's play, for

Davidson refers to Octavius Caesar's prediction of future peace as Antony and Cleopatra are close to their destruction.

"The time of universal peace" . . . is perhaps the most significant single line in the play. This will be the "universal Peace through Sea and Land" which, according to Milton's "On the Morning of Christ's Nativity," prepared the scene for "the Prince of Light" to begin "*His* reign of peace upon the earth." [82]

It is at this point that Davidson's analysis of the classical and medieval background to Shakespeare's plays merges virtually directly with my Velikovskian interpretation of it. He calls our attention to the *apocalyptic* nature of the imagery with which this positive result of the Mars-Venus disturbance is dressed, and, in so doing, he gives it precisely the universal relevance which Velikovsky sees.

The old order is coming to a close, and the effect will be to *reorient** men who believe in a Christian message to the "new heaven" and "new earth" which will be ushered in after the Second Coming. . . . When the guards discover the fatally wounded Antony, one of them exclaims: "The star is fallen," while the other one adds, "And time is at his period" (IV.xiv. 106-107). In the *Apocalypse*, we read: "and there felle a great starre from heaven" (viii, 10); and "time shulde bee no more" (x.6) [83].

[* italics the writer's]

If we transpose these last three quotes into literal solar-system terms, they apply to the situation in the heavens from -779 to -686 as described by Velikovsky, especially if one were trying to put a hopeful positive interpretation upon these terrifying events. If Rome is Earth, then the Mars-Venus turbulence is indeed a *discordia concors*, creating conflict in the skies, but then leading to the destruction of that conflict through Venus' mitigation of Mars' ferocity. It is a *catastrophe* in the ancient Greek sense - a turning down before a new and better age begins. What it leads to, in religious terms, is a time of *universal Peace* [celestial stability] *through Sea and Land* - no cataclysmic floods, earthquakes, upheavals of land mass which prepares the way for the *Prince of Light*. We might wonder whether the pattern of darkness to light, the idea that it is always darkest before it

becomes light, has its origin in the Velikovskian catastrophic events. Lastly, this transition is described as a reorientation, caused by a great star falling from heaven and stopping time, after which there is a *new heaven* - a different configuration of stars relative to Earth's new axis - and a *new earth*, new lands thrust up and others submerged, new poles and equator, new cardinal points relative to the rising and setting of the sun, new seasons, new topography. In sum, disaster leads to survival. All is changed, but it is for the better.

It is to the artistic ramifications of this hopeful attitude that I now address myself, for they provide us with a clear insight into what might have happened between the occurrence of the events and their emergence into art. It is an object lesson in how human nature can make the unpleasant palatable and even helpful. Towards the end of his essay, Davidson observes

To be sure, Cleopatra, like Venus and her protégé Helen, contributed to the fall of a city and/or empire because of a passionate attachment, but nevertheless may not be seen only as a symbol of a passion which ought at all costs to be resisted. For, had not Antony yielded to his passion, his life would hardly have appeared as appealing or as suitable for being mirrored in art [84].

This is a form of having one's cake and eating it, which Shakespeare, as a great artist representing mankind, achieves on our behalf. By depicting the planets as humans, he makes them weak, even despicable; this is our revenge for what they did to us; but the humans, no matter how much we revile them, *are* based upon planets, great and terrifying stars which once moved erratically in the skies, and we fear they may do so again, and so we must also placate them, which we do by giving them - planet *and* surrogate - a final greatness quite different from their earlier pettiness. This is what happens to the disruptive lovers, for, when they are dead, Octavius Caesar praises them, and

Caesar's attitude reflects quite clearly the sympathy and wonder with which the audience is encouraged to look upon the tragic events *at the end** of the lives of Antony and Cleopatra [85].

[* Italics the writer's]

Cleopatra is transformed, apotheosized, but the key element in her transformation is that she is rendered *safe*.

She longs no longer for any earthly man, but strongly desires immortality. She shall never again taste the earthly wine from Egypt's grapes, nor may she participate again in any earthly revels ... Her baser elements are purged away so that her love may pull her up to where her desire rests upon the spirit of Mark Antony in bliss [86].

In celestial terms, Venus is being forever separated from any connection with Earth. She will not be like mankind, which tastes wine and participates in revels, and is mortal. She will be immortal, but *distant*. She will be revered and honored because mankind can now *afford* to do it, because Cleopatra is no longer a wandering comet, which might be dangerous, but a planet in a fixed orbit.

This is a triumph of the mind and imagination of man, for

. . . the immortality which Cleopatra, under the guise of the goddess Venus, achieves, is after all the immortality which art, not religion, has to offer [87].

Art, and myth, the concealing and transforming processes of the human mind, make the best of what had at first been a rather terrifying situation.

The common Venus, who stood behind the Cleopatra whose mind always had been focused on the delight associated with generation, in the end by contraries melts into the heavenly Venus who sets forth to take her last immortal journey [88].

Who, we should read instead, by setting forth on this last journey, which implies that she will not return, is rewarded with immortality.

Like Tasso who attempts to convert his witch Armida after Rinaldo is rescued from her power, Shakespeare insists upon transforming the destructive passion which Cleopatra represents into its seeming opposite [89].

The same occurs with Antony. He

... at last is lifted up to a new and greater heroism by his martyrdom and by the miracle of love. At the death of "Herculean Antony," Cleopatra laments that the gods have "stol'n our jewel" (IV.v.78); but he is set as a star in the heavens toward which Cleopatra may now steer her course [90].

That is to say, he too has been rendered *distant, and safe*, and so now mankind can afford to grant him the awe due a primitive god.

Because of his acts, he *ironically** will become the immortal object of wonder and the subject of art [91].

[*Italics the writer's]

Both of them are in fact repelled, exiled to new orbits, and the vision is cosmic.

Shakespeare at both ends of his drama is echoing the Apocalypse, xxi. 1-2: "And I sawe a new heaven, and a new earth ... And I John sawe the holie citie newe Jerusalem come downe from God out of heaven, prepared as a bride trimmed for her husband." Thus Cleopatra, who has been imaged forth in the play even as the great Whore of the *Apocalypse*, in the final portion of the play is portrayed as analogous to the "bride" of the great bridegroom, Christ, who indeed when he returns for the second time will usher in a new heaven, a new earth, and an eternity of love which is not diminished by illusion [92].

We must remember first that, at the beginning of the play, *Antony and Cleopatra* had wanted to create their own private *new heaven and new earth*, 1.1.17, which would have benefited them alone, whereas now a new heaven and new earth have indeed been created *for all of mankind* - new stars, new planets, new directions - out of their diminution, and second, that Velikovsky has identified certain angels with comets, for now, when they no longer threaten earth, the lovers are made angelic.

The imperial spirit of Antony, generous and great, is placed at least in imagination among the angels. Mark Antony indeed will be remembered thus, for he has been

miraculously converted into angelic substance as a result of the gnosis of Shakespeare's art [93].

If we look at the process in celestial terms, trying to decipher what the human motives are behind this artistic transformation, we can see a transition from menace to safety. Antony and Cleopatra have been made to exchange dangerous mortality for safe immortality, a gangster's notoriety for a statesman's or benefactor's fame. This is the only kind of greatness they can be permitted, an abstract, disembodied magnitude, for greatness on earth proved too dangerous. It is true that they were tremendously influential on earth, both as human personages in a worldwide political battle and as Planetary personages in a cosmic battle, but they were also destructive, and so by proxy the planets for which Antony and Cleopatra stand are being punished through their human representatives, who are vilified and defeated, and then, like all scapegoats, trimmed like monarchs before their death and expulsion and subsequent glorification. It is a form of revenge upon the planetary powers, and a satisfying one too, for, by exhibiting desire but making morality triumph, it lets us experience vicariously and for a controlled time the secret desire to be as free-flying and destructive as the planets, but then, because we know that such behaviour is harmful, and therefore wrong, it lets a pair of scapegoats suffer for our brief wildness. The best of this experience applies to us, and the worst to Antony and Cleopatra, who carry our earthly evil away in their destruction and then have a distant celestial greatness conferred upon them for it.

I said at the outset that my paper is intended to be a beginning, not a body of rigidly-proved propositions, and so, in this last section, I wish to step back from the plays themselves and look at some of the larger implications of what I have just said.

First, let us explore the relation between individual and collective human nature. Not all psychologists accept the idea of a subconscious or unconscious, but, for the sake of this paper, I will assume that it exists. if we go further and accept Jung's concept of a collective unconscious, which he defines as a racially-inherited set of paradigms, of master plans for dream, myth and narrative, then it seems to me, *pace* Jung, that this must necessarily imply collective memories, transmission of

collective knowledge, and thus a collective *mind*, which I take to be the sum or repository of man's noteworthy *collective* experiences. In the knowledge-assimilation process, it is the long-term storage sector.

Now, taking this assumption as a starting point, we then consider the possible effects of the Velikovskian cataclysms. If such horrible events have occurred - and indeed there appear to have been more than two instances - can we not imagine them causing collective traumas on each occasion, one reinforcing the other, burning their imprint onto the collective memory? Looking at mankind as a collectively traumatized being, we may then wonder what collective defense mechanisms man might erect so that the horrible memory of the catastrophes, the conscious realization of which would make our living unbearable, is suppressed. How would we bury the memories, and then, what collective neuroses or delusions would we produce in their stead to let us cope with existence?

Dr. Velikovsky has argued that, unconsciously, the result is a collective amnesia, which is the theme of this symposium, and he has also urged that, as a byproduct of this collective amnesia, most of our religion, myth and folklore are an unconscious attempt by man to sublimate repressed unbearable fact into conscious bearable illusion. The common purpose of these illusions, he says, which are produced universally, is to describe, and thus render friendly and controllable, that which would otherwise remain unknown and therefore apparently uncontrollable. Through them, an explanation is offered for everything' from the sparrow's fall to the largest disturbance. In this way, our fears are assuaged, for we feel we are placed in a benevolent relationship with forces which would otherwise appear too powerful for human influence. I then ask, can we not apply the same dictum to narrative art?

What I suggest is that, if we do possess unconscious collective memories of enormous natural catastrophes, then the collective function of the narrative artist may be to calm our fears by creating narratives in which the catastrophes may be let loose in disguise, examined in all their horror and then overcome. That is to say, just as, in a neurotic traumatized individual, some part of

his mind creates the delusions which permit him to cope with his existence, so the artist, as a part of a collectively traumatized society, creates collective delusions for that society [94].

Thus, it may be that the enduring artistic narrative endures, remains permanently relevant, because it provides a medium for expression and thus release of collective apprehension. It is a collective defense mechanism against enduring collective fears, and a comparison may be made with children's fairy tales. It seems to me that a chief function of these stories is to diminish a child's apprehensions about huge, uncontrollable forces, represented in the stories by a giant, bear, or wolf. The fairy tales actually speak of these huge figures, and make them playable, even defeatable. Without wanting to oversimplify great works of art, I suggest that they are in a sense adult fairy tales, and that they perform the same function at a more sophisticated level. They imply a rational and sometimes beneficent order in the huge and otherwise irrational universe. That may be why the enduring narratives of almost every human society are so similar in structure and intent - each collectively neurotic society, suffering from the same catastrophic trauma, must produce its own artistic delusions, tailored and adapted to individual circumstances, but of common, universal origin.

There is, however, a very significant difference between a traumatized individual and a traumatized society. When an individual appears to be psychotic, or neurotic, the aim of society is to cure him, to rid him of his excesses, so that he may become like other men. With a collective neurosis, however, there is no such aim, because the patient, society, is also the judge of acceptable behaviour, and a neurotic who thinks he can only survive behind his delusional defenses is hardly going to set out to cure himself. Instead, where the neurotic condition is communal throughout society, the creators of illusion *for* society are not eliminated, but honored and encouraged. That which is feared by a group in a neurotic individual is admired by the neurotic group in itself, and thus, the more an artist, as a member of a neurotic group, calms its fear with his fables, the more it applauds him.

I therefore wish to propose a new interpretation of what happens when man reacts to art. I suggest that it occurs at two levels, the second being caused by the first. The first level of response, of course, is conscious. It is intellectual *and* emotional, being the product of the artist's technical expertise in his metier, and the ideas, themes, feelings and suggestions which the work stimulates within us as a result of that expertise. The quality of both these factors determines how deeply we respond to the total work in a personal, conscious way, which I prefer to call *aesthetic involvement*. Virtually all literary criticism must restrict itself to this, as it has done since Aristotle.

It is only with the advent of psychological and anthropological criticism that we have considered looking beneath the surface, beneath the conscious, to try to discover whether there are subterranean reasons why man creates art, and why his fellow men are moved by it. I suggest, of course, that there are indeed such subterranean reasons, that we are moved by deep, unconscious factors, as I have just outlined, and therefore I feel that these produce a reaction to art rather different from the *aesthetic involvement* which I have described above. To distinguish what happens at a subterranean level, I shall call it *racial involvement*. Where aesthetic involvement is personal and conscious, racial involvement is collective and unconscious. The first is as old as one's age, the second is as old as the mind of man. I feel that, if a work is to affect us profoundly, then aesthetic involvement must occur first, or we are simply turned off by a work's ineptitude; but, once we are gripped and involved and reacting aesthetically in a positive way to a great narrative, that is when a deeper level of response, racial involvement, is able to be awakened and called into play.

The element of the narrative which calls forth aesthetic involvement is its literary and dramatic excellence, as described above; that which calls forth racial involvement is the structure of the narrative, by which I mean the extent to which the catastrophic pattern and details are embedded or embodied in it. The closer this structure comes to the catastrophic events, the more powerfully will the work affect us at a subterranean level, because the real events have been fixed in our unconscious memories as part of our racial inheritance, and thus we will

respond deeply, albeit unconsciously, to a narrative which contains them to a high degree. As a result, I feel that only when racial involvement occurs will a narrative endure as a human statement meaningful to other men in different times. It talks to the future because it tells of the past.

To be more precise, it is not simply the catastrophic parallels in a narrative which grip us, but, even more, the way in which the narrative is resolved. When it recalls the terrifying events of the past, but then moves to a unifying, harmonizing, stable conclusion, we accept and approve and applaud, for in such a narrative we have seen the racial fears exposed *but then controlled*, which means that we have not simply been reminded, but comforted. The fear has been brought forth only so that it can then be put away again in tranquility.

It must be understood, however, that the artist who does this for us never has the slightest conscious inkling that this is what he is doing. if he did, he might never create at all. When he reproduces catastrophic patterns, in a process which no one yet understands, it all occurs at a level which, for want of a better term, I call unconscious, or pre-conscious, or transcendental, or instinctive.

Somehow, without his being aware of it, the great artist's creative faculty can tune into the wavelength of our racial memories to find there the grand schematic designs of his art. This is what makes him an enduring artist, for, when the design is there, we respond to it subconsciously because it is also racially in us. Only the artist can produce the pattern, but all men can respond to it.

Yet, there is a curious rider to this point. We are comforted by a great narrative, but we must never let ourselves consciously recognize that this has happened. We must act as if there were no anxiety, which needed comforting, and, therefore, as if such comforting could not have occurred. This is the ultimate in both having our cake and eating it - to use a great narrative to comfort our suppressed collective fears, and yet pretend there are no fears to be comforted. it is a game that we play with ourselves, so that we can endure the memories of the past. It is our way of

feeling that we have the past - and thus the future - under control, and thus, when a certain work of art permits us to play this game as we want it played, we respond very positively. Yet neither side, creator nor receiver, knows that the game is being played; neither side consciously knows that such a game exists; but that is what is going on when a work of art remains meaningful to many generations of mankind - we are responding unconsciously to the catastrophic patterns and comforting resolution in it. It is a transaction between creator and receiver carried out entirely at an unconscious level.

