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## REPORT ON THE VELIKOVSKY SYMPOSIUM

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The first major interdisciplinary symposium on the works and theories of Immanuel Velikovsky was held at Lewis and Clark College, Portland, Oregon from August 16 to 18th, 1972. It was attended by over three hundred people who heard papers by ten invited speakers, and heard discussions of the papers led by twenty-six other invited scholars. Dr. Velikovsky himself contributed three keynote addresses.

There were six sessions spread over the three days, two on each day. On day one the main focus was on the physical sciences. On day two history and archaeology were emphasized. And on day three some of the relationships between Velikovsky's work and religion, psychology and sociology were explored. An open session on the final night was set aside for integration of the contributions from the three days of papers and discussion.

The idea for the conference emerged from publicity and response that resulted from publication of the May 1972 issue of *Pensée* magazine which was devoted to a review and assessment of Velikovsky's theories in the physical sciences.<sup>1</sup> This magazine has since been changed from a monthly to a quarterly publication and now constitutes a forum for critical comment, both favorable and unfavorable, on Velikovsky's work. Most of the papers presented at the Portland conference have been published in the issues of *Pensée* from the Fall 1972 through the 1973 numbers. No complete outline or description of the papers will be made here since they may be obtained from the *Pensée* office.

### Velikovsky's Work and Theories

Velikovsky's theories have interested creationists ever since the publication<sup>2</sup> of his book, *Worlds in Collision*, in 1950. Velikovsky can be categorized as a catastrophist, overtly a secular non-theistic catastrophist,<sup>3</sup> who proclaims that the earth has interacted with other planets in a

series of near collisions in the past. In *Worlds in Collision* he deals with two of these periods of near collision; (1) in approximately 1500 B.C. with two main phases of planetary proximity and attendant destruction around the Exodus from Egypt and around the "long day" of Joshua; and (2) from the mid-eighth to mid-seventh centuries B.C. associated with the earthquake in the days of King Uzziah,<sup>4</sup> the destruction of Sennacherib's army,<sup>5</sup> and the sundial of Ahaz episode in Isaiah 38:8. The earlier of these two cosmic events he contends was caused by the near approach of Venus to Earth and the latter by the approach of Mars.

Two earlier catastrophic periods, on which Velikovsky has books in preparation are linked with Saturn (*Saturn and the Flood*), and Jupiter (*Jupiter and the Thunderbolts*). The catastrophe of the Flood he considers to have been the most devastating of all in its effects on earth, and at the present not precisely datable, but to lie somewhere between five and eleven thousand B.C. The Jupiter influence on the earth received no further mention at the symposium. These books will be awaited with considerable interest and anticipation by creationists, but it would appear that considerable time may pass before they are published.

Velikovsky's theories also include a reworking of ancient Near Eastern chronology on the basis of his identification of the ten plagues and the Exodus at a period some six hundred years earlier in Egyptian history than according to conventional chronologies. When these events (and in fact all of ancient Egyptian history) are brought forward by several centuries to conform with the Biblical dating of the Exodus, an entire restructuring of ancient chronology is required since much of it hinges on synchronisms with events in Egypt. This was the theme of another work, *Ages in Chaos*,<sup>6</sup> Volume 1, which is to be followed in the relatively near future by at least three more volumes on the same topic. These books, and another volume on collective amnesia and the human race (his theorized explanation

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for the blotting out of these catastrophes from memory) will all be published before the Saturn and Jupiter books.

In addition to his books on the historical evidences for cosmic catastrophism, and the chronological reorganizations that they require, he has also published *Earth in Upheaval* (Doubleday 1955) which deals with the geological evidences for catastrophic events. Incidentally in the acknowledgments he makes reference to review assistance received in early draft form of the manuscript from George McCready Price.

On the whole Velikovsky's views have received little acceptance from scholars, neither from those in the historical nor in the natural sciences. This has been true whether the viewpoint taken by critics was evolutionist or creationist. Yet throughout the years since the early 1950's a number of discoveries have been made which have fitted in with his theories very well—some of which in fact were necessary deductions from his theories, if the theories were to be considered tenable.

