

Bulletin of Atomic Scientists  
Attacks ABS Issue on Velikovsky

The *Bulletin of the Atomic Scientists* carried in its April issue a coarse attack upon *The American Behavioral Scientist* and contributors to its September issue, which our readers will recall dealt with the reception system of science in the case of Dr. Immanuel Velikovsky. Howard Margolis, onetime science writer for the *Washington Star*, wrote the article. Readers of the *ABS* studies on Velikovsky will be familiar in advance with the tenor of Margolis' article. It is as if every defect of science previously experienced in the Velikovsky case were resurrected and reem-bodied once more in quintessential form. Much of the article is dedicated to slurs against the character of Dr. Velikovsky and against those who wish to give him a hearing or acknowledge the validity and value of some or much of his work. The article's errors of fact are numerous.

*The American Behavioral Scientist* is presently seeking a retraction and apology from the *Bulletin*, which in recent months has been seeking to establish itself as a more popular scientific voice on public affairs. The *ABS* letter to the *Bulletin* in this regard is reproduced at left. In a forthcoming issue, the *ABS* will reprint the *Bulletin* article in full, with appropriate comment. We shall also report any reply from the *Bulletin*.

Upon reading the *Bulletin* article, the editor of *ABS* closeted himself with Dr. Velikovsky to examine books, manuscripts, notes, and the relevant works referred to by Margolis or passed over, for one reason or another, by him. The editor emerged from this session of excursions into linguistics, historiography, and the conventions of scientific literary style with enhanced confidence in the scholarship of Dr. Velikovsky. One could not help but feel new admiration for him upon viewing careful and crowded pages of 23-year-old notebooks, with date recorded, and place and serial number entered for each document, all very legible—an exemplary basis for the manuscript preparation that was to follow.

Engaged as we are these days in other matters and particularly those of social science, we cannot follow engrossing developments in the natural sciences. But any reader of the *New York Times* must have been impressed on April 29 when that journal reported the surprising discovery that the enormous planet, Jupiter, may have abruptly changed its rotational speed, and furthermore may have accomplished similar abrupt changes in centuries gone by, on occasions in fact when history took note of altered behaviors of the planet. To the innocent observer such changes seem capable of producing material stresses sufficient to cause the tearing away of huge bodies. As recently as September 11, 1963, we find Velikovsky recommending in a memorandum to the Chairman of the Space Board of the National Academy of Sciences that "precise calculations . . . be made as to the effect of the magnetic field permeating the Solar System on the motions of the planet [Jupiter] which is surrounded by a magneto-sphere of an intensity, presumably,  $10^{14}$  times that of the terrestrial magnetosphere. This is basic to the impending re-evaluation of electromagnetic effects in celestial mechanics." This is but the latest version of a 15-year-old plea.

Our issue of last September was in our opinion accurate in concluding that Velikovsky is a fine scholar, that he is a great cosmogonist, and that many scientists engaged in theoretical work on the universe, on the nature of symbols, on the mind of man, and on classical chronology and history would do well to put aside aspersions, dogma, and vendetta to see what they may learn from his books.

II

THE AMERICAN BEHAVIORAL SCIENTIST

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May 12, 1964

Dr. Eugene Rabinowitch, Editor  
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Dear Dr. Rabinowitch:

We published several articles in our issue of September 1963 which we believe set forth the facts of an ugly case of repression in the story of science. In doing so we thought that we were advancing a cause that must be as dear to you as it is to us. Censorship in any form of new thinking in science, however venturesome, is something which we assume you will oppose with the same vigor as did our articles. Therefore we were astonished to note the publication of an article in your magazine, under the general date line of Washington, attacking us and our contributors.

The attack was made through distortion and by remarks torn from context. It reveals an ignorance that could be based in part upon the fact that the writer obviously did not understand the languages of the original material nor of any other language involved, except perhaps English. Furthermore, it contained erroneous statements of fact which would tend to denigrate those who edited the magazine as well as those who contributed to it. The matter was not rendered any the more suitable or pleasing by the vulgar, unscholarly language of the diatribe.

We do not believe that you on second consideration will not be willing to undo the damage done. In the most conciliatory of spirits and purely as the publisher of a fellow-magazine dealing with science we ask you to withdraw the support of your journal from the article and to so state in the next forthcoming issue of your magazine.

Our contributors and our advisors have urged us to take action to remedy the wrong done us. We hesitate to do this since we prefer to rely in the first instance on your scholarly good will. We therefore ask that you favor us with a reply to this letter as soon as possible.

Alfred de Grazia  
Alfred de Grazia

ads:JA

An independent monthly review of social science news, theories and research, for social scientists, educators, officials, librarians, R & D staffs, foundation officers and social science students

(ABS Vol. VII No. 10 June 64.)

# Notes on "Scientific" Reporting - -

## How the Bulletin of the Atomic Scientists reports on the Velikovsky case.

Ital.

The following material consists of an article reproduced in its entirety from the April 1964 issue of the *Bulletin of the Atomic Scientists* together with comments on that article.