In presenting this; theory of literary creativity and response, I am not breaking ground, for, in one sense, I am following a path first set entirely new ground out by the advocates of archetypal criticism. This approach centers first of all about the ideas of Carl G. Jung, and in particular his concepts of the collective unconscious or racial memory and the archetype in dream, myth and literature. To Jung, all three forms of expression are rooted in the same ground, the universal human psyche, and so

The great artist ... is the man who possesses "the primordial vision," a special sensitivity to archetypal patterns and a gift for speaking in primordial images, which enable him to transmit experiences of the "inner world" to the "outer world" through his art form [95].

In trying to explain both literary inspiration and literary function, Jung decides that

.....the artist is "man" in a higher sense - "collective man" - and that "the work of the poet comes to meet the spiritual needs of the society in which he lives." [96]

A second major source has been the work of a group called the Cambridge Hellenists, who, early in this century, applied anthropological insights into myth and ritual to literature. Their inspiration was Sir James G. Frazer's *The Golden Bough*, and it is from these two roots - social psychology and cultural anthropology - that archetypal and mythic criticism have grown, in such landmark works as Maud Bodkin's *Archetypal Patterns in Poetry*, Northrup Frye's *Anatomy of Criticism* and Joseph Campbell's *The Masks of God*. All of these people are concerned to discover the identity of the universal attraction in literature.

For it is with the relationship of literary art to "some very deep chord" in human nature that mythological criticism deals. The mythic critic is concerned to seek out those mysterious artifacts built into certain literary "forms" which elicit, with almost uncanny force, dramatic and universal human reactions. He wishes to discover how it is that certain works of literature, usually those that have become, or promise to become, "classics," image a kind of reality to which readers give perennial response - while other works, seemingly as well constructed, and even some forms of reality, leave us cold [97].

They, and all serious students of the topic, unanimously assert that myth is truth, powerful and meaningful, and that it is somehow magically alive in literature.

Concerning the origin of these archetypes, however, different schools of thought exist. For most traditional anthropologists, the images derive from natural phenomena, in particular the recurring seasonal and solar events, and are passed from generation to generation in ritual and myth. They are poetic, imaginative explanations of the world, inherited through cultural instruction and designed to promote fertility and thus life. For the Jungians, and, more recently, for anthropologists such as Claude Levi-Strauss, the archetypes are inherent in, or a product of the structure of, the human mind. Myth is therefore described as a sort of collective dream, built of universal, nonrational human components. As Jung says,

... these psychic instincts "are older than historical man ... have been ingrained since earliest times, and, eternally living, outlasting all generations, still make up the groundwork of the human psyche." [98]

Levi-Strauss seems to be arguing along the same line when he claims

We are not, therefore claiming to show how men think the myths, but rather how the myths think themselves out in men and without men's knowledge [99].

It is here that I must part company with both schools, with the Frazerians because they derive myth and literature

predominantly from vegetation cycles, and with the Jungians and Levi-Straussians because they are merely content to note that a tendency to produce archetypal images or patterns exists in the human mind, or psyche, and that such images or patterns exert a perennial and universal power over human imaginative response. They never seek to discover *why* our minds or our psyches, are set up in this manner. I feel, of course, that Dr. Velikovsky has shown us the answer, or at least one answer. if he's correct, then the archetypes are neither coded vegetation symbols nor natural manifestations of the constitution of the psyche or the brain, but repressed memories of catastrophic events, which manifest themselves in disguise as the master elements in narrative art. for their continued power to affect us may emerge - they talk to us about our grandest conceptions, and comfort us about our deepest fears, *fears we could not otherwise look at*. Shakespeare is the most universal of narrative artists; his fables appeal to more men, in more different societies, from the most primitive to the most advanced, than any other body of created art. I have felt Or some years that this is partly because Shakespeare 's works touch a number of universal chords, to which all men respond at a primitive, subconscious, almost instinctual level, but I have never been able to formulate with any satisfactory precision what those chords might be. Dr. Velikovsky may have supplied lied us with the answer.

Now, if this be true, the implications go much further. In an address to the symposium on his work held at Lewis and Clark University in 1972, Dr. Velikovsky referred to his early detractors - whose names are justifiably dirtied by history - as 'guardians of the skies.' I'm not sure what he meant, but the phrase has intrigued me. Guardians of what? Or rather, *from* what? From the truth, I suggest, and this is the next point I wish to make. I am proposing that such people, recognized authorities in their field at the time, astronomers in the main, were not as interested in seeking *for* truth as in preventing certain truths from becoming known, and that the way they sought to achieve this was by present' partial truth which omitted so much that the resulting distortion did not approach the whole truth, but was virtually an untruth. In pretending to reveal, their intention was to conceal, and, most important, I suggest that all of this

happened at a subconscious level. They did not consciously know why they behaved in this way.

To grasp why they may have done this, we must compare these guardians of the skies to a psychotic or neurotic who has constructed successful delusional strategies against reality because he has no desire to face reality truthfully. He must therefore reject, tune out, even attack, whatever conflicts with his delusions. In classical psychiatry, I am told, one of the most delicate steps in the process of cure is the way in which the doctor communicates to his patient the actual causes of his disturbed behaviour. If this is not done successfully, the patient will react with hostility and reject the truth outright. If we accept that collective man has produced various delusional defenses against the fear engendered by the collective trauma, as I have argued earlier, then he obviously has little wish to have the trauma revealed. He will fight tenaciously to retain his world of delusion, to conceal reality from himself. He will hate those who try to show him otherwise, and he will fool himself into ignoring the truth whenever he happens to come close to it.

But man is a rational animal, even though part of him may be collectively disturbed, and so he must be very clever about fooling himself or he will see through the attempt. Furthermore, he will hate anyone violently who tries to show him what he is really doing. Now, it seems to me that the attacks upon Dr. Velikovsky have been basically irrational. An irrational act as I define it is one which appears to have no intelligent, reasoned motive, but seems to be performed upon deep inner emotional compulsion, against reason, and the attacks on Dr. Velikovsky seem to me to have been insanely compulsive. It is apparent that the normally intelligent and self-disciplined, even liberal people who suddenly became possessed by the fierce, total, unrelenting hatred which Dr. Velikovsky's ideas can provoke in certain cases were violating the most fundamental principles of order of their own professions. They were behaving like blindly hostile neurotics and never seemed to know it. In case after case the reaction was the same, as if all were suffering from a common madness, betraying their own selves.

The cause of this phenomenon, I suggest, is that these people were not acting as scientists, or academics, but as people, *man*, frightened and neurotic man unwilling to face the truth, trying desperately to keep it concealed *from himself*. I would thus label the hostility to Dr. Velikovsky not so much an irrational reaction as an unconscious reaction - against the truth which their own theories had kept safely hidden, but which Dr. Velikovsky's theories threatened to reveal.

I must emphasize again that these deeds, and the reasons for them, all originate subconsciously. Velikovsky's fanatical detractors did not and do not consciously know what they were doing, nor why, any more than a neurotic can recognize the basis of his hatred for the doctor who seeks to show him the truth about himself, but each type is nevertheless driven subconsciously to attack the truth in order to retain the lie which gives him comfort.

And so they attacked him, to try to kill his ideas before they spread, before enough susceptible people would be infected by his plague. Their common madness on this point, so unlike what these people otherwise were, suggests a common cause - that Dr. Velikovsky was about to let a terrible skeleton out of the closet, and they were rushing desperately to try to shut the door. It is as if there were an unwritten, unspoken and indeed unconscious taboo against dealing with the possibility of catastrophism, and thus celestial instability, and Dr. Velikovsky, who had broken it, must be destroyed.

That is why they are 'guardians of the skies.' The astronomy and geology and biology which they had constructed was *apparently* true, but, being uniformitarian, it was only a partial truth, revealing enough to keep man happy, but concealing what man should not know.

The implications go further, for, if we consider man in this light - striving to erect what appear to be perfectly rational intellectual disciplines, but which are actually carefully-disguised half-truths designed to suppress the whole truth from himself - then all areas of human endeavour become suspect. Is science the supreme disinterested search *for* truth, or a principal weapon in

the fight *against* truth? In the play *Macbeth*, the two victorious Scottish generals Macbeth and Banquo are accosted by the Witches and given tempting predictions, some of which instantly come true. Macbeth appears to be succumbing, and so Banquo warns him

But 'tis strange;
And oftentimes, to win us to our harm,
The instruments of darkness tell us truths, Win us with
honest trifles, to betray 's In deepest consequence.

Perhaps it is the same, for example, with Newton and Darwin, whose descriptions of the cosmos and life respectively appear to explain all, but may in fact only explain enough to keep us from suspecting there is anything more, winning us with trifles while betraying us indeed where the consequences are deepest. The pictures these men paint have a very pacifying effect. They tell us that the universe runs like a clock, and that life on earth has been developing in an equally bucolic way. There are occasional lapses from form, like comets or tempests, but these, we are told, are minor aberrations, hardly noticeable in the long run against the slow, steady clockwork of the cosmos. Are these men purveyors of truth, or 'guardians' of celestial and biological mechanics? Are scientists unconsciously structuring their discoveries, not to give us the truth about our world, but to foster the illusion that we control it? Is science a collective delusion too?

It may be that certain types of literary criticism function in the same way, for most criticism has been kept within safe bounds - character, plot, style, tone, theme, image, language - none of which will lead to the taboo question of catastrophism. It is perhaps not a coincidence that New or Formalist Criticism which is a desire to study a literary work in a vacuum, so to speak, has emerged in the last few decades coincident with our questioning of uniformitarian science. Formalist criticism looks at a work without reference to who wrote it, or when, or where, or what else he wrote, or what type it fits its into, or what else was being written at the time, or what traditions seem to have influenced the author, and so on. It may be that the closer we get to recognizing the truth about catastrophism, the more arduously has Formalist criticism tried to steer us onto purely aesthetic

paths. I do not say it is wrong, any more than Newton or Darwin are wrong, but I do suggest that what Formalism excludes is more important than what it includes, and so the final picture which it offers is untrue. The Formalist critic may be the 'guardian of the fable.'

What I propose instead, in the realm of literary criticism, is a Velikovskian aesthetic, a full, multi-disciplined, completely honest approach to narrative art, and to drama in particular, the most public narrative art. Each instance must not continue to be judged exclusively as a private individual artifact, but, like war and government and myth, as a product of collective man in response to our collective nature and experiences; not simply in terms of what we consciously discover about what the author has consciously created, but in terms of unconscious collective motives which may drive artists to create and the unconscious collective ways in which we may respond to them.

This is becoming more acceptable in the social sciences, where we admit the possibility of unconscious motivation in various fields of human behaviour, but we are not as willing to allow unconscious motivation, much less unconscious *collective* motivation, in narrative art. The result is a very limited approach to literature and drama. To analyze a novel, for example, strictly in terms of its purely literary characteristics, may be to miss the forest for the trees. It is like an opera teacher analyzing the purely vocal quality of a person's scream for help. The novel is of course a privately fabricated work of art, but it may be other things as well - a product of a certain group or time or culture or race, a reaction to certain common events or conditions, a product of man bearing a relation to other different human products - and therefore it must be analyzed not simply by a literary approach, but by a nonliterary or superliterary approach as well, one which is based upon historical and scientific and cultural insights in addition to purely literary concerns. Like war and the generals, narrative art is too important to be left strictly to the professors of English.

When I say this, I do not mean to downgrade art, nor to imply that all examples, of good, bad or indifferent *quality*, are ultimately the same because they perform the same *function*. The

work of art is one of the chief glories of mankind, one of the greatest products of the human spirit, but to say that, no matter how true, is to look at art in conscious aesthetic terms alone, to see it only with reference to deliberate artistic creativity and those standards relevant to that domain. What I have been discussing makes no attempt to undermine that type of approach, for narrative art can be many things at once, but rather tries to suggest that there may be other approaches, equally relevant ones, which see a work of art in different contexts. If art is judged as *art*, then questions of evaluation and interpretation are in order, for these are indeed some of the main functions of criticism. However, when art is considered anthropologically, as a human activity among other equally significant human activities, questions of relative artistic merit among different individual works are no longer relevant. Instead, one is concerned with the activity's *function*, its social purpose, to see what it can tell us about human nature, about what constitutes man. This sort of approach is neither better nor worse than the others, it is merely different, and equally legitimate. It does not seek to detract from one's enjoyment of, or admiration for, a great work of art, nor does it attempt to diminish the stature of created art. It rather hopes to enrich one's experience of the work itself by using the work as a key to gain insight into the nature of man. If we are indeed rational creatures, we must do no less.

Notes (Shakespeare and Veliovsky)

1. See, for instance, *Man and his Symbols*, ed. with introduction by Jung, Carl G., (Dell Publishing Co., 1964) pages 56-71.
2. All quotations and line numbers from *A Midsummer Night's Dream* refer to the Signet Classic Shakespeare edition, ed. Clemen, Wolfgang, (New American Library, New York, 1963).
3. "Collisions and Upheavals", *Pensée* 2(2):8-10 (May 1972). Publ. Student Academic Freedom Forum, Portland, Oregon.
4. *Ibid.*
5. Welsford, Enid, *The Court Masque* (Cambridge University Press, Cambridge, 1927).
6. Young, David P., *Something of Great Constancy: The Art of "A Midsummer Night's Dream"* (Yale University Press, New Haven, 1966) Page 95.
7. *Ibid*
8. Young, *op cit.*, Page 29.
9. *Ibid*, Pages 76-81.
10. Barber, C.L., *Shakespeare's Festive Comedy* (Princeton University Press, Princeton, 1959) Page 148.
11. Sewell, Elizabeth, *The Orphic Voice: Poetry and Natural History* (Yale University Press, New Haven, 1960) Pages 139-140).
12. Young, *op cit.*, Page 153.
13. *Ibid*, Page 91.
14. *Ibid*, Page 90.

15. *Ibid*, Page 18
16. Barber, *op cit*, Pages 18-19.
17. Young, *op cit*, Page 20.
18. Frazer, J.G., *The Golden Bough*, Abridged edition (London, 1954) Pages 643 ff.
19. See, for example, Velikovsky, Immanuel, *Worlds in Collision* (Doubleday, 1950) Pages 305-311; (Pocket Books, 1977) Pages 309-315; (Abacus, 1972) Pages 292-299. All subsequent page references to *Worlds in Collision* will refer to these three editions.
20. In an interview recorded shortly before his death, the American folk singer Woody Guthrie related how, during a particularly severe dust storm in Texas at the time of the Depression, it once became so dark that daylight was virtually obliterated and the frightened farmers who had gathered in a flimsy shack feared that the world was about to end. He may have been speaking somewhat tongue-in-cheek, but truth may be conveyed in jest, and the folk connection between anomalous darkness and the fear of worldwide cataclysm seems to be universal.
21. See, for example, Juergens, Ralph, "Reconciling Celestial Mechanics and Velikovskian Catastrophism," *Pensée*, 2(3) (Fall 1972) Pages 6-12
22. *Worlds in Collision*, Pages 259; 264; 251.
23. *Worlds in Collision*, Pages 160; 169; 161.
24. Young, *op cit*, Page 56.
25. All quotations and line numbers from *Antony and Cleopatra* refer to the Signet Classic edition, ed. Everett, Barbara, (New American Library, New York, 1964).