For instance, Velikovsky constantly insisted on the presence of electromagnetic forces associated with the sun and with the planets, forces which could interact at times of near collision. Such forces were thought impossible or highly unlikely when he wrote about them, but their existence has now been established. The high temperature of Venus, again unsuspected in 1950, Velikovsky insists is indicative of its youth (having been ejected from Jupiter during historical times). Craters on the Moon, craters on Mars, magnetic remanence in lunar rocks, radio noises from Jupiter, the period of the asteroid Toro,<sup>7</sup> the anomalous (according to conventional chronologies) dating by carbon 14 of remains from Tutankhamen's tomb are all points that fit well with his theories, but are not easily conformable to conventional celestial and human history.<sup>8</sup>

Two prominent creationist-oriented researchers who have used Velikovsky as their starting point are Donald Patten and Donovan Courville. Courville has produced many new synchronisms which appear when Velikovsky's historical theories are tested backwards and forwards through time.<sup>9</sup> Patten has taken the Deluge as an earlier catastrophe and, using Mercury as the "intruder," has built up a flood story of electromagnetic and gravitational interference producing great earth-engulfing tides, periods of mountain-building, strata deposition, and life extinction.<sup>10</sup>

#### Symposium Papers and Discussions

The symposium began with Velikovsky's first keynote address where he elaborated on his theories of collective amnesia of the whole human race as being responsible for the mental burying of these catastrophes. People like to

believe, he asserted, that the earth and the solar system as a whole have existed in peace, in harmony, and in their present order for the total period of human history and prehistory.

Planetary texts (the Ammizaduga tablets, for instance<sup>11</sup>) from before 700 B.C. are considered distorted or inaccurate when they do not agree with astronomical retrojections from present conditions. The approach is almost always taken that *these texts* are wrong, not modern ideas. Velikovsky feels that texts and evidences of other types (such as old sundials) show signs of past conditions being different from the present order of things.

Velikovsky then dealt with claims he has made since 1950, particularly with his assertion that the Venusian atmosphere should contain hydrocarbons in substantial quantities.<sup>12</sup> This was completely unsuspected when he wrote *Worlds in Collision*, but was suggested at the time of the Mariner II probe.<sup>13</sup>

Later this conclusion was questioned and considered unlikely,<sup>14</sup> but Velikovsky insists that the present evidence leaves the question still an open one. He is confident that further research will vindicate the conclusion that he has arrived at on this issue from historical literature alone—that gaseous hydrocarbons exist in substantial quantities in the atmosphere of Venus.<sup>15</sup>

Velikovsky has always drawn very heavily on ancient records to back up many of his hypotheses. He has gathered much material referring to "a downpour of bitumen," "fire water," "rain of fire," "stream of hot naphtha," etc., and he correlates these references with his theorized approach of Venus to Earth. If his case is not substantiated at this point then virtually all of his other postulates from the historical record must be held in question.

#### Discussion of the First Day

The paper by Ralph E. Juergens entitled, "Plasma in Interplanetary Space: Reconciling Celestial Mechanics and Velikovskian Catastrophism," was the next item on the program. Juergens tried to show that in modern time, i.e. in post International Geophysical Year, celestial mechanics, planetary bodies do not move around in an electromagnetic vacuum, but in electromagnetically charged "sheaths" with polarities different from that of the plasma through which they travel and with decreasing field intensities from the planetary surfaces.

The type of catastrophic event described by Velikovsky is more likely to be characterized by contact of electromagnetic sheaths rather than by contact of atmospheres or even the bodies themselves. Sheaths would then clash, forces much more powerful than gravity would be released, and thunderbolts of immense size and

power would result as electrical fields tried to neutralize themselves. In this way many of the phenomena described in *Worlds in Collision* would be given a physical basis.

Juergens also suggested that the sun's heat is fueled by strong electrical fields rather than by an internal nuclear engine, citing Melvin Cook as an originator of this type of approach.<sup>16</sup> In a later comment Cook, as an invited scholar, proposed that possibly gravity itself could be explained by this model of electrically charged bodies, but he differed with Juergens on the important point as to whether the earth had a positive or a negative charge.