26. Antony and Cleopatra, ed. Everett, Barbara, Introduction xxv.
27. *Worlds in Collision*, Pages 176; 184-185; 176.
28. Velikovsky, Immanuel, *Earth in Upheaval* (Doubleday, 1955) Pages 50-55; (Laurel Edition, 1968) Pages 56-61; (Abacus, 1973) Pages 46-51; (Pocket Books, 1977) Pages 46-61.
29. See, for example, *Worlds in Collision*, Pages 96-100 and 274-278; 110-114 and 274-278; 104-107 and 263-267.
30. *Worlds in Collision*, Pages 166 and 180-182; 175-176 and 188-191; 167 and 180-181.
31. *Worlds in Collision*, Pages 120-125; 132-137; 125-129.
32. *Worlds in Collision*, Pages 256-258; 261-264; 248-250.
33. Lee, Robin, *Shakespeare: Antony and Cleopatra*. Studies in English Literature (Edward Arnold, London, 1971).
34. *Ibid*, Page 10.
35. *Ibid*.
36. *Ibid*, Page 13.
37. *Ibid*, Page 11.
38. *Ibid*
39. *Ibid*
40. *Ibid*, Page 29.
41. *Ibid*, Page 20.
42. *Ibid*, Page 21.
43. *Ibid*, Pages 30-31.

44. *Ibid*, Pages 31-32.
45. *Ibid*, Page 33.
46. *Ibid*, Page 34.
47. *Ibid*
48. *Ibid*, Page 35.
49. *Ibid*, Page 36.
50. *Ibid*.
51. *Ibid*, Page 41.
52. *Ibid*, Page 36.
53. *Ibid*, Page 51.
54. *Ibid*, Page 52
55. *Ibid*, Page 56.
56. *Antony and Cleopatra*, Introduction xxxv.
57. Davidson, Clifford, '*Antony and Cleopatra*': *Circe, Venus and the Whore of Babylon*. Unpublished manuscript, Chapter V1.
58. Davidson, *op cit*, Page 150.
59. *Ibid*, Pages 152-153.
60. *Ibid*, Page 155.
61. *Ibid*, Page 154.
62. Davidson, *op cit*, Pages 154-155.
63. *Ibid*, Page 155.

64. *Ibid.* Page 158
65. *Ibid*, Page 165.
66. *Ibid*
67. *Ibid*, Page 152.
68. *Ibid.*
69. De Grazia, Alfred, Unpublished manuscript. As well, these ideas are treated in Professor de Grazia's paper in this volume. "The Palaetiology of Fear and Memory."
70. Davidson, *op cit*, Page 151.
71. See de Grazia, *Palaetiology of Fear and Memory*, especially pages 42 and 43.
72. Davidson, *op cit*, Page 167.
73. *Ibid*
74. *Ibid*, Page 154.
75. *Worlds in Collision*, Pages 259; 264; 251.
76. Davidson, *op cit*, Page 154.
77. *Ibid*, Page 167.
78. *Ibid*, Page 168.
79. Public address at the *Symposium Velikovsky and the Recent History of the Solar System*, McMaster University, Hamilton, Ontario, June 16-19, 1974.
80. Davidson, *op cit*, Page 168.
81. *Ibid*, Page 170.

82. *Ibid*, Page 156.

83. *Ibid*, Pages 156-157.

84. *Ibid*, Page 170.

85. *Ibid*, Page 171.

86. *Ibid*.

87. *Ibid*, Page 172

88. *Ibid*.

89. *Ibid*, Page 173.

90. *Ibid*. Page 172.

91. *Ibid*, Page 151.

92. *Ibid*, Page 174.

93. *Ibid*, Page 175.

94. For support of this concept from a different quarter, see Parry, Thomas Alan, "The New Science of Immanuel Velikovsky," *Kronos* 1(1):3-20 (Spring 1975). Parry explains the process of collective amnesia from a neuropsychological point of view. Recent discoveries concerning the nature and functions of the right hemisphere of the brain, he writes. support Dr. Velikovsky's holistic, intuitive, psychiatric approach to myth and religion. Parry's conjectures upon collective memory and forgetting also relate to de Grazia, *op cit*, and to the contention of this book that art is a sublimated retelling of terrible history.

95. Guerin, Wilfred L. et. al., *A Handbook of Critical Approaches to Literature* (Harper and Row, New York, 1966) Page 136.

96. *Ibid*.

97. *Ibid.*, Page 116.

98. *Ibid*, Page 135.

99. Leach, Edmund, *Levi-Strauss*. Fontana Modern Masters (Fontana/Collins, London, 1971) Page 51.

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6

CATASTROPHISM AND UNIFORMITY

A Probe Into The Origin of the 1832 Gestalt Shift in Geology*

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"I think any argument from such a reported radical as myself," Charles Babbage wrote to the geologist Charles Lyell on May 3, 1832, "would only injure the cause, and I therefore willingly leave it in better hands."

Charles Babbage (1792-1871) was Lucasian Professor of Mathematics (1828-1839) at the time, a dabbler in geology, theology and manufacturing, who had recently made an unsuccessful bid for a seat in Parliament. In 1837 he was to publish his *The Ninth Bridgewater Treatise*, an attack on the theology of the Anglican establishment, and in 1851 he was to carry the attack into the Tory camp in his *Reflections on the Decline of Science in England*, the purpose of which was to argue that wealthy Tory amateurs had a stranglehold on science policy and were discriminating against socially less well positioned scientists, who were more deserving of support.

Charles Lyell (1797-1875), to whom he was writing, had just published the second volume of his *Principles of Geology* (Volume 1, 1830; Volume 11, 1832; and Volume 111, 1833), a work written in support of political liberalism although ostensibly it was an objective work in science free from any political implications. In his letter of May 3rd to Lyell, Babbage was explaining why he would not write a favorable review of the book. Quite wisely, the Whig scientists, like Babbage, Lyell,

Scrope, Darwin and Mantell, did not want the public to know that what was being promoted as objective truth was little more than thinly disguised political propaganda.

The purpose of this paper is to explicate what Babbage means by the word "radical," and the word "cause," when he writes, as quoted above: "I think any argument from such a reported radical as myself would only injure the cause, and I therefore leave it in better hands." The first part of this paper investigates the political implications of early 19th Century Geology. The second probes the nature of Babbage's and Lyell's "cause," and the last part of the paper concludes with a discussion of the implications of this investigation for Velikovsky's theory of collective amnesia.

PART I

THE POLITICAL IMPLICATIONS OF EARLY 19TH CENTURY GEOLOGY

In 1807, Humphrey Davy wrote to his friend William Pepys: "We are forming a little talking geological dinner club, of which I hope you will be a member." Of the original thirteen members, four were doctors, one was an ex-Unitarian minister. Two were booksellers; another, Comte Jacques-Louis, had fled the French Revolution. Four were Quakers, and two - William Allen and Humphrey Davy - were independently wealthy amateur chemists. Only one, George Greenough, had any training in geology or mineralogy. He had paid a visit to the Academy at Freiburg some years earlier along with Goethe, but did not by any stretch of the imagination pursue the subject for a living. He was a Member of Parliament. Indeed, what is extraordinary about the London Geological Society is that none of the original members were geologists. "The little talking dinner club" as Davy put it was a club for gentlemen given to talk, not to hammering rocks.

The following year twenty-six Fellows of the Royal Society joined, including Joseph Banks, the President of the Royal Philosophical Society, and the year after the number of members had jumped to 173. The "little talking dinner club" concept became unfeasible; apartments were rented instead; there was

talk of publishing transactions, and Sir Joseph Banks, fearing that the Geological Society would soon grow bigger than his prestigious and ancient Royal Philosophical Society, 'resigned in protest. By 1817, only ten years after its founding, the Geological Society had more than 400 members, and in 1825 it was incorporated with a membership of 637.

The founding and early growth of the London Geological Society is noteworthy for a number of reasons. Earlier scientific societies, like the Royal Academy in France and the Philosophical Society in London, had a much broader base. There had been a few abortive attempts to start specialized scientific societies in chemistry and botany, but they had come to nothing. The Geological Society of London was really the first specialized scientific society and its early growth was unprecedented, and, in fact, very difficult to account for, especially when one recalls that its early members were almost all doctors, lawyers and Members of Parliament instead of persons actively engaged in what we would now consider to be geological pursuits. Of the first Presidents (Greenough, Buckland, and Murchison), George Greenough was a Member of Parliament, the Reverend William Buckland was Dean of Westminster, and Sir Roderick Murchison was an independently wealthy retired Army Officer.

That is not to say that there were no persons in England actively engaged in what we would now consider to be geological pursuits, for indeed, England at the time was going through a crash program of canal building and mine exploration and was about to enter the railroad age, but one is hard-pressed to find these working geologists on the membership list. William Smith, for instance, the most famous drainage engineer of the age, who discovered the technique of correlation of strata by means of fossils, and is generally mentioned in modern geological texts as the key geologist of the era, was not invited to join the London Geological Society. Perhaps he was too busy doing geology to have time to talk about it, but if the truth be told, the London Geological Society was a group of talking amateurs whose interest in Geology was not for its application to mining and canal digging, but for its theological and political implications, which were crucial to the social stability of England and were

thereby by no means irrelevant to the early development of geology.

The term "geology" had only recently been introduced by the Swiss Diluvialist, de Luc. In the Medieval University curriculum one finds no place for the study of the earth, which was deemed corrupt, a product of the devil, and therefore not worth studying. The Medieval Catholics believed, following Plato, that geometry, numerology, harmony and astronomy better reflected the wisdom of God than did the study of things of this world, but the Protestant Reformation had changed all that. Between the years 1680 and 1780 some five hundred books and articles were published on geology ranging from Bishop Burnet's popular *Sacred Theory of the Earth*, which ran through seven editions between 1681 and 1753, to J.T. Klein's scholarly monograph on a single class of fossils, *Dispositio Echinodermatum* (1732). The Protestants were keen to demonstrate that God's handiwork was as easily seen in this world as in the next, and particularly they were eager to demonstrate the literal truth of the Bible which declared that God had not only created all the creatures of the earth, but had also brought down the Deluge to punish man for his sins.

Shortly after the Glorious Revolution of 1688 when the Catholic monarch was driven out of England, a rash of works appeared eared reconciling the book of Genesis with the new research into Nature. Most successful of these was John Woodward's *Essay Towards a Natural History of the Earth*, in which he explained the stratigraphic sequence of rocks by supposing that during Noah's flood, all the surface rocks of the earth had been dissolved by the sea, later to be gradually precipitated out into the stratigraphic sequences which now comprise the secondary formations. Because the Woodwardian idea preserved the theme of Genesis, that the flood was caused by divine decree to punish men for their sins, it was favorably received by the Anglican Church and later became, at the hands of the Tories, a major bulwark in their defence of monarchy. In 1728, the Woodwardian professorship was founded at Cambridge, the first academic recognition of the field of what is now called "geology," and his ideas were articulated not only in England, but also on the continent, particularly in the popular classes of

Abraham Gottlieb Werner at Freiburg later in the century where Greenough, von Buch, Maclure, Jamieson, Berger, and most of the other founders of geology studied.

In pursuit of Woodwardian Geology, a number of anomalies occurred, in particular a lack of correlation between New and Old World strata, as well as overlays of basalt and granite in what were supposed to be secondary deposits. As a result, Leonard von Buch and Georges Cuvier modified the early diluvial theory into a more general catastrophic theory of the earth in which the earth was seen as not having suffered one catastrophe, but numerous catastrophes of which the Deluge was but the most recent. To deny catastrophism altogether was to deny the truth of the Bible, and hence the theological implications of early geology were quite clear.

In 1673, Bishop Bossuet, tutor to the Dauphin of France, had drawn up his arguments in favor of kingship into a treatise: *Politics drawn from the very Words of Holy Scripture* argued that monarchy was the most common, the most ancient, and the most *natural* form of government. The key word there was "natural." He argued that Nature provided evidence of being ruled by a divine monarch, God Himself, King of the Universe, and that a King was then emulating God when he ruled with absolute authority: "Thus we have seen monarchy take its foundation and pattern from paternal control, that is from nature itself" Bishop Bossuet writes, and the British spokesman for monarchy, Robert Filmore, echoed Bossuet's words. Monarchy was natural, because all of nature was ruled by a divine absolute monarch, God himself.

In the course of the 18th Century, as democratic sentiments grew not only in America but throughout all of Europe, the political theory of Bossuet and Filmore was seriously challenged. John Locke in his *Treatise on Government* and Jean Jacques Rousseau in his *Discourses* argued against the naturalness of monarchy in favour of a social contract theory of government. But to prove that monarchy was unnatural, it was necessary to prove that the Bible's description of the Deluge was inaccurate, that God had not created the animals and the plants of this earth, and that he had not introduced catastrophes to

punish man for his sins, for these were the biblical and geological models upon which monarchial theory was based. In 1789, on the eve of the French Revolution, accompanied by Erasmus, Darwin, and later by Jean Baptiste Lamarck and Simon LaPlace, the Scottish liberal geologist, James Hutton, published his *Theory of the Earth*, in which he attempted to demonstrate that Nature was not governed by a divine monarch, but by fixed geological laws of volcanic uplift and erosive weathering. Hutton's friend, Adam Smith, was at the same time arguing in favour of a laissez-faire economic policy, in which paternal monarchical power was again eliminated in favour of a free-ranging liberalism.

"Some Judicious persons, who were present at Geneva during the troubles which lately convulsed that city," the Reverend William Paley writes in a counter attack against the new liberalism in his *The Principles of Moral and Political Philosophy* (5th edition corrected 1793), "thought that they perceived in the contentions there carrying on, the operation of that political theory which the writings of Rousseau, and the unbounded esteem in which these writings are held by his countrymen, had diffused amongst the people. Throughout the political disputes that have within these few years taken place in Great Britain, in her sister Kingdom, and in her foreign dependencies, it was impossible not to observe, in the language of the arty, in the resolution of popular meetings, in debate, in conversations, in party general strain of those fugitive and diurnal addresses to the public, which such occasions call forth, the prevalency of the ideas of civil authority which are displayed in the work of Mr. Locke. Such doctrines are not without effect; and it is of practical importance to have the principles from which the obligation of social union, and an extent of civil disobedience are derived, rightly explained and well understood." Paley then went on to explain them not only in the ensuing 567 pages of his *Moral and Political Philosophy* but also in the two volumes of a much longer work on Natural Theology in which the' cosmological foundations of monarchy were once again reiterated.

The "cause" then to which Babbage was referring when he wrote to Lyell: "I think any argument from such a reported radical as

myself would only injure the cause" was that of discrediting Paley and the other Tory Monarchists through an attack on its geological and theological foundations.

PART II

THE CAUSE

After the Napoleonic Wars, England had fallen into a severe depression. Governmental demands for military supplies ceased and there was no market for British goods overseas. To add to the distress and general unemployment, nearly 400,000 troops were demobilized with no place to go. In order to protect the British farmer from imports of cheap grain, the corn laws were instituted in 1815 preventing the import of grain until the price had reached 80 shillings a quarter, a price so high that laborers were starving without being able to pay for it. Although the corn laws were passed to protect the British farmer, they had a devastating effect on British industry and on the towns of the industrial midlands. High food prices drove not only the workers into starvation, but also small businesses into bankruptcy. The Tory solution to the problem was to advise the lower classes not to breed so copiously. Still the towns of the industrial midlands continued to grow mostly, as it turns out, from an influx of the younger sons and daughters of poor farmers. Manchester, for instance, was a small town of 4,000 in 1688. A century later it was ten times that size, and by the time Lyell published his *Principles of Geology*, it was approaching half a million, most of whose inhabitants lived in wretched conditions. Malthus classified towns like Manchester, along with wars, famines and plagues, as a natural check on the population because the death rate was so high.

On August 16, 1819, a crowd of unemployed, underpaid, and underfed inhabitants of Manchester gathered at St. Peter's Field to hear a speech on Parliamentary Reform and repeal of the corn laws. The local militia from the countryside, fearing a rebellion, attempted to arrest the speaker. In the fight that ensued, several were killed and many injured. The monarchist Tory government instituted the "Six Acts" which curtailed the right of free speech and forbade the training of persons in the use of arms. England was on the verge of revolution - the Liberal industrial midlands

versus the Tory monarchists - but the memory of the French Revolution was still fresh among the middle class. They wanted reform in Parliament, not riots. But to reform Parliament meant answering Paley's arguments, and this entailed destroying Paley's Natural Theology.

Paley had argued that sovereignty descends from God to the King; the people are his subjects. Because Parliament is an advisory body, if the king is content with its advice, then there is no need to reform it. The fact that Parliament did not represent the present distribution of people in England, Paley argued, was irrelevant since sovereignty did not stem from the people to begin with. Sovereignty descended from God.

Paley's arguments were amazingly effective. His treatise on *Moral and Political Philosophy*, in which he argued that "it is the will of God that the established government be obeyed" was required for memorization before students could graduate from Oxford or Cambridge. The only way the Liberals from the midlands could get Parliament reformed was to demonstrate that the scientific foundations of Paley's Natural Theology were false, and this meant destroying diluvial geology and catastrophism.

In 1825, Lyell's Liberal cohort George Poulett Scrope (1797-1876) published his *Considerations on Volcanoes* in which he transformed the arguments of the Tories by which every time they ascribed a natural event to God, Scrope ascribed the same event to a Volcano, and thereby attempted to revive the geological theories of James Hutton. So perfect- were the laws of volcanic uplift and erosion which God had created at the beginning of time eons ago, Hutton and Scrope argued, that no more had been seen of God since, nor was there any need of him to run the affairs of the universe, any more than there was need of a king to interfere with the natural and intrinsic laws of economics and of society.

Scrope's book was too radical for the London Geological Society at that time, and it was dismissed without a hearing. Scrope, the son of a wealthy London merchant, bought himself a seat in Parliament and pursued the cause by more direct means. But without a cosmological proof that monarchy was unnatural

and that sovereignty belonged to the people, the Liberals remained relatively powerless.

Undaunted by Scrope's failure the young Whig lawyer Charles Lyell now tried his hand at destroying the geological foundation of monarchical theory. In his *Principles of Geology* he took a much more subtle line than had Scrope. In the 100-page introduction to the *Principles*, Lyell argued not so much that the diluvial theory was wrong, as that it was mythological and impeded the "progress" of geology. In the first volume he went on at great length concerning the forces of erosion and the effects of volcanic uplift in what was a brilliant avoidance of all evidence of catastrophism. It was just what the moderates were looking for. They rallied around Lyell and elected him first Secretary and then President of the Geological Society.

"By espousing you," Scrope wrote to Lyell on April 12, 1831, "the conclave have decidedly and irrevocably attached themselves to the liberal side, and sanctioned in the most direct and open manner the principle things advocated. Had they on the contrary made their election of a Mosaic geologist like Buckland or Conybeare, the orthodox would have immediately taken their cue from them, and for a quarter of a century to come, it would have been heresy to deny the excavations of valleys by the deluge and atheism to talk of anything but chaos having lived before Adam. At the same time I have a malicious satisfaction in seeing the minority of Bigwigs swallow the new doctrine upon compulsion rather than from taste and shall enjoy their wry faces as they find themselves obliged to take it like physics to avoid the peril of worse evils. I feel some satisfaction in this."

In this day and age when geology is far removed from religion and politics, and when political issues are settled by election rather than at meetings of geological societies, it is difficult for us to understand the extent to which the social shift in world view which took place not only in geology but in astronomy and natural history, was related to the Great Reform movement of 1832. All were part of the far more general shift in world view from paternalism to liberalism, but the persons responsible for engineering this shift were very conscious of what they were doing. "It is a great treat to have taught our section-hunting

quarry men, that two thick volumes may be written on geology without once using the word 'stratum'," Scrope wrote to Lyell on September 29, 1832, after Lyell's second volume appeared. "If anyone had said so five years back, how he would have been scoffed at." Just as the Conservatives had refused a hearing to the Huttonian camp earlier, now the Liberals pulled the same tactics when they got into power. The stronghold of catastrophism lay in a stratigraphy where unconformity and nonconformities, to say nothing of massive conglomerates, told of wide-ranging geological disasters of the past. Lyell, like Scrope before him, simply suppressed the evidence which did not fit in with his doctrines, and once he was voted into power, the catastrophists found it increasingly difficult to publish their research.

The Liberal take-over of the Geological Society, and the suppression of evidence favoring the catastrophic position did not come about overnight. Rather, there was a slow assimilation of catastrophic data until there was virtually nothing left to the theory as a whole. When, in 1839, Louis Agassiz attempted to argue in favour of catastrophism with his theory of ice ages, the uniformitarians simply adopted all his evidence, but reinterpreted it in uniformitarian terms. Thus the data did not change, but the gestalt by which that data was organized and given coherence was transformed from catastrophism to uniformitarianism just as the social structure of England was changed from Tory paternalism, in which sovereignty descended from God down to the King, to the new Liberalism, in which sovereignty ascended up from the people through Parliament to its Ministers.

Ironically enough the political battle which underlay the catastrophist-uniformitarian debate of 1832 is now long over, but owing to the paradigmization of science, the uniformitarian gestalt is still assiduously cultivated at universities and in professional geological societies. The "cause" for which Babbage, Scrope, and Lyell were fighting is now long since over and we should feel free to look again at the geological evidence itself, which, if the truth be told, provides ample evidence for catastrophism as it always has.

PART III

CONCLUSION

In 1905 physics had been in a dilemma, some of the evidence from optics indicated that light moved in waves, other evidence indicated that it moved in particles. The two concepts seemed contradictory, but Niels Bohr and Werner Heisenberg were able to show mathematically that the two concepts were actually complementary and provided us with a fuller picture of reality if we accepted them both. Perhaps today geology is in the same situation. We have inherited from our ancestors the idea that either catastrophism must be correct or uniformitarianism must be correct, but not both. The reason they put this as an either/or proposition was political. Either sovereignty belonged to God and the King, or it belonged to the people; it could not belong to both. Therefore geology had either to go with the Tories to catastrophism, or with the Liberals to uniformitarianism; it could not go both ways. Today we no longer have to worry about that. From the evidence of geology, it seems quite clear that both theories are correct: the normal course of events is indeed as Lyell describes it (gentle uplift and slow erosion), but there is also ample evidence that Velikovsky is correct as well and that the earth has indeed been subject to some severe catastrophes as he has so convincingly argued in his *Earth in Upheaval*

In this paper I have attempted to make five major points: first, the London Geological Society, which gave birth to the uniformitarian paradigm, did not originally consist of a group of practicing field geologists, but was comprised of gentlemen, Members of Parliament, clergymen and lawyers, who were primarily concerned with the political and theological implications of geology at the time of the Great Reform Bill of 1832 when the concept of monarchical sovereignty was being challenged by the Whigs and defended by the Tories. Second, that the London Geological Society has been split into two camps, with the Tory catastrophists prevailing before 1832 and liberal Whigs, under the leadership of Lyell, Scrope and, later, Darwin, taking over in the second quarter of the century. Third, that "uniformitarianism" was promoted by the Liberals as part of "the cause" to undermine the theoretical foundations of monarchy and was not derived from field research. Fourth,

because the Tories were using repressive tactics in politics to prevent the reform of Parliament, the social tension spilled over into the geological debate causing the intense interest in geology in the 1820's and 1830's, and the exponential growth of the newly founded London Geological Society. The Liberals, by seizing control of the London Geological Society before the Reform Bill was passed, presaged what was soon to follow in the political arena. And, fifth, once in control, the Liberals attempted to cement their hegemony by repressing the catastrophists and by assimilating their data.

In the ensuing years of the 19th Century, geology became fully Professional and dogmatic. It became a scientific heresy to believe in the catastrophic theory. The reaction of the scientific community to Velikovsky was one of instinctive repression, not because Velikovsky was wrong, but because it basically fears that he may be right.

Turning now, in closing, to the question of cultural amnesia, I have found little evidence that the Liberals had "forgotten" the catastrophes of the past. Rather the evidence for catastrophism was politically embarrassing to them. At times they may appear to have repressed evidence, but actually they believed in their own liberal vision so strongly that they sought more to reconcile the evidence of catastrophe to this vision than to repress the evidence. If Liberal scientists and historians have remembered too much the peaceful times, it may be that their unconscious has been seeking more a reconciliation of the past catastrophic experience with their present experience of peaceful times, than a repression of those terrible ancient events.

7

**LIVING WITH VELIKOVSKY:
CATASTROPHISM AS WORLD VIEW**

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In this paper on catastrophism and its consequences, I consider Velikovsky and "the new Anthropology"; this work removes the study of man from its present scientific, cyclical world view and places it in an apocalyptic cosmos. This is only a shift in perspective. The spadework, and most of the superstructure, have been done long ago at the formation of the world religions, as Velikovsky argues so convincingly. I will present evidence that the New World Hopis built their cosmology on catastrophism. For a present-day example, the authors of the *Whole Earth Catalogue* illustrate a prototype gestalt which lives with a consciousness of catastrophe. The pioneering effort in this paper lies in appreciating Velikovsky's contribution to an existing paradigm of catastrophism.

My theologian friend, David Arnott, the Vicar of Roundshaw in London, England, read Velikovsky's *Worlds in Collision* while I visited him recently. His criticism: "The fact that a society is interested in a catastrophic understanding of the cosmos is more indicative of the state of the society than of the nature of the cosmos."

This seems fair. We know that people seek world views which complement and support their own perception of reality. So to some real extent the participants of this symposium have already embraced the possibilities that earth exists in a cataclysmic universe, and that man already may have experienced global collisions.

An historian of science doesn't have to look far for the roots of these perceptions. Western, industrial man, whose imperial grasp has embraced all the sources of information upon which Dr. Velikovsky draws (from the New World Codices to the

extensive geological records), is the same man whose philosophy and religious tenets became bankrupt, as Nietzsche's madman proclaimed before the turn of the century. Although this announcement went unheeded, the same message assumed material form in the massive destruction of the World Wars, and by the more widespread trauma heralded by Black Tuesday in 1929. When we consider that this same Man devised the atomic holocausts of Hiroshima and Nagasaki, we can appreciate the setting for an understanding of a cataclysmic cosmos.

As participants in a *new paradigm*, we need not disregard the societal grounds of our being. To those whose consciousness matured during the sixties, the fact of catastrophe becomes the gateway to understanding - the first prerequisite. This catastrophic consciousness even has its own annotated bibliography: the *Whole Earth Catalogue*, an already articulated paradigm which shouts "Rejoice! The apocalypse has already occurred."

I shall argue that the Catalogue was conceived as a post-apocalyptic document providing the readers with a sketch of the new world which unfolds once global catastrophe has surfaced to consciousness.

My own appreciation of this consciousness arose first from infatuation with Anthropology. My readings attempted to explore a basic canon of works dictated by *Pope's maxim*: "the proper study of mankind is man." I thought I was doing strictly exploratory work (Jacques Ellul and the nature of technological society; Lewis Mumford and his thesis of the symbiosis of man and his use of tools; searching for spiritual truths of the aboriginal natives of this continent, the James Bay Cree, the Oglala Sioux, the Yaqui sorcerer, the potlatch, the Hopi ceremonialism; learning to keep bees and not sell honey; Arthur Koestler; developing a detailed awareness of the ecological crisis from Rachel Carson to the politics of the 1970's, from Edward Hall's *The Hidden Dimension* to Buddhist meditation). All these seemed random pursuits, but to my great surprise they proved to be part of this articulated paradigm with annotated bibliography, the *Whole Earth Catalogue*. Both start with a cosmic view of disaster - the common "given" is a view of the

eggshell fragility of Planet Earth and its delicate biosphere. But whereas I speak prosaically, the *Whole Earth Catalogue* sings. It is poetic. It quotes from *The Star Maker* by Olaf Stapleton:

The sheer beauty of our planet surprised me. It was a huge pearl set in spangled ebony. It was nacreous, it was opal. No, it was far more lovely than any jewel. its patterned colouring was more subtle, more ethereal. It displayed the delicacy and brilliance, the intricacy and harmony of a live thing. Strange that in my remoteness, I seemed to feel, as never before, the vital presence of Earth as of a creature alive but tranced and obscurely yearning to wake.

The *Whole Earth Catalogue* began in 1968 as an *ad hoc* freak enterprise "Access" was its key concept - how to link up people with tools in a form that would promote the development of an ecological gestalt. Its editor, Stewart Brand, provided a clue to the precepts of this gestalt in an editorial entitled "Apocalypse Juggernaut, Hello":

As if the spirits of our ancestors weren't trouble enough, now we're haunted by the ghosts of our descendants.

Ken Kelsey claims that ecology is the current handy smoke screen for everybody's Dire Report...I tend to view the whole disaster as an opportunity to try stuff. If you take all the surprise-free projections for mankind's near future and connect them up, they lead neat as you please right into the dead-end meat grinder. The only Earth we had, used up.

(Page 233)

The devotee of the *Whole Earth Catalogue's* peculiar compendium of survival tactics assumes that the catastrophe has already occurred, or is now occurring. The agent may be seen as social unrest or the industrial poisoning of the biosphere. For example: the January 1971 *Whole Earth Catalogue* Supplement devotes one page to Albert Speer, architect, Reich Minister of Armaments and War Production for Hitler, writing as a prisoner:

I thought of the consequences that unrestricted rule, together with the power of technology - making use of it but also driven by it - might have in the future. This war (II) had ended with remote-controlled rockets, aircraft flying at the speed of sound, atom bombs and a prospect of chemical

warfare ... A new great war will end with the destruction of human culture and civilization.

The nightmare shared by many people . . . that some day the nations of the world may be dominated by technology - that nightmare was very nearly made a reality under Hitler's authoritarian system. Every country in the world today faces the danger of being terrorized by technology; but in a modern dictatorship this seems to me to be unavoidable. Therefore, the more technological the world becomes, the more essential will be the demand for individual freedom and self-awareness of the individual human being as a counterpoise to technology.