Another invited scholar, J. Dwayne Hamilton, was unconvinced that the violence of any competing forces would be anywhere near the order of magnitude required to produce the catastrophic electrical effects suggested by Juergens and Velikovsky. Velikovsky was quick to rise to the defense of Juergens. However, he was very careful to suggest that Juergens could be right or wrong, but the basic tenets of his own theories could accommodate any of Juergens' possible correct suggestions and also survive any of Juergens' possible errors.

At the afternoon session of the first day Dr. C. J. Ransom presented two papers. In the first entitled, "Old Arguments against the Velikovsky Theory," he made one point which many creationists will recognize as having been frequently directed against their ideas. This is the argument that any view presented by a non-specialist in that field loses impact since it is almost always based on derived data. All the information is gathered second-hand from other sources rather than constituting original field or laboratory research.

Ransom, and creationists, would be quick to make the counter-assertion that, if all theories that involved derived or second-hand data were to be cast aside, then much of science as we know it today could not exist. Also if only specialists were to be listened to most of the advances in seventeenth, eighteenth and nineteenth century science would be lost to us. This is not meant to deny, of course, the tremendous advances that have resulted from increased specialization, but to emphasize that on occasion a non-specialist, or a generalist, with a different view or with a greater breadth of view can also make important contributions to knowledge.

In Ransom's second paper, "Geological Mechanisms and Catastrophism," he gave numerous but rather scattered examples of recent changes of sea level and other phenomena not readily accommodatable in purely uniformitarian theory, but provided no framework or timing or type of catastrophe into which they might fit. In commenting at the conclusion of the paper, Velikov-

sky felt strongly that coal formations in many cases show features suggesting catastrophic formation, such as:

(1) a large number of the trees, etc., found in coal do not grow in swamps;

(2) fifty feet of coal, which can be found on occasion, require up to six thousand feet of vegetative growth which are unlikely to have had the chance to accumulate all in the one swamp situation;

(3) undivided coal seams in one area may split into two or more layers elsewhere;

(4) many kinds of marine life are found in coal; deep sea strata are sometimes found between seams;

(5) and erratic (presumably rafted) boulders are found in coal.<sup>17</sup>

For all of these reasons Velikovsky would favor the accumulation of coal in a marine, tidal wave, strong current, frequent submergence and emergence, catastrophic situation. Creationists such as Harold Coffin and N. A. Rupke, who have investigated coal formation and deposition as a Flood associated phenomenon, would be quick, I think, to agree.<sup>18</sup>

Wilfrid Francis, a major authority on coal, was mentioned by Velikovsky as commenting sympathetically on the idea of catastrophic formation.<sup>19</sup>

Albert W. Burgstahler then spoke on "The Nature of the Atmosphere and Clouds of Venus." In his analysis he concluded that some case could already be made for the presence of hydrocarbons in the atmosphere of Venus on the basis of the infrared spectra so far published, but that this case could be described only as very tentative. He insisted, however, that it is not possible yet to say that the atmosphere of Venus contains *no* hydrocarbons. Velikovsky in comment was very firm on the point that the case for hydrocarbons is still quite strong.

#### Discussions of the Second Day

The second day opened, like the first, with a keynote address by Velikovsky. Being the day set aside for history, it was devoted almost entirely to his historical/chronological work and to describing the contents of the volumes to succeed *Ages in Chaos*. Much of this is already available in an extremely abbreviated form in "Theses for the Reconstruction of Ancient History."<sup>20</sup>

In the next paper, "Testing the Catastrophic Theory with Evidence from the Historical Sciences," E. W. MacKie tried to show how a variety of tests could be produced to evaluate Velikovsky's theories of catastrophism and concluded by giving some details of a test that he himself had attempted. In looking at radiocarbon dates of material derived from fossil

shorelines around the United Kingdom, there seemed to be some suspicion of clustering around similar time periods, thus suggesting eustatic (global) rather than isostatic (local) changes. There also appeared to be some evidence of vulcanicity in Iceland at the same time.