According to Stewart Brand, the living experiment of the *Alloy* community was the setting in which the Whole Earth paradigm began to unfold. *Alloy* was held in the New Mexico desert between the Trinity Bomb Test Site and the Mescalero Apache reservation, March 20-23, 1969 (the Vernal Equinox).

150 people were there. They came from northern New Mexico (communes), the Bay area, New York, Washington, Carbondale, Canada, Big Sur, and elsewhere. They camped amid the tumbleweed in weather that baked, rained, greyed, snowed and blew a fucking dust storm. Who were they? (who were we?) Persons in their late twenties or early thirties mostly. Havers of families, many of them Outlaws, dope fiends and fanatics naturally. Doers primarily with a functional grimy grasp on the world. World thinkers, drop-outs from specialization. Hope freaks.

They left behind their proverbs recorded in the catalogue. Here's one: "There's a lot of people who want the Apocalypse. Instead of looking at it as the death force, there's a possibility of the emergence of something new, a reshuffling of the deck."

The Catalogue looks around for what might be salvaged from the great midden-heap of civilization. According to proverbs from *Alloy*: "You're just saying that there is in reality no guarantee that life will continue. The right to live is a fiction. It's a pretense at a political reality." The *Whole Earth Catalogue* says: yeah-yeah, you thought the liberal democratic uniformitarian world system was bust, but you didn't know how bust. First, let's look at the big picture.

You're too close. Back off and survey the big picture and old mysteries will clear up for you and other mysteries will arrive ... among the discoveries ... is that this lovely place Earth is scarcely inhabited and scarcely habitable. Stare into the void.

(Page 7)

The apocalypse has already occurred. And what might you want to know in order to live in this newly collapsed world? The massive information bank of the *Whole Earth Catalogue* aims to expand the capacities of each human individual so as to increase his survival potential.

... Surprises ... is what we (man) are here for. The standard Operating Law when a species is in a bind is to diversify. Multiply alternatives. If you don't know what's coming, the way to evolve ahead of the changes is to try everything.

(S.B. - Page 233)

The *Catalogue* redefines human potential, and provides access to tools for each to begin exploration in their brave new world; it acknowledges the godhood of humanity and challenges man to accept the responsibility. Although it may seem that only the selfish and egocentric would interest themselves in learning to survive while the rest of humanity perishes, that can be only the criticism of an outsider to this world view. Once the paradigm is embraced, adventure, joy and the drama of discovery, with its colossal blunders and momentary awards, provide the necessary spiritual tutorship - the centering knowledge to live in the present - to be here now.

As one of the conscious inhabitants of this globe, Man is awakened from his lethargy by the sound of alarm bells: crisis. The veil of amnesia has been lifted, the result is the awakening of consciousness, whether the apocalyptic agent is perceived to be an extra-terrestrial jostling, or biospheric poisoning, atomic weaponry overkill, or overpopulation; or whether one has experienced the disintegration of his world view by chemical inducement a magical mushroom or the fabled LSD. The generation of the *Whole Earth Catalogue* has experienced the catastrophe and, consistent with Dr. Velikovsky's amnesia theory, they no longer itch to re-enact the primordial paroxysm that heralded our present age - the bomb has gone off. We

acknowledge the Russian Roulette of the planetary system. People are dying all around us. We live in the now. Now what?!

Much of the philosophy that the cataclysmic paradigm looks to is found in the eastern spiritual teachings. Eastern man has honed his consciousness as assiduously as we have developed our technology. He learned that to comprehend the cosmos, he must look into the void. "THE VOID?!" Western man declares, "Why there's nothing there." This is the most terrifying prospect for material man to envision. For centuries we have codified laws, erected structures and systems, and designed labyrinths to cushion us from even a hint of nothingness. Rational Apollonian scholarly Western man needs more than the ecstatic revelations of an Eastern mystic to reveal the nature of the cosmos. And this is the great contribution of Velikovsky.

Velikovsky not only argues in consummate detail (in the finest of Western scholarship), he not only uses Western methods to illuminate his truths. He uses Western sources to prove his case! His work reinterprets our own canons of knowledge, the whole Hebraic heritage and the very precepts of the scientific tradition. These are the building stones of his new cosmology. From the genesis of Judaism, with the flight out of Egypt during catastrophic circumstances, to the frontiers of modern physics, his theory is revealed. Better than affirming the possibility of catastrophe, Velikovsky has provided an argument in Western terms for a catastrophic cosmology.

This symposium is in fact a celebration of the acceptance of the legitimacy of Velikovsky's work. Far from being a crisis-induced scramble for an apocalyptic band-wagon (a revival in the scholarly world, as so many established academics regard it, of the gloom-and-doom popular hysteria fads about the end of the world) it is more the reaffirmation of much that modern, progressive, liberal democratic science has shunned or railroaded completely out of existence. Probably each participant to this symposium is attracted by a particular aspect of Velikovsky's work. Appropriate to the physician's calling, Velikovsky has provided the fragmented specialization of the multi-versity with the cool healing of an interdisciplinary synthesis.

For my part, I celebrate the reaffirmation of an historic universe where unique events inevitably alter our course. This affirmation of the Hebraic side of our heritage counters science's preponderant influence from the Greeks and their cyclical cosmos, their search for harmony in the heavens. With an historic perception, the mysterious potential to life is reaffirmed. If we are in a paradigm shift of which Velikovsky is an integral part, it is partly as a reaction to the confining vision of man that science imposed. For science's cosmos operated by laws, and eminently knowable laws at that. The corollary: knowing those laws provides science with manipulative power over that which operates by the laws, whether people or principles of aerodynamics. Science has restricted too far the vision of biotic potential; it has obscured past, present, and even future with predictability, and hence monotony.

The catastrophic paradigm celebrates that which is mysterious in the nature of life. This is Wendell Berry's Manifesto for the Mad Farmer Liberation Front in the *Whole Earth Catalogue*:

Love the quick profit, the annual raise, vacation with pay. Want more of everything made. Be afraid to know your neighbours and to die. And you will have a window in your head. Not even the future will be a mystery any more. Your mind will be punched in a card, and shut away in a little drawer. When they want you to buy something, they will call you. When they want you to die for profit, they will let you know. So, friends, every day do something that won't compute. Love the Lord. Love the World. Work for nothing. Take all that you have and be poor. Love someone who doesn't deserve it. Give your approval for all you cannot understand. Praise ignorance, for what man has not encountered he has not destroyed. Ask the questions that have no answers. Invest in the millenium. Plant sequoias. Say that your main crop is the forest that you did not plant and you will not live to harvest. Say that the leaves are harvested - when they have rotted in the mould. Call that profit. Prophesy such returns. Put your faith in the two inches of humus that will build under the trees every thousand years. Listen to carrion - put your ear close and hear the faint chattering of the songs that are to come. Expect the end of the world. Laugh. Laughter is immeasurable. Be joyful though you have considered all the facts..... As soon as the generals and the politicos can

predict the motions of your mind, lose it. Leave it as a sign to mark the false trail, the way you didn't go. Be like the fox who makes more tracks than necessary, some in the wrong direction.

Practice resurrection. (W.E.C. - Page 25)

The mysterious open-ends what is possible, unlinks the chain and rejuvenates the world.

Velikovsky's thesis began with a reappraisal of the view that myths were founded on material reality. His cross-cultural comparisons argue for a common material reality for all the survivors of the last global upheaval. This interpretation acts as a great restorative to the effect of the sludge which the functional schools of interpretation have hardened over our understanding of world mythologies.

Let us read the first revelation of the Hopi's historic and religious world view of life with this new acceptance of its validity. The Hopi hold that our planet has experienced three world ages and that this is the fourth. Each age has been terminated by physical apocalypse which has dramatically altered populations, bringing some to the fore and casting down others. Each has set fresh conditions for the possibilities of life on this globe, and dramatically altered the consciousness of survivors. In describing the end of the second world age, they first tell of moral decay and the inadequacy of man to hold up his part in the song of creation; then:

... as on the First World, so again Sotuknang called on the Ant people to open up their underground world for the chosen people. When they were safely underground, Sotuknang commanded the twins, Palongawhoya and, Poganghoya, to leave their posts at the north and south ends of the world's axis where they were stationed to keep the earth properly rotating. The twins had hardly abandoned their stations when the world with no one to control it, teetered off balance, spun around crazily, then rolled over twice. Mountains plunged into seas with a great splash, seas and lakes sloshed over the land; and as the world spun through cold and lifeless space, it froze into solid ice.

Quite clearly the basis for the Hopi cosmology is a catastrophic view of existence. They, like the Israelites, began this age amidst

a violent upheaval which initiated their migrations in search of their chosen land. Their goal, on the bleak mesas of the American southwest, is

... to sustain forever responsibility for the well-being of the world. Theirs is the mysticism not of change, but of the stability of the yearly cycle of one winter's food at a time.

Now you have experienced this paradigm travel full-circle; for these lines are from the review of the *Book of the Hopi*, contained in the *Whole Earth Catalogue*.

Velikovsky argues for the integrity of the Hopi cosmology with material reality. The Hopi provide us with an archetypal response of life to a cataclysmic consciousness. Concern for the welfare of the earth unites the new anthropology to the wisdom of the Hopi.

I have attempted to show that catastrophism is a current paradigm which Velikovsky provides with a Western mythology. Since the writings of Thomas Kuhn, we acknowledge that one of the properties of a theory is its contextual basis in an existing, but often unarticulated, cultural milieu. My prime concern has been to explore the implications of living with the knowledge of catastrophism. Here is the best statement of this calling my years of ecofreaking have uncovered, authored as "The Four Changes" by poet Gary Snyder, and, of course, contained in the *Whole Earth Catalogue*:

Our own heads: is where it starts. Knowing that we are the first human beings in history to have all of man's culture and experience available to our study and being free enough of the weight of traditional cultures to seek out a larger identity - the first members of a civilized society since the early Neolithic to wish to look clearly into the eyes of the wild and see our self-hood, our family, there. We have these advantages to set off the obvious disadvantages of being as screwed up as we are - which gives us a fair chance to penetrate into some of the riddles of ourselves and the universe, and to go beyond the idea of 'man's survival' or 'the survival of the biosphere' and to draw our strength from the realization that at the heart of things is some kind of serene and ecstatic process which is actually beyond qualities and certainly beyond birth-and-death. 'No need to

Survive !' In the fires that destroy the universe at the end of
kalpa what survives?'- 'The iron tree blooms in the void!'

Knowing that nothing need be done, is where we begin to move
from.

8

AFTERWORD

Immanuel Velikovsky

The symposium draws to a close. I appreciate the effort made by the organizers on behalf of this University and the members of the faculty who participated as moderators; the dedication of those of you who came from afar to read the prepared papers, and of those who have followed my work with interest and devotion, some over many years since 1950, others who have become new adepts. I appreciate those who participated in this symposium by listening to two days of papers on the subject of "Cultural Amnesia."

My work has ramifications in many fields of knowledge. Once I had begun to understand that global catastrophes caused by extraterrestrial agents had occurred, I had to face problems in many fields.

First I had to check in each field to determine the current situation and evaluate the prospects for revision. As soon as you accept that a global catastrophe has occurred, many problems thought to be insoluble solve themselves. In geophysics the origin of mountains is not established, nor is the origin of ocean salt. Palaeomagnetic changes and reversals create unsolved problems. The cause of dramatic changes in climate is not understood. Exactly at those times when I determined that the catastrophes took place there were records of unexplained changes in the ocean level.

Since its inception in 1859 the theory of evolution has altered the ways in which we think to such a degree that even philosophy has become a branch of Darwinian evolution, and is helpless to solve the problems that it creates for itself. Before the theory of evolution emerged it had been maintained that our Earth was created in six days. Slow evolution replaced instant creation. But was Darwin's theory right? No, it was only partly so. This has become increasingly apparent in the last twenty

years, and it should have been apparent early in this century when mutations were first observed.

There are problems in astronomical cosmology where we attempt to explain how everything came into being and how it attained its present state. Neither the Nebular theory nor the theory of tidal disruption can fully explain the creation of the Solar System. Neither the Big Bang nor the Steady State theory explains the beginning of the Universe. No single solution exists, no one theory is flawless.

In celestial mechanics the dogma persisted until very recently (and still persists today with some astronomers) that gravitation and inertia are the only forces that affect celestial motions. Yet many astronomical motions are more readily understood when electric and magnetic forces are included as the evidence now clearly requires [1].

Frequently, I am called upon to speak to gatherings of space-scientists [2]. On such occasions I ask the assembled physicists and engineers if there is anyone present who still claims that Jupiter with its magnetosphere can travel through the interplanetary magnetic field without being affected, or if the satellites of Jupiter can travel through the magnetic field of Jupiter without being affected by it. Thousands have heard me lecture, yet I have never seen one arm raised, whether I spoke at Harvard, Princeton, or NASA.

In 1950 my claim that electric and magnetic forces acted in the cosmos was considered my greatest offense. Even before *Worlds in Collision* was published, Einstein warned me that the importance I placed upon electricity and magnetism in cosmic problems would be violently attacked by other scientists. But I stood my ground. Especially it appeared to me that sun-grazing comets are carried around the Sun by electric and magnetic forces in preference to gravitational forces. This is, of course, not yet proven.

Other critics told me that the greatest minds of the past had established with exact precision the ability to predict eclipses centuries in advance on the basis of only gravitation and inertia

acting in the cosmos. But I was not dismayed, I met the competition head on, whether the opposition criticized me fairly, as in the case of Einstein with whom I argued often for long hours and exchanged quite a few handwritten letters [3]. or whether the criticisms were attacks and defamation. The attacks do not help me to complete my work.

Several other fields besides celestial mechanics must also be re-examined. How must global catastrophes affect the interpretation of ancient civilizations? What significance do the surviving relics of those civilizations have for the archaeologists and historians? We have to re-examine the meaning of mythology. The Freudian ideas that traumatic experiences cause the human race to be possessed by irrational motives, such as the urge to self-destruction, is of fundamental importance.

In 1950, the appearance of my work created a new phenomenon in the politics of science. Never in the history of science has there been anything comparable to what has happened in the last twenty-four years. In the 15th and 16th centuries when there were no newspapers, radio, or television, wholesale repression of an idea was extremely difficult. Communication was slow, usually by exchange of letters [4]. But even when more rapid communication became possible, nothing occurred which could be compared to the violence and the dishonesty of many incidents in the "Velikovsky Affair." As a subject of discussion, of papers, and of graduate dissertations, the "Velikovsky Affair" has become a favourite subject on campuses across the country (although I speak about the United States I assume in Canada too) for sociologists and historians of science.

No one can possess the knowledge required to be an expert in so many fields [5]. Equally, we cannot understand the happenings in various fields if those fields are examined in isolation. Nature is one: it is not subdivided into departments or separated compartments. No one can spend enough time to emulate the ancient philosophers like Seneca or Aristotle who discussed all of the knowledge of their day. Yet the understanding of nature becomes a question of interdisciplinary synthesis. Generalization is increasingly being favoured by the scientific press.

It is clear that no progress can be made discussing an interdisciplinary subject as a whole. This is why I published different evidence in separate books, like *Earth in Upheaval*, where I deal with stones and bones and evolution. There is not a single reference to anything from our human heritage. There were many references in Pliny, Strabo, Herodotus, and the ancient Egyptian sources that I could have used profitably in that volume, but I resisted. The geological evidence had to stand on its own merits. Although we recognize the interconnection between fields, each field needs to be discussed within its own frame of reference.

In defense of my theory I have had many confrontations. In particular, I remember one confrontation at Brown University, some seven years ago, when I was pitted against four specialists: one in Babylonian mathematics, one in astronomy, one in physics, and one in geology. I stood alone.

At the AAAS meeting in San Francisco just two months ago I participated in a similar debate which lasted seven hours. The audience showed by their standing ovation that they took my side, the side of the heretic. I had shown that the very same problems which plagued scientists in one field were identical to the problems in the next field. Common problems plagued the astronomer, the geologist, and the historian of Babylonian mathematics. Each of these specialists spoke about the very same subject without recognizing it.

This year there are five symposia discussing my work [6]. At each I will face assembled experts and defend my work in each separate field.

I have now a more serious problem. The new idea which I have provided now spreads like wildfire. Discussion on one campus leads to invitations to other campuses, the invitations increase in geometric proportion. Just two hours ago I received an envelope containing an invitation to travel to Montreal for another series of lectures.

I have much to do: I started late in life. I was forty-four when I arrived in this country for an eight-month sabbatical. I have

remained thirty-five years, the prisoner of an idea. I did ten years of work before the publication of *Worlds in Collision*. Shortly thereafter, my second book, *Ages in Chaos*, Volume One was published. The second volume of this latter work was already in page proofs and I called them back for elaboration. For the past twenty-two years I have elaborated upon *Ages in Chaos*, making the original second volume into four new volumes [6A].

I must now ask the question, at my age, with only one short year and a month away from being an octogenarian, can I continue to attend meetings and debate these issues? Can I continue to answer questions which are sent to me? Can I advise scientists, and write articles for *Pensée*? Each task is a heavy load by itself.

At the same time I will do my utmost while I am still physically able to finish those books which are now partially complete. I have a manuscript for a book which discusses catastrophes which precede those described in *Worlds in Collision*. I mentioned something of these catastrophes in my talk yesterday. Most important, I must complete the manuscripts for the four remaining volumes on ancient- history, *Ages in Chaos*[7]. would like this series, my *Opus Magnum*, to be as complete as possible. It is my *Opus Magnum* even though the main problems are in cosmology, psychology, and geology, and not in ancient history. When I asked the question, could the catastrophes that are described in the ancient sources be correlated between Egyptian and Biblical sources, I discovered a systematical chronological error in ancient history. To my amazement, I discovered that descriptions of ancient history were confused; accepted dates meant nothing. For the past twenty-four years scholars have debated whether the beginning of the reign of Ramses the Second should be moved from -1289 to -1303. As I show in *Ramses II and his Time*, this debate has absolutely no meaning if Ramses belongs at the end of the seventh or at the beginning of the sixth century before the present era instead of centuries earlier.

Another volume deals with the *Dark Age of Greece*. In it I will show how the Homeric Problem can be eliminated [8]. No documents or buildings have survived from the Dark Age, the ancient Greeks never mentioned it and seemingly knew nothing

of it. its removal gave me great satisfaction, and should exhilarate Greek scholars, because the last link to a misguided Egyptian chronology can now be severed from Greek history. The traditional Egyptian chronology was devised hundreds of years before the first hieroglyphics were ever read, and was based upon erroneous astronomical calculations. In a recent issue of *Pensée*[9] I published a paper discussing the astronomical basis of chronology. Can anyone who has read this paper seriously believe in the traditional chronology based upon fallacious astronomical calculations?

Imagine twelve hundred years of ancient history as the span of a bridge. Though this span does not include all of ancient history, it does cover the period from the end of the Middle Kingdom to the time of the second Ptolemy. I tore down one abutment in Volume One of *Ages in Chaos* (which not every critic has seen or read) and now I am ready to do the same thing to the second abutment in my next book, *Peoples of the Sea*. How can the middle span between two abutments survive? It will topple down. Even with the revision chronological problems will remain, but their number will be greatly reduced.

I need more of you to follow my path, I need help from those of you who can take my work seriously, read my books, consider what I say, agree with my principal thesis, but then dig a little deeper to find its flaws. I don't need more critics who never bother to read my books (like the critic from this University who obviously never read *Ages in Chaos* before speaking critically about it). I can't expect all critics to be positive, but critics who are negative should at least be constructive.

Wherever in my studies I encountered an apparent difficulty on the way to a solution, experience has shown that the difficulty usually opened a doorway to a new pathway; beyond it lay a whole new vista. New solutions in one field provide the way to new understanding in other fields. Of course, I have left many problems unsolved, I am not omniscient. My work is not without error: I am dedicated, but I am only human.

I realize the scope of what I have discovered and I have been fortunate to live to see parts of my theory confirmed. So many

innovators have not lived to see any of their claims confirmed. The history of science abounds with such cases. All innovators are iconoclasts. They never start with a majority; always they begin as a minority of one.

I believe that now is the time for me to go into seclusion and wait. When my new volume appears in print I must let the storm that may occur blow itself out. If I take time to visit universities I will do so only to find dedicated young men, capable of following new ideas: men of courage who are willing to consider ideas which are not very acceptable when they are first put forward. *Such men must be prepared to drop their ideas when facts show them to be wrong.*

Here on this campus I heard to my satisfaction that my ideas have been seminal, that members of the faculty belonging to various departments that once had no common interest now have much to discuss. This evening at the Chancellor's Dinner¹⁰ I will stress how my effort has provided a common coefficient for scholars in different 'subjects.

I ask for help from the younger generation who have already educated themselves in one or another field which touches upon my work, to do those tests that I cannot perform, to supply me with literature that I have no time to find, and to give me criticism when I err.

I want to hear from those of you who already do such research. I want to hear in what fields you do your research and how it is proceeding. I am interested in your work, whether it is the study of the ancient kings, geology, or genetics.

In this auditorium I am probably the oldest in years, but in spirit I am among the youngest. I invite the younger among you, not just those who are young in age, but the young in spirit to add your efforts to my own. Don't just be listeners, don't just be autograph seekers. If you can, do your share. I have started, you must continue.

I am not the best listener, my eye is better than my ear. Yet I am a very slow reader, but what I read I usually remember.

Sometimes I quote from books that I read as a child and have not seen for seventy years. My memory is very selective, I can't remember telephone numbers, but I remember chronological data with ease. If I must memorize a telephone number because I call it frequently, I connect it with some chronological dates, and then I can retain it.

I appreciate the efforts in preparing the papers for this symposium. Certainly something has been achieved. There are many new ideas included in, the papers presented here by de Grazia, MacGregor, Mullen, Wolfe, Grinnell, and Doran.

And with these words, I repeat my thanks to President Beckel, Chancellor Oshiro, Vice-President Holmes, to the members of the Senate, to the members of the Faculty, to those who read papers, and to those who came to listen to somebody who was once a heretic, but whose prayer is that his works should never become a dogma.

Again, I thank you all.

Notes (Afterword)

1. The importance of electric and magnetic phenomena in the solar system is not yet fully appreciated by scientists. The discovery of extensive planetary magnetospheres, the interplanetary magnetic field, the solar wind, the emission of radio noises by Jupiter, the existence of net electrical charges on the Sun and probably upon the planets, and the non-Newtonian behaviour of the solar prominences indicate that electric and magnetic phenomena occur in all parts of the Solar System.

2. Dr. Velikovsky has lectured recently at several scientific centres and universities.

17 February 1972 - Harvard University

10 August 1972 - N.A.S.A. Ames Research Centre

15 - 17 August 1972 - Lewis and Clark College, Portland, Oregon

10 October 1972 - Graduate College Forum - Princeton University

15 October 1973 - Expanding Awareness Program, IBM San José Research Centre

10 December 1973 - N.A.S.A. Langley Research Centre

He has participated in seminars and staff briefings with scientists working upon the Mars Viking, the Venus-Mercury Mariner, and the Jupiter-Saturn Pioneer Space Probes.

3. In 1921 Velikovsky and Einstein collaborated in publishing a series of monographs, later collected in two volumes, *Orientalia et Judaica*, and *Mathematica et Physica* under the common title of *Scripta Universitatis atque Bibliothecae Hierosolymitanarum*. Velikovsky was the general editor and Einstein edited the mathematics and physics volume.

4. Dr. Velikovsky is implying that heresies such as Galileo's could spread outside the confines of the specific jurisdiction where they were published. Poor communications allowed the heresies to flourish elsewhere because the central authority was slow to hear that the heresy had spread and by then counter edicts would arrive too late to extinguish the heresies. [Ed.]

5. It took Dr. Velikovsky five years to acquire the knowledge necessary to interpret the evidence needed to write *Earth in Upheaval*.

6. In 1974 there were five separate symposia organized by separate organizations or institutions. At each a different aspect of Velikovsky's synthesis was discussed. Although Velikovsky participated at all five symposia, he was not involved in initiating or organizing any of the symposia. The five symposia were:

Velikovsky's Challenge to Science, 25 February 1974, American Association for the Advancement of Science, San Francisco, California.

Velikovsky and Cultural Amnesia, 9-10 May 1974, The University of Lethbridge, Lethbridge, Alberta.

Velikovsky and the Recent History of the Solar System, 16-19 June 1974, McMaster University, Hamilton, Ontario.

Velikovsky's Reconstruction of Ancient History, 30 October 1974, Pittsburgh Historical Forum, Dusquesne University, Pittsburgh, Pennsylvania.

Velikovsky and the Politics of Science, 2 November 1974, Philosophy of Science Association, Notre Dame University, Indiana.

6A. See note 7 below.

7. That these four volumes have taken twenty-two years to complete is indicative of the thorough scholarship exhibited by Dr. Velikovsky. Two of the four volumes *Peoples of the Sea*, which covers the Persian Period (-524) to the second Ptolemy (-279), and *Ramses II and His Time*, which covers the period of the Chaldean Domination (-611 to -524), had been typeset for printing at the time of this Symposium. The former volume is now published. The latter will be released by Doubleday and Company Inc. (New York) in April 1978.

In the remaining two volumes Dr. Velikovsky discusses the *Assyrian Dominations*, the New Assyrian Empire to the fall of Ninevah (-829 to -611), and the Dark Age of Greece (see below). These two volumes have yet to be completed [Ed.]

8. The Homeric Question is a five-hundred year Dark Age interposed between the historical period of Greece and the Mycenaean-Minoan eras.

9. "Astronomy and Chronology", *Pensée* 3(2):3849 (Spring-Summer 1973). This article appears as a supplement to *Peoples of the Sea* (Doubleday, 1977).

10. 10 May 1974. See Appendix II.

I. ABOUT THE AUTHORS

Brief biographical sketches of each of the authors are reprinted here. These sketches are adapted from the introductions given the speakers during the Cultural Amnesia Symposium.

Immanuel Velikovsky

It is my honor to introduce tonight's speaker, Immanuel Velikovsky. A few in this audience know Dr. Velikovsky very well indeed and need no introduction. Some others know a good deal about him and about his work and very little introduction is required. So my remarks will be directed mainly at those who know something, of his work but perhaps not very much of the man himself.

Immanuel Velikovsky was born in 1895 in Vitebsk, Russia; the youngest of three sons of Simon Velikovsky, businessman and Hebrew scholar, and Biela Grodenski, a fluent linguist. Moving to Moscow he enrolled at the Medvednikov gymnasium where he excelled in Mathematics and Russian and graduated with a Gold Medal in 1913.

He then proceeded to Montpellier in Southern France to study Medicine, sojourned briefly in Palestine, then enrolled for further medical studies at the University of Edinburgh. Home for the summer vacation in Russia at the outbreak of World War 1, he graduated in Medicine from the University of Moscow in 1921.

For the next three years Dr. Velikovsky lived in Berlin immersed in scholarly publishing, and attempting, among other activities, to establish a Jewish academy. There he met and married Elisheva Kramer, a young violinist, who happens to be with us at this conference today.

In 1924 the Velikovskys moved to Palestine where he practiced first as a general practitioner, and later as a psychoanalyst in Jerusalem, Haifa, and TelAviv. During this period he

commenced research on Freud's heroes, Oedipus, Akhnaton, and Moses.

To further his growing commitments to this research Dr. Velikovsky and his family visited New York in the summer of 1939. Influenced to remain in America through the forces of world events as well as the course of his own research, he became interested in the theme of catastrophes that he identified running throughout his studies of ancient records.

From 1940 to 1950 he researched and wrote *Ages in Chaos* and *Worlds in Collision*. In 1950 the latter volume was first published by Macmillan; and in 1952 Doubleday published the first edition of *Ages in Chaos*. In 1955 *Earth in Upheaval* appeared, and in 1960 *Oedipus and Akhnaton*.

Currently Dr. Velikovsky resides in Princeton, New Jersey, where more scholarly works are in various stages of preparation.

But such a simple and sketchy recording of dates and places leaves so much unsaid about the distinguished speaker at tonight's session, and it lacks the basis for insight into his works. For example, it does not adequately describe a young lad maturing in a household steeped in learning; his mother-tongue Russian, mastering Hebrew at four, German at six, French at seven, Latin at twelve, and finally English - the eventual language of his famous publications.

Nor the goals of his father, transmitted in part to the son, to recreate Hebrew as a living language, to redeem Israel, and to found a Jewish academy.

Nor does the skimpy record reveal the ambitious youth repeatedly denied admission to the University of Moscow because of his Jewish ancestry, only to enroll in the Free University in Moscow maintained by dissident professors who had resigned from the Imperial University in protest against violation of academic freedom.

Nor the rebel who once abandoned studies to explore with religious passion the ancient ruins of the Holy Land.

Nor does it portray the young intellectual who with burning zeal co-published a series of volumes of the works of outstanding Jewish scholars, assisted by Albert Einstein, who edited the scientific section, and encouraged by Chaim Weizmann, later to become the first President of Israel.

Nor the early papers on Freudian psychology written by the over-burdened practicing physician in Palestine.

Nor does my sketchy biography depict properly the excitement and stimulation of the discovery of the Ipuwer Papyrus, the key that unlocked the Egyptian record of catastrophe.

Nor the eleven years of persistent painstaking search for worldwide evidence of cataclysm; first into the library in the morning, last to leave in the evening, with no sabbaths or holidays permitted.

Nor the laborious and meticulous recording of notes from more than 4,000 volumes for *Ages in Chaos alone*.

Nor does it depict the reluctance to plunge into inevitable conflict with astronomers, but the equally inevitable conviction of the cometary origins of cataclysm.

Nor the notorious attempts to suppress publication of his results and conclusions.

Finally, neither does it begin to suggest the intellectual excitement that the examination of Velikovsky's works and ideas have engendered at this University of Lethbridge.

The records do report this concluding remark by Dr. Velikovsky to a graduate college forum at Princeton University, and I quote

"Imagination coupled with skepticism and an ability to wonder - if you possess these, bountiful nature will hand you some of the secrets out of her inexhaustible store. The pleasure you will experience in discovering truths will repay you for your work; don't expect other compensation, because it may not come. Yet, dare."

Ladies and gentlemen, I present Dr. Immanuel Velikovsky.

- Owen G. Holmes
(The University of Lethbridge)

Alfred de Grazia

It is not an easy task to introduce so eminent a scholar as the one I am to present now. To do justice to the excellent records and achievements of Dr. Alfred de Grazia would deprive you of at least half the time allotted for this session. For example, just some of the universities with which Dr. de Grazia has been affiliated at one time or another include: Chicago, Minnesota, Stanford, Harvard, Columbia, Rutgers, Bombay, Istanbul, and Gothenborg. So I will not go into detail.