The same type of test for soil layers between lava flows, if dated for the whole world, should show clustering around several time periods—if catastrophic events on a world wide scale occurred. This could possibly be attempted at present with the material already published in *Radiocarbon*. The same type of test could be done on short-lived organic materials found in association with destruction levels on archaeological sites. If worldwide catastrophic occurrences were spread throughout history then a clustering of dates, rather than a random spread, should also be in evidence.

MacKie also looked in some detail at Thom's work on ancient stone monuments in Western Europe and at the conclusions that Thom made about their use for astronomical purposes.<sup>21</sup> However, in trying to answer the questions, do these monuments fit retrojections of the present celestial arrangements, or does one need to postulate changes in the celestial order to explain their orientations, MacKie had to conclude that from his detailed investigations of sites in Western Scotland no definitive answer could be given.

Burgstahler, in his second paper entitled, "Radiocarbon Dates from Near East Archaeology," began by giving a list of the sources of error that can provide problems in radiocarbon dating. He was summarizing part of the contents of Harold Barker's paper in the *Journal of African History*.<sup>22</sup> Readers of papers by Brown, Cook and Whitelaw in the *Creation Research Society Quarterly* will be familiar with most of this material. Then, in an aside comment, Burgstahler made an extremely interesting remark which was not considered at any later date, but which has a bearing on Velikovsky's and Courville's placing of the Exodus. He asked: "How did Moses, in Goshen, keep in almost daily contact with the Pharaoh since Middle Kingdom Pharaohs stayed in Thebes?" (The two areas are some three hundred miles apart).

In fact it would appear that most Twelfth and some Thirteenth Dynasty Pharaohs (which fits Courville's chronology in particular) had their capital at Ithtowe a few miles south of the Delta region.<sup>23</sup> This question *would* present problems to an Eighteenth Dynasty exodus (Thebes or Akhetaton as capital), but not necessarily to a Nineteenth Dynasty exodus under Rameses II, or Merneptah, who had their capital in the Delta.

Greenburg's paper, "The Lion Gate at Mycenae, a Study in Art-Historical Contradictions," favored the eighth century B.C. as an approximate dating for this edifice, rather than a thirteenth century B.C. date, the conventional one in presently accepted chronology. This alteration would fit in with Velikovsky's reconstructions.

Papers by Rose, Mullen, Willhelm, and Grinnell also concentrated mainly on Velikovsky's historical theories. Mullen, in dealing with the Pyramid Texts of Old Kingdom Egypt, felt that they suggested there was a time before the Deluge when little or no agriculture was practiced. The climate was sufficiently equable and food was sufficiently plentiful not to require it.

After the Flood, particularly in arid river basins, the most successful and stable human utilization would be through unification in order to have more control over the land, the river, and water collection, distribution and drainage systems. The unification of Egypt under Menes may have been simultaneous with widespread organization for cultivation after the Flood, and Mullen considers that this Flood may have been as late in time as 3400 to 3200 B.C.

Any attempt to date the Flood from the Biblical text has some numerical problems attached but a spread of from 2300 to 2500 B.C. would cover most calculations. This is later than all of the conventionally proposed dates for Menes, but under Courville's analysis of pre-Exodus Egypt (a subject on which Velikovsky has so far produced no major publication) Menes would be dated at circa 2200 B.C.<sup>24</sup>

Reading into his data somewhat, Courville implies a Flood date of circa 2360 B.C.,<sup>25</sup> which makes this the only strictly academic analysis I have ever seen which uses both Biblical data and secular Egyptian data to derive a framework that places Menes after the commonly accepted dates for the Flood. This point alone means that continued work on Velikovsky's chronological ideas is worthy of some attention by creationists. It also illustrates the changes that have occurred since early researchers<sup>26</sup> attributed a date of 5867 B.C. to Menes.

### Some Third Day Events

In an interlude before the final session, Dr. Ryan Drum from Bellingham, Washington, made an unofficial and unscheduled presentation of slides which he described as representing part of the collection of ornamented stones in the possession of Dr. Javier Cabrera (160 Bolivar, Ica, Peru). These stones, which supposedly were uncovered during land slippages at the time of the Huascarán earthquake of recent years, were described to Dr. Drum by Dr. Cabrera as being 250,000 to one million years old.