As a political scientist, Dr. de Grazia is well known for his work, *Public and Republic*, and more recently, *Politics for Better or Worse*, published last year. But Dr. de Grazia is more than a political scientist. His interests in other disciplines and activities are well attested by works such as he produced when publisher and editor of *The American Behavioral Scientist*; creator of the Universal Reference System; his book *Kalos*, which incorporates some of his own thoughts for future world order, and, of course, editor of the important volume *The Velikovsky Affair*, published in 1963.

Dr. de Grazia is currently Professor of Social Theory and Political Psychology at New York University. Now, as to his personal data, I can tell you that he was born in Chicago and graduated Phi Beta Kappa from The University of Chicago in 1939 at the age of 19. His military career began at the rank of Private and moved through to the rank of Captain. His family background, he has told me, includes an uncle by the name of Charlie, "Kid Lucca," who won the Canadian Boxing Championship in 1910 in nearby Calgary.

While I could go on for quite some time adding interesting background points for you, I feel I should cut this introduction

short and let the eminent speaker speak for himself. I'm sure all of you will enjoy his talk.

Ladies and gentlemen, it is a great pleasure for me to present Dr. Alfred de Grazia.

- F.Q. Quo
(The University of Lethbridge)

John M. MacGregor

John MacGregor obtained an honours degree in Art History at McGill University. Following this, he went to Princeton, where he spent the years 1966 to 1971 qualifying for a Masters Degree and completing the course requirements for the Ph.D. degree. During these years Mr. MacGregor also conducted research in Morocco and in Germany.

Mr. MacGregor's studies have included various aspects of Psychiatry and Psycho-analysis. In 1967 and 1968 he studied with Dr. Rollo May at Princeton. Following this he was a guest at the Menninger Foundation in Topeka. He underwent analysis with Jolande Jacobi at the C.G. Jung Institute in Zurich, followed by intensive Freudian analysis in Montreal.

Mr. MacGregor is a member of the American Society for the Psychopathology of Expression. His teaching activities give us some indication of his interests and of his competencies. He has lectured on the history of Chinese Landscape Painting, Chinese Art and Archaeology, Theoretical Investigations into the Art of Children, and Introduction to the Study of Art and Psychiatry. Without further introduction, I present you John MacGregor.

- George Sanderson
(Saint Francis Xavier University)

William Mullen

I am very pleased to be here to introduce one of our speakers today. I am also pleased to take part in this conference as a

member of the Department of History and the University of Lethbridge. This is not because I have come here either to praise Dr. Velikovsky or to see him buried, but rather because I support an old tradition, which goes back to New Testament times at least. When in the matter of Christian preaching by the apostles was raised before the Jewish Sanhedrin, one member of that body, Gamaliel, made the point that if what the apostles taught were true, it would prosper; if it were not, it would fail. And I would say much the same thing: if what Velikovsky has to tell us is true, it will stand, if not it will fade away. But only through conferences such as this will we be able to ascertain what the truth is. John Milton once said: "Give me the liberty to know, to utter, and to argue freely according to conscience, above all liberties"; while John Stuart Mill pointed out in his famous work *On Liberty* that if only one among all men presents a new and novel idea, even though it be heresy to some, it should be given a full hearing. I hope, therefore, that we are within the spiritual tradition of those two great men when we examine the ideas of Velikovsky and not the man himself.

I am proud that the University of Lethbridge has sponsored discussions respecting Dr. Velikovsky's ideas so that we will have the opportunity to listen, to evaluate and to reason. And, therefore, with that in mind, I hope you will give your attention and due respect to our next speaker, Dr. William Mullen.

Dr. Mullen completed his undergraduate work at Harvard between 1964 and 1968, with a B.A. in Classics - in Latin and Greek - and his graduate work at the University of Texas, between 1968 and 1971, where he received a Ph.D. in Classics. Between 1971 and 1973 he taught as an assistant professor at the University of California at Berkeley, in the Departments of Classics and Comparative Literature, and in the Division of Interdisciplinary Studies. He now holds a post-doctoral Research Fellowship, and is at present Hodder Fellow in the Humanities at Princeton University.* He has done work on the Pyramid Texts from the Pyramid of Unas in the 5th dynasty, he has publications on the Odes of Pindar and translations of Egyptian Hymns and Laments, as well as articles on Dr. Velikovsky's interdisciplinary syntheses and a reading of the Pyramid Texts in the light of catastrophisms. He is associate editor of *Orion, a journal of*

Classics and the Humanities published from Boston University, and Associate Editor of *Pensée Magazine*. He will speak at McMaster University next month on the subject of the Meso-American Record Myth and the Science of Catastrophism.

Dr. Mullen ...

- M. James Penton
(The University of Lethbridge)

*Dr. Mullen is now Assistant Professor, Department of Classical Studies, Boston University.

Irving Wolfe

"The lunatic, the lover, and the poet / Are of imagination all compact." Thus the Duke Theseus in Act V Scene I *A Midsummer Night's Dream* concisely expresses his theory of the Springs of Art. It is a fortunate accident, I hope, that I lit on *A Midsummer Night's Dream* to introduce Dr. Wolfe, since he tells me that he is using the *Dream* as one of the central plays in his presentation this afternoon. Theseus goes on to elaborate his theory of the Springs of Art in a familiar passage which I would like to read to you. It goes on "The poet's eye, in a fine frenzy rolling,/Doth glance from heaven to earth, from earth to heaven; /And as imagination bodies forth/The forms of things unknown, the poet's pen/Turns them to shapes and gives to airy nothing/A local habitation and a name." Now in context in the play it is clear that Theseus is rather ambiguous; about this approach to art, ambiguous about the nature of the poetic imagination and about the nature of its products. The Velikovsky Symposium Committee is fortunate then to have found in Dr. Irving Wolfe, a person who has been working on precisely this question, and who is able to illuminate something of this ambiguity about the nature of the creative process, that elusive thing in which we students of literature are particularly interested, and, I think, the aspect of Dr. Velikovsky's theories, which particularly attracts people in literary disciplines,

Dr. Wolfe was educated at McGill University and later at Bristol University where he took a Ph.D. in Drama; he is presently *Professeur assistant, Department d'études anglaises,*

l'Université de Montréal; he teaches there Shakespeare and Drama, in particular, and his contemplation of Velikovsky's theories over the years has led to the formation of a theory about the sources of art, based particularly in his study of Shakespeare.

And so I would like you to welcome Dr. Irving Wolfe.

- LR. Ricou
(The University of Lethbridge)

George Grinnell

It is my pleasure to introduce Dr. Grinnell of McMaster University. Dr. Grinnell is an assistant professor of History whose special area is the history of science. He completed his Bachelor of Science at Columbia University in 1962, his Master's Degree at Berkeley in 1964 and his Ph.D. at Berkeley in 1969.

He has had a colourful background. Prior to pursuing his academic career he tried to be a free-lance writer but, as he says, without success. After two, no doubt scintillating, years in The Signal Corps of the U.S. Army he joined the *Moffatt Expedition* which crossed the tundra by canoe in 1955, the films of which were shown on the T.V. program "Bold Journey". The next year, 1956, he was stage manager for the Downtown Theatre Association in Greenwich Village. Currently he is completing a book on the sociology of scientific knowledge.

The history of science can give us, I think, a unique perspective not only of the past but also of the present. And by doing so can help us understand the present. Dr. Grinnell's paper tries to help us understand what has come to be called "The Velikovsky Affair" by, I believe, fitting it into a larger historical content. Dr. Grinnell ...

- R.M. Yoshida
(The University of Lethbridge)

Patrick Doran

I think it is fair to say that when most of us speak of catastrophism we do so in past or future terms, rarely considering the implications of our involvement in a catastrophe. Patrick Doran, on the other hand, I think might best be described as a present-tense catastrophist. He has notably been involved in a survival-day project in 1970, and was also national co-ordinator of a nationwide effort to bring to the attention of the federal government the ecological catastrophes in which we are presently involved. He was introduced to the ideas of Dr. Velikovsky in 1968 through a course given at Selkirk College, and has been personally involved with Dr. Velikovsky in the pursuit of the comet Kohoutek, which he subsequently followed to Hamburg, Germany. Presently Mr. Doran is, in his own words, "keeping bees and following the new anthropology". it is the latter subject on which he will speak today.

Mr. Doran ...

- Don Thompson
(The University of Lethbridge)

II: HONOURARY DEGREE AWARDED TO IMMANUEL VELIKOVSKY

On 19 March 1973 the General Faculties Council of the University of Lethbridge passed a motion unanimously recommending "that Immanuel Velikovsky be granted an Honourary Degree Doctor of Arts and Science at the Spring Convocation of 1974". This motion was forwarded to the Senate of the University for consideration. At the Senate meeting, held on 7 April 1973, the recommendation from General Faculties Council was approved and the Senate voted unanimously to award Immanuel Velikovsky the degree Doctor of Arts and Science, Honoris Causa. In this appendix are letters and addresses relevant to Dr. Velikovsky's appearance to receive this honorary degree.

April 12,1973

Dr. Immanuel Velikovsky
78 Hartley Avenue
Princeton, New Jersey 08540
U.S.A.

Dear Sir:

The Senate of the University of Lethbridge recently voted to accept the unanimous recommendation of our General Faculties Council that you be awarded the degree of Doctor of Arts and Science; the degree to be conferred at the Spring Convocation in 1974.

The presentation of your name stressed the quality of your life as a humanitarian, a humanist and a scientist. Many supporters among the faculty in the Humanities, the Social Sciences and the Sciences came forward to speak on your remarkable books and your teaching generally. You were seen as embodying our tradition of humane values, of intellect, of aesthetic sensitivity, personal ethics and of the transcendental dimension of scholarship.

The University wishes to confer this degree on you at its Spring Convocation in 1974, a year from now. We try to make decisions on the awarding of Honourary Doctorate degrees well in advance of conferring them. I will admit that we usually delay contacting the recipients until rather close to the Convocation at which the degree will be conferred.

In your case we wanted you to know of the award at the earliest possible time, particularly as we are pleased at the prospect of honouring you and we are convinced that you have not been properly honoured in the past.

Would you let me know whether you are prepared to accept the award of our Doctor of Arts and Science, and whether, all being well, you contemplate coming to Lethbridge to have the degree conferred on you in the Spring of 1974.

I enclose a calendar of our University and some general information brochures to give you some familiarity with us.

Sincerely,

J. Oshiro, M.D.
Chancellor

April 30,1973

Chancellor J. Oshiro, M.D.
The University of Lethbridge
Lethbridge, Alberta

Dear Dr. Oshiro:

Your very amiable letter with enclosed printed material was unduly long in transit - I received it before the weekend. You may be aware that your General Faculties Council followed by the Senate of the University made a selection and an unprecedented decision in the Academia: I have not been yet honored with any honorary degree. This, however, was never a source of disappointment to me: I was aware of the revolutionary character of my studies and findings. Today these views of mine are no more so heretical much of what I wrote entered the textbooks and the curricula even if in some disguise.

If everything goes well, my wife and I shall come to Lethbridge a year from now. I thank you, dear Chancellor, the General Faculties Council, and the Senate of the University of Lethbridge.

Truly yours,

I. Velikovsky

III. Address to the Chancellor's Dinner The University of Lethbridge Cafeteria Friday 10 May 1974

Introduction by Dr. Ian Q. Wishaw, The University of Lethbridge:

When I came to the University of Lethbridge four years ago I found that the University was formed with a philosophy that it devote itself to a multidisciplinary approach to learning. A year later when we moved to this new campus, I found that the building was specifically designed to foster interaction between various academic departments. To go anywhere in the building one has to use the main concourse and this creates an interaction between people who would not ordinarily meet. Well, philosophy and architecture can help foster, but cannot completely guarantee, a and approach to learning. For someone like myself who has specialized for four years in the study of the hippocampus, the methodology which we were to use to foster a multidisciplinary approach to learning was not clear.

Last year it became a little clearer to myself and others after reading Dr. Velikovsky's book *Worlds in Collision*. We were struck not only by the imagination and scope of his ideas, but more specifically were profoundly impressed by the way in which he had gathered evidence from' such a vast number of academic fields as disparate as mythology, psychology, and physics. It was out of respect for his approach to knowledge and a belief that the ideals which he expressed were ideals which this University would like to incorporate that we proposed Dr. Velikovsky- for an honorary doctorate in Arts and Science.

We were aware at the time, and became more aware as time went on, that the nomination would cause controversy. After looking at the architecture of the building, however, we felt that a little controversy would not shake it off its foundations.

In regard to controversy, I have a story to tell. Cajal, a Spanish anatomist and Golgi, an Italian anatomist, through their studies

came to quite opposite ideas about how the brain was structured. In 1906 they jointly received the Nobel Prize, although the evidence overwhelmingly supported Cajal. What is so interesting in this case is that Cajal came to, and could only have come to his correct understanding by using the technological and methodological procedures developed by Golgi, and it was the controversy between these two men which led to the neuronal theory of brain organization which is the foundation on which modern neuroscience is established. What I think this shows is that we should not fear controversy or turn our backs on controversy, for controversy may be an essential ingredient for the advancement of knowledge.

I would now like to introduce Dr. Immanuel Velikovsky, who has had such a tremendous influence on our thinking over the past year, and who, I am sure, will have a continuing influence on our ideas in the future.

I give you Dr. Immanuel Velikovsky.

Dr. Velikovsky:

Chancellor Oshiro, President Beckel, Members of the Senate, Guests.

Originally I came to this University in response to the invitation from the Chancellor' who wrote explaining that the Senate had by unanimous vote invited me to accept an Honourary Degree in Arts and Science. I accepted this honour and responded that I would repay the honour by making this University the first and the only one from which I would receive an Honourary Degree.

I announced earlier today at the Cultural Amnesia Symposium it is very questionable whether I accept any other Honourary Degrees in the near future if they demand appearances and participation in various ceremonies or dinners.

Considering the time left to this mortal, considering the gift for procrastination with which I was endowed, postponing my work, postponing the publication of many volumes until this decade which will make me an octogenarian (in less than thirteen months), I believe I cannot permit myself the luxury of any more time away from my work, excepting to go to symposia.

After I accepted the offer of the Honourary Degree, a second invitation came, asking me to participate in a Symposium dedicated to one special aspect of that revolution of which I was by chance the originator - Cultural Amnesia. This Symposium has produced much discussion over the past two days, including two long speeches which I have already delivered today, so I will not fatigue either you, or myself, with a third long speech; I will only say that it has been worthwhile coming here, because I have discovered that a greater honour was accorded me here than just offering me a degree of Doctor of Arts and Science. It pleases me to know that in this University the various departments, which have been separated from one another by the very nature of their disciplines, have suddenly found a common ground. They have started to communicate with one another: physicist to historian, historian to biologist, biologist to geologist, geologist to astronomer, and so on. They have found a

common subject, a common theme, they have found a way to realize the purpose and idea behind the statement of philosophy for this University, which is to create an environment in which interdisciplinary synthesis can occur. And so here I have found that my work has brought ferment, and this is a great satisfaction to me.

I was pleased to find that scientific research has already begun in some of the departments, based upon ideas that were expressed in, or that followed from, my own work. I heard of the work of Dr. Stebbins (Department of Biological Sciences) and of Dr. Parry (Counselling Centre). If the ideas that these men have in their minds can be substantiated, they will produce great revolutions in their field of endeavour, and I will be very happy if I have in some way contributed to their beginning.

I asked myself the question: should I accept the Honourary Degree? If I agree to accept an Honourary Degree I lose my virginity. Until now, I had no Honourary Degree nor did I care for any; my only distinction was a gold medal from the gymnasium. I considered that my books were proof of my scholarship, my credentials. Those who read them can see from the references, which I give in the footnotes, the amount of work that has gone into my books. It is therefore of more satisfaction to me to know that in some universities there are special courses which discuss my work. I believe there are almost one hundred such courses. To me this is a distinction: Not every man who has an Honourary Degree (and some have fifty Honourary Degrees) will see his work studied during his lifetime. I thought I would die an iconoclast, and that the next generation, my children or grandchildren, would be privileged to see me honoured.

It gave me pleasure to find truth, or at least to search for truth; and what I found gave me satisfaction. And sometimes I even found pleasure by being able to hold back my ideas for many years, knowing I was the only one to possess this knowledge. This is part of the reason why some of my books are still in manuscript form when they should long ago have been in print.

And so I decided to come here to receive this Honourary Degree in the name of all those who were initiators, who followed their

pursuits in solitude - the iconoclasts, the scientific revolutionaries who are always in the minority: actually a minority of one when they started. If it were a question of opinion, if it were a question which could be voted upon, they all would have been voted down. If it had been a question of authority, none of them would ever have reaped the harvest of their pursuits, because authorities always oppose new ideas. To cite an example: Lord Kelvin, who was the most eminent physicist in the late Victorian days and in the beginning of this century, staunchly opposed the electromagnetic theory of James Clerk Maxwell. Maxwell's theory is the basis of the quantum theory, of the theory of relativity, of all modern physical theory. Kelvin had the lowest possible opinion of Maxwell's scholarship. And when young Rutherford became interested in the new idea of radiotelegraphy, proposed by Marconi, it was the same Lord Kelvin who tried to dissuade Rutherford: *Keep away, there is no future in it at all, the most that will be produced will be a connection between lighthouses where it is difficult to put in an undersea cable.* It was Kelvin who produced the calculation which made feasible the installation of the sub-Atlantic telegraph cable. Most of you who watch television or listen to the radio never think of de Forest or Marconi or the other pioneers who made broadcasting possible. Kelvin also didn't believe Roentgen, the discoverer of X-rays. Not only didn't Kelvin believe Roentgen, but he accused Roentgen of being a charlatan. I cannot remember exactly in what year I broke my arm while doing calisthenics in a gymnasium, but it was probably 1907 or 1908. I remember being brought to a doctor who had the only X-ray machine in Moscow. I saw my broken arm on the screen for myself. This happened about the time when Kelvin died, he might still have been alive. Certainly Kelvin did not alter his view that Roentgen was a charlatan to the time of his death in 1907.

I am here to receive this degree in the name of all those who started humbly, and who started alone, often working under very difficult conditions, who never received recognition or acclaim, unlike the pioneers I mentioned now. Somebody once said *A man of talent is one who can, but a genius is one who must.* Take the case of Dolomieu, the mountains in the north portion of the Adriatic Sea carry the name Dolomites in his honour.

Dolomieu served under Napoleon during the French invasion of Egypt. He was later imprisoned in Napoli for several years. There he wrote his classic work on geology without having either pen or pencil, or paper upon which to write. The only object he was permitted to have was the Bible, and so he used the soot of a candle and the oil of a lamp, and he wrote his famous book on geology on the margins of the Bible. Even under difficult conditions the one who is possessed by an idea must follow it. It is not by desire, by caprice, by a need of some external goal, nor for fame, or for riches, but because something leads him so that he cannot stand still, he must follow the call.

A man's name becomes great because of what he does, degrees do not make a man great. Darwin, who is not one of my heroes, had no degree, no doctorate in the sciences, no degree in geology or in evolution, or in paleontology, he had only a humble bachelor's degree in theology, nothing more. The lack of a degree did not mean that his ideas and his work could not become the dominant idea for four decades into the twentieth century. Since the middle of this century his ideas have started to give place to better ideas. I understand this University is not like other universities, and this is what made me accept its invitation. I understand there is a liberal spirit here, a spirit which is symbolized in this building. I attended several universities in the course of my studies. In my day, students wandered as they did in the time of Goethe, they spent two years at one university, two years at another, a year here, three years there, studying history, poetry, and philology, and politics, and other subjects, as they felt the urge. In earlier days it was even more so; but I do not intend to give you a long lesson in the history of scholarship.

I understand that this University will soon have a bridge, a bridge crossing over this valley and river, connecting the University with the town, and so both will prosper.

I think of the greater bridge that this University is already building. There are some innovators here, they are men who carry torches, who do not just repeat that which has already been repeated many times before. They are men who do not swear by *Verba Magistri*, the holiness of their school wisdom. They are men who do not say: *this is what we were taught, this is what we*

will teach in passing knowledge from one generation to the next. They are men who do not avoid the sacrilege of questioning fundamentals. They are like the iconoclast, who, by his very nature, must question. Without questioning there can be no progress, and without progress we would remain stagnated. Scholarship is a matter of questioning.

I understand that the policy of this University is to seek a bridge into the spiritual world, into the wider community, into other cultures. If it does, then despite the fact that this is a young University, scholars will flock here, and students will follow. The Senate, when it convenes, will not only have to advise wisely, but it will have to take some responsibility to see that things are added to the University that government and fee-paying students could not accomplish. Maybe not all of the Senators can, but some of them must. This responsibility should be 'a pleasant yoke because nothing can give more satisfaction than to know that you have helped to put together the material foundation for something that is growing spiritually.

Accepting the Honorary Degree will not, I hope, deprive me of companionship within the circle of those who died not having seen honours for their many works and achievements in their lifetimes. And so in their name, I will accept tomorrow the honour of being proclaimed and admitted to membership in the Convocation of this University as a recipient of your Honorary Degree. For this I thank you.

At the annual Spring Convocation ceremony held on 11 May 1974 Immanuel Velikovsky, M.D., was presented to the Chancellor of the University of Lethbridge, James Oshiro, M.D., by University President and Vice-Chancellor Beckel. W.E. Beckel. Dr. Oshiro conferred on Dr. Velikovsky the degree of Doctor of Arts and Science (*Honoris Causa*).

Dr. William E Beckel:

Mr. Chancellor -

Immanuel Velikovsky was born in Vitebsk, Russia, in 1895. His early formal schooling began in Moscow. Following a brief period of study at Montpellier, France, and travels in Palestine, he began pre-medical studies in natural science at Edinburgh, Scotland, in 1914. When his schooling abroad was interrupted by the outbreak of World War 1, Velikovsky enrolled in the Free University in Moscow and for a few years studied law, ancient history, and economics.. Meanwhile, in 1915 he resumed work simultaneously toward a medical degree at the University of Moscow, and in 1921 he received his medical diploma.

The next few years Velikovsky spent in Berlin, where he was involved in the foundation and publication of *Scripta Universitatis*. In this series of volumes, conceived as a cornerstone for what would become a Hebrew university, contributions from outstanding Jewish scholars in all countries were published in their native languages and in Hebrew translation. The late Albert Einstein edited the mathematical-physical volume of the *Scripta*.

In Berlin, Velikovsky met and married violinist Elisheva Kramer of Hamburg. Later the same year, the young couple moved to Palestine and the doctor began his practice of medicine. For fifteen years this practice - first as a general practitioner in Jerusalem, and later, after psychiatric training in Europe, as a psychoanalyst in Haifa and Tel Aviv - occupied most of Velikovsky's time. Nevertheless, he published a number of papers on psychology. He also conceived a plan for an academy of science in Jerusalem and started a new series, *Script*

Academic, to which Professor Chime Weizmann, president of the World Zionist Organization, and later first President of Israel, and a noted scientist, contributed the first monograph in Biochemistry.

Velikovsky also had an idea for a book, and to complete the necessary research he decided to interrupt his practice for an extended visit to America. He arrived in New York in the summer of 1939, and plunged into his library research. The intended book had been conceived as an analytic study of Freud's own dreams, as recorded in his writings, and a comparative study of the lives of three personages - Oedipus, Akhnaton, and Moses - who had figured prominently in Freud's thoughts and works.

The research was nearly completed by the spring of 1940, and Velikovsky began to make preparations for the return home. Then, at the last moment before an already-postponed sailing, he chanced upon an idea that was to completely alter his life plans and keep him in America for decades.

Reflecting upon events in the life of Moses, Velikovsky began to speculate: Was there a natural catastrophe at the time of the Exodus of the Israelites from Egypt? Could the plagues of Egypt, the hurricane, the parting of the waters, and the smoke, fire and rumblings of Mount Sinai described in the Bible have been real and sequential aspects of a single titanic cataclysm of natural forces? If the Exodus took place during - or because of - an upheaval, perhaps some record of the same events has survived among the many documents of ancient Egypt; if so, might not such a record be a clue to the proper place of the Exodus in Egyptian history?

After weeks of search Velikovsky came upon the story he sought. A papyrus bearing a lamentation by one Ipuwer had been preserved in the library of the University of Leiden, Holland, since 1828. Translation of the document had disclosed an account of plague and destruction closely paralleling the Biblical narrative. Ipuwer bewailed the collapse of the state and social order during what seemed to be a calamity of natural forces.

In the fall of 1940 Velikovsky traced in the literature of ancient Mexico and China events similar to those described in the Old Testament. This confirmed his growing suspicions that the great natural catastrophes that visited the Near East had been global in scale. Immediately he expanded his research to embrace records of all races. The next five or six years he spent developing parallel themes - reconstructions of ancient political history and recent cosmic history - and as month followed month, the intimate details of a new concept of the world emerged. Two manuscripts were the product of his labors: *Ages in Chaos*, reconstructing Near Eastern history from -1500 to -300; *Worlds in Collision* documented the evidence and sequence of catastrophes on earth and in the solar system. A few years later the book *Earth in Upheaval* was produced presenting geological and paleontological evidence to buttress *Worlds in Collision*. Only in 1960, many years after his first research, did *Oedipus and Akhnaton* appear.

It would be an understatement to say that the Velikovsky hypotheses and theories convulsed the scholarly community with joy and enthusiasm. However, they did cause convulsions. Rarely has the scholarly scientific community reacted to revile and exclude an investigator or his investigation as passionately as it did in Velikovsky's case.

But the integrity of the man and the value of his thinking and his careful research had their effect and slowly but surely a more rational and appropriate examination and acceptance of Velikovsky and his ideas has occurred.

But this says so little about this remarkable man. Imagine, if you can, the incredible range of intellectual disciplines that had to be brought to bear on the development of his theories. Anthropology, archaeology, biology, chemistry, geology, mathematics, physics, history, sociology, psychology, psychiatry, ancient and modern languages, and philosophy. And Velikovsky was alone, an outcast. He therefore had to painstakingly develop intimate understanding and expertise in all the disciplines and to synthesize and distill their truths as they related to his ideas, his heresies. In a simple way it has been said of him, "He is a *rara avis*, a Benu-bird, that appears

occasionally in the guise of a natural philosopher, attempting to shed a little more light on our ignorance."

Mr. Chancellor, on the recommendation of the General Faculties Council, and on behalf of the Senate of this University, I request that you confer on Immanuel Velikovsky the degree of Doctor of Arts and Science, (*Honoris Causa*) in recognition of a man of intellectual vision and courage; a man who has indeed attempted to shed a little more light on our ignorance and who has challenged and stimulated in many parts of the world, the minds of philosophers, theologians, humanists, social, natural, and physical scientists in the constant search for the truth.

IV. Address to the Convocation Dinner Lethbridge Exhibition Pavillion Saturday 11 May 1974

Introduction by Dr. William E. Beckel, President, The University of Lethbridge:

We start this evening with an Honourary Graduate of the University of Lethbridge: Immanuel Velikovsky.

Dr. Velikovsky:

Today I joined the alumni. in the old country the usual way of celebrating the end of school was to sing *Gaudeamus*, which means: Let Us be Joyful, Let Us be Cheerful, Destroy our Notes, Burn our Books, and Listen no longer to anything which is serious or scholarly.

But tonight I wish to, say something serious to you, I want to discuss Scientific Conscience. I direct my remarks particularly to those of you who intend to continue your career as a student, to the few among the two hundred of you who are considering an advanced career in science, or in the humanities. My words come from experience. Although this will be a very serious speech, I promise you one cheerful note toward the end.

To be a scholar, or a scientist, means that you must dedicate yourself. Scholarship is not a part time job, it requires a lifetime of dedication. At some point in your career you have to specialize in some field that calls you, a field that leads in the direction that you desire to walk along the road of life. But do not specialize completely, prepare yourself by becoming acquainted with many other fields.

Read widely, keep an encyclopedia in your house, keep a volume close to your bed. Often when I cannot fall asleep, I read from my encyclopedia. I usually choose a short article, something that I know a bit about, but I'm not acquainted with the details, or something that I have heard about and seek a first glimpse of its essence. When you read a book, studying for some

particular purpose, make notes: preserve these notes, file them for the future.

Don't seek to be original at any cost but also avoid trivial issues. It is of no value to walk the easy road trodden many times by those before you. Select your tutors from those who can guide you with an open mind, who will not demand that you only follow the accepted views in blind fashion. Because science progresses by trial and error, look for new ways to do old things. Learn to ask yourself questions, and if someday you come upon what seems to you to be an original idea, don't rush to make it public, preserve it, carry it around inside yourself, give it time to develop and to grow in your mind. But don't follow it blindly because it is your idea and you wish to be original.

When you have perfected your idea, consult others who may give you good advice. if you find out that somebody has already proposed your idea, don't pretend that you were the first, give credit to those who were before you. But if you believe that you are original, try honestly to convince yourself that your idea is consistent with all the facts that you can collect. Don't hold on to an idea when the facts are against it, but do maintain your convictions if it is only opinions that are against you.

Have courage, and by all means do not fear crossing the barriers between different disciplines. Do not trust everything to memory, keep notes even as you develop new ideas. Keep a diary, it could be useful to you some day if you have to establish your priority to an idea. Think of the Chinese proverb *The palest Ink Is Stronger Than The Strongest Memory*. And remember, ideas have their time. When it seems appropriate to retreat, retreat. When it is time to advance, advance. When haste is necessary, rush, for the appropriate moment is often short. But if the time has not yet come, stand back and wait for your time.

To illuminate this last point I will tell you a story:

Once, at a railway station the stationmaster in charge of starting the train observed a group of three scientists returning from a scientific conference. They were intently discussing something of great importance. They seemed to be there to board the train, nevertheless they weren't paying

attention to the stationmaster who was impatient to signal the train's departure. Finally the stationmaster could wait no longer, and so he signaled to the train, and the train began to leave the station. At this moment all three people ran after the train, two boarded it but one could not make it. The stationmaster turned to the one who was left behind and said: "Well, it's not so bad, two out of three made it", and the man answered: "But they came to see me off".

=====
End of
Recollections of a Fallen Sky
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Home