Pictures on the stones show dinosaur-like creatures, amongst others, with human-like creatures also being depicted in association with them. The major difference between them and human beings today was that all drawings showed four fingers instead of five.<sup>27</sup> Drum was not sure whether these stones were ancient works of art and were true representations of some actual past condition, or whether they were ingenious forgeries perpetrated by some person unknown for some purpose unknown.

The final session of the symposium was thrown open for shorter presentations from invited scholars. Mr. Bruce Mainwaring in one short address urged caution in the use of carbon 14 dating. Both he and Velikovsky in later comment described attempts to get carbon 14 dates of twenty samples of Twentieth and Twenty-first Dynasty materials to test conventional versus revised chronologies. The Museum of the University of Pennsylvania managed to supply no samples for the Twentieth Dynasty and only six for the Twenty-first.

According to conventional chronology, the Twenty-first Dynasty would be placed around 1000 B.C., and according to Velikovsky around 480-280 B.C. Two of the six specimens were too old for *both* chronologies (1905 and 2343 B.C.), and two were too young (860 and 1010 A.D.). Hence this particular test failed. No information on possibility of sample contamination was given at the meeting, but presumably rather careful selection was done by the Museum to obtain a set of reasonably representative samples.

Mainwaring also referred to the Nineteenth Dynasty British Museum sample No. 658 which was dated at 1041 B.C., whereas the other half of the same sample of material was calculated at 1263 B.C. at the University of Pennsylvania. All radiocarbon sample dates are supplied with a range of error based on standard deviation principles, but the values suggested above make one suspect that the statistical precision even of the ranges, never mind that of the central date, may still bear a somewhat tenuous relationship to the age in calendar years.

Velikovsky, however, still felt that carbon 14 could be used for dating purposes when applied judiciously. He suggested that from the catastrophes he has described in his works a lot of "dead" Carbon 12 from volcanoes, and possibly from the burning of oil (Venusian hydrocarbon precipitates) and forests, would give contamination at certain periods of time, just as industrialization does at present. The ratio of  $C_{12}/C_{14}$  would change in such a manner as to make material seem older.

On the other hand additional cosmic ray penetration through magnetosphere field strength reduction or neutralization would have the oppo-

site effect. More cosmic rays would penetrate, more  $C_{14}$  would be formed, making dates seem younger.

In looking at these two conflicting actions he tended to believe that during the most severe catastrophe (the Flood) the quantity of cosmic rays was overwhelming and, in later catastrophes, volcanoes, etc., would be the major forces in ratio change. Some fairly sophisticated recalibration would be required but Velikovsky felt that where dates were reasonably fixed, e.g. Solomon, then contemporaneous short-lived materials from Egypt (Queen Hatshepsut's time in his chronology) could be cross tested to give a fix on which to base Egyptian materials. With a number of such fixes, assuming one time framework has been established by some other method, a reliable  $C_{14}$  dating method could be constructed as far back as 1500 B.C.

A later comment by Dr. Kimball S. Erdman of Slippery Rock State College raised the point that although Velikovsky had produced works on physical catastrophism, its implications and effects on history, he had not really integrated these theories to any great extent into the framework of biology. The section in *Earth on Upheaval* (Chapter Fifteen, "Cataclysmic Evolution") on the evolutionary effects of massive radiation was only a beginning.

Dr. Erdman could see no method by which two mutually compatible mutations could be produced at the same time in the same region so that the breeding and continuation of new species could occur. There would be no long term process of natural selection and gradual change available in an evolutionary model of this type.

In reply Velikovsky conceded, as Erdman admitted at the beginning, that one man cannot have all the answers. He suggested that possibly here was an avenue which he had opened up that sympathetic biologists might follow.

One can see that sympathetic biologists might be rather hard to find as the statistical improbabilities of evolution would seem to increase somewhat under these conditions. On the other hand, as Velikovsky noted, these periods would also be characterized by mass extinction as many old-established species and most of his postulated mutations would not be able to adjust to the new and initially rather hazardous environments.

The barrenness of the evolutionary "hypothesis," whether manifested in a uniformitarian or catastrophist framework, was admirably illustrated and even admitted in this discussion. It will be interesting to see if a slow realization that creationists can give a perfectly adequate answer to these biological dilemmas (as to many another dilemma) will yet follow. The swing toward catastrophism which came through so

strongly at the conference already shows that much of the evidence for rapid deposition and extinction and transportation, to which creationists repeatedly point, is receiving thoughtful consideration.<sup>28</sup>

The final session then closed with an address by Velikovsky returning to the topic of collective amnesia, broadly relating his theories in that area to Freudian psychology. His professional occupation, in fact, before devoting all his time to studies in catastrophism was as a psychoanalyst.

### Some Implications for Creationists and Creationism

Velikovsky propounded a number of hypotheses in the 1940's and early 1950's which brought the wrath of influential segments of academia on his head. After more than a decade, with little additional publication on the topic, the number of seeming confirmations of his views are greater than they have ever been. With such a strong orientation toward catastrophism and with such a common use of the Bible as source material, it behooves creationists who believe that God has on a number of occasions intervened in human history to pay particular attention to the Velikovsky movement. This, however, when one thinks of the drastic scientific and historical reorganizations that would be necessary, is not a bandwagon to be jumped upon before a considerable amount of testing and personal weighing of evidence has been done.

Basically creationists would be interested in the physical catastrophes but, since most of Velikovsky's evidences are literary and historical, his historical theses are almost inextricably intertwined with his physical/celestial ones. The present writer feels that a very strong case has been made for the historical readjustments that Velikovsky proposes.

This is especially important because of the compression that results, which brings all of the recorded history of one of the world's earliest civilizations into a post Biblical flood period of later than 2500 B.C. This, of itself, does not make these reconstructions correct but it is a point that makes one take notice.

Courville, of course, could be accused of bias in this matter from the beginning since he accepts the Bible literally, but Velikovsky who dates the Flood tentatively at between five and eleven thousand years B.C. is under no compulsion to "strait-jacket" his history by a third millennium Flood dating.

If Velikovsky is right then the earth could have suffered a series of cosmic catastrophic events, some of which were more serious than others, and concomitant tidal and crustal dis-

ruptions with massive erosion, sedimentation, destruction, fossilization, and possibly even continental displacement could have taken place.

The presence of unconformities, possible deeply buried erosion surfaces, buried river valleys, theorized ice advances and recessions fit somewhat uncomfortably on occasion with a one catastrophic event Flood Geology model. The addition of other, albeit smaller, catastrophic periods would mean that virtually all of the world's erosional and depositional forms would not have to be accounted for in the one event.

It has sometimes been suggested that a marked discontinuity exists after the conventionally named Cretaceous,<sup>29</sup> with possibly these and earlier sediments being Flood sediments and later ones having been caused by more recent events. Velikovsky's suggested catastrophes could provide these events.<sup>30</sup> Cuvier, amongst others in the nineteenth century, in the end came to depart from a flood model to one of successive terrestrial catastrophic engulfments.

Caution should, however, also be exercised here before jumping to premature conclusions since in the Middle and Near East these catastrophes, according to Velikovsky and his supporters, wrecked cities, burned vegetation, and caused massive migrations of humans and animals. The wrecked cities were often rebuilt so this may not suggest sufficient force for widespread rock strata deposition from the later catastrophes, but merely widespread surface destruction.

Velikovsky's theories are aligned strongly against geological (and astronomical) uniformitarianism and against slow, gradual evolution. They emphasize physical catastrophism as being the most powerful moulding force in earth landform and lithologic stratification. Creationists therefore should not ignore this movement.

Careful evaluation is needed before strong commitments are made for or against these theories. Their implications are many and deep, and much harm has been done in the past by precipitous espousal or rejection of causes. The theories are naturalistically oriented despite their strong Biblical content. Velikovsky uses the Scriptures not as inspired documents but more as one of the numerous sources of legend from the past.<sup>31</sup> Yet Patten and Courville have been able to give valuable additions to Christian oriented scientific and historical literature from this viewpoint.

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- <sup>2</sup>Velikovsky, I. 1950. *Worlds in collision*. The Macmillan Company, New York. Citations in this paper refer to the Delta Books printing of 1965.
- <sup>3</sup>But see occasional instances such as *Worlds in Colli-*

- tion, p. 94: "The celestial body that the great Architect of nature sent close to the earth, made contact with it in electrical discharges. . . ."
- <sup>4</sup>Amos 1:1.
- <sup>5</sup>Isaiah 37:36.
- <sup>6</sup>Velikovsky, I. 1952. *Ages in chaos*, Vol. 1. Doubleday Publishers, Garden City, New York, 1952.
- <sup>7</sup>See short report of Robert Treash, *Pensée*, Fall 1972, pp. 43-44, entitled, "Is Asteroid Toro a Remnant of Comet-Planet Collision?"
- <sup>8</sup>See *Pensée*, May 1972 issue, "A Record of Success," pp. 11-15 and p. 23.
- <sup>9</sup>Courville, D. A. 1971. *The Exodus problem and its ramifications*. Two volumes. Challenge Books, Loma Linda, California. Also his article in *Bible-Science Association Newsletter*, August-September, 1972, pp. 4-5.
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- <sup>15</sup>See Velikovsky, I. 1950. *Op. cit.*, especially the section on Naphtha in Part 1, Chapter 2 (pp. 53-58) for his reasons for adopting this position.
- <sup>16</sup>Cook, M. A. 1958. *The science of high explosives*. Reinhold Publishers, New York. See appendix section.
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- <sup>23</sup>Courville, D. A. *Op. cit.*, Volume I, p. 224. Courville's source is J. H. Breasted. 1946 *A history of Egypt*. Charles Scribner's Sons, N.Y., p. 157.
- <sup>24</sup>*Ibid.*, Volume II, p. 33.
- <sup>25</sup>*Ibid.*, Volume II, p. 142.
- <sup>26</sup>*Ibid.*, Volume I, p. 15, footnote 1.
- <sup>27</sup>Compare with E. von Däniken. 1971. *Chariots of the gods?* Bantam Books, paperback edition, New York, p. 21 for similar human-like drawings at Tiahuanaco.
- <sup>28</sup>In a letter contained in the Fall 1972 issue of *Pensée* Dr. Erdman continues the discussion on catastrophism and evolution. The following paragraph is worth quoting:
- For many years I have been very disenchanted with the current theories of evolution as well as those dealing with fossilization, extinction, geological processes, etc. Other biologists have argued at length with me basing their position on the claim that there is no other possible alternative. They, of course, object to individual special creation, and catastrophic evolution hardly ever enters into the discussion as a real possibility. (p. 49)
- <sup>29</sup>One recent example is Harold Armstrong. 1972. Comments on scientific news and views, section entitled, "Discontinuities and the Flood," *Creation Research Society Quarterly*, 9(1):72.
- <sup>30</sup>The deep burial of such things as the Calaveras skull could be explained by this type of mechanism. For details on Calaveras and other "early" fossils of man see Frank W. Cousins. 1966. *Fossil man; a reappraisal*. Evolution Protest Movement Publications, Santhia, Stoke, Hayling Island, Hants, United Kingdom.
- <sup>31</sup>See interview with Velikovsky by Robert Goldfarb reported in *Pensée*, May 1972, pp. 48-49.

## TECHNICAL MONOGRAPH ANNOUNCEMENT

The Institute for Creation Research (2716 Madison Avenue, San Diego, CA 92116), a totally separate creationist organization from the Creation Research Society, has begun publication of an important Technical Monograph Series as part of a goal to re-establish sound Biblical creationism as a viable scientific position. Four monographs are now available:

**SPECULATIONS AND EXPERIMENTS RELATED TO THE ORIGIN OF LIFE: A CRITIQUE** by Duane T. Gish, Ph.D. ICR Technical Monograph No. 1. A technical monograph on the naturalistic theories of the origin of life, documenting the biochemical impossibility for non-living chemicals to evolve into living molecules. 1972. Paper \$2.50.

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