Readers will recall that the story begins in September 1963 when for the first time a professional journal, the *American Behavioral Scientist*, investigated the circumstances surrounding the publication of Immanuel Velikovsky's *Worlds in Collision* in 1950. The authors of the ABS studies, which were collectively entitled *The Politics of Science and Dr. Velikovsky*, presented a great deal of material that would appear to a reasonable man of good will to be damaging to the pretenses of scientific institutions, scientific practices, and certain scientists themselves. Various explanations for the behavior of scientists were offered, and substantiated by considerable evidence. A plea was made to receive Velikovsky's theories with a courteous and just appraisal, forgetting the disgraceful past treatment meted out to his work and to his character.

The response of the ABS public was cordially favorable. The "iron curtain" began to draw back. Then, in April, came the reckless and degrading attack printed here. The *Bulletin* was asked to retract the material and apologize for it (see ABS, June, p. 43). At this point, it is not clear whether its editors will agree to our request. Meanwhile, from dozens of sources, it has been made clear that the beneficial effects that the ABS Velikovsky study was having upon the atmosphere of science and on the subjects that Velikovsky treated are diminishing as the word is passed about scientific circles that the ABS has been "answered" and "disposed of" by an article in the *Bulletin*. Some of our readers, too, have been badgered for their convictions on the case as a result of the article. We have no alternative—despite the fact that our readers are not by any means the same persons who read the *Bulletin*—but to print the *Bulletin* article in full and to expose the tricks and errors that make it "wrong in 54 ways."



(The comments below are keyed to the article reproduced in facsimile on the next pages)

<sup>1</sup> Mere humor does not justify the existence of a science writer's profession, if the humor misleads and is useless. "Science writers" should be hired to preserve the virtues of scientific writing, not to destroy them by false animism, vulgar parody, etc. The effort to invalidate Velikovsky's work and to denigrate him as a scholar is undertaken in a magazine for scientists, mainly in physics and related disciplines. Almost no astronomical counter-argument is offered. The area of knowledge in which the attempt of invalidation is made is historical philology, a field in which the readers are unoriented and unable to judge; they have to trust in the editor and author. H. Margolis is apparently foreign to philology, has no idea of the Egyptian or Hebrew languages or alphabets; he is, however, permitted to speak with authority on the subject. He probably cannot read French, though the sources he deals with require it.

<sup>2</sup> A word scientists hate (often with good reason), but inapplicable.

<sup>3</sup> Spelling: read *Immanuel*.

<sup>4</sup> Contemptuous name-calling: cf. the "rain-man," the "circus-man." Also note the derogatory use of words; why *the man* and not simply "him"?

<sup>5</sup> "Arrogance" was only one of numerous reasons for their behavior.

<sup>6</sup> Contemptuous colloquialism. No sign of true reading of the lines. A cosmogonist studies the origins of the universe and its elements, often philosophically. A "savant" is a learned man. The ABS writer makes a judgment and cites great cosmogonists of the past, all of whom have naturally had their theories modified or overturned in the course of the ages.

<sup>7</sup> Note that the carefully specified theory

of the <sup>Ital.</sup> ABS, which was confined to a subsection of a subsection and hedged with doubts, is tossed out here at the beginning of the article. No mention of the careful reasoning, fully explained by the ABS author, as to the scientific sociological necessity for alluding to the matter.

<sup>8</sup> Not "unable to refute." "Psychologically unable to address themselves to" would be preferable.

<sup>9</sup> Simplism again; see (5) above.

<sup>10</sup> It would be better to cite Stecchini here, as the author; De Grazia in (6); Juergens elsewhere; and so on. The authors have responsibility for their individual articles. As to anyone knows who has read the articles, there are differences from one to the next. Yet each man wrote in close touch with the others.

<sup>11</sup> An important point. Why does he not attack it?

<sup>12</sup> False reporting. No evidence advanced by Margolis. No test of these statements suggested. Actually ABS received many letters about the issue, one indication of interest among its readers. Any editor will know how little unsolicited response almost every kind of article gets. As for the physical scientists' response, one purpose in treating a little of the substance of the Velikovsky theories in a behavioral science magazine was because Dr. Velikovsky has been denied access to natural science organs, a fact carefully documented by ABS. I am reminded of the Nazis who showed me a concentration camp, where men had been reduced to animals, and said "See how these people are not more than animals." You censor Velikovsky and then say, in effect, "No physicist notices him. Therefore he is beneath notice."

<sup>13</sup> We note signs of logical confusion, which grow stronger as the piece develops and culminate in a final spate of gibberish at the very end.

<sup>14</sup> Absurd: the debate about Velikovsky's books provoked strong emotions in the scientific community ("highly unacademic fury": *Newsweek*). Much of the ABS material proves that science could be and was full of emotional and political passions.

<sup>15</sup> "Reasonable weighing of objective evidence" is what V. Bargmann and L. Motz asked from the scientific community in their letter to *Science* (Dec. 21, 1962); instead abuse followed (*Science*, Feb. 15, 1963). Besides, the ABS was not geared to or aimed at questions of factual theory.

<sup>16</sup> False reporting. Shapley, Gaposchkin, and others are brought to the forum of public opinion and the disclosure of their acts and motives is the main theme of the ABS special issue.

<sup>17</sup> Name calling ("plain hokum") is no "reasonable weighing of objective evidence." (see above 15) It is a libel and slander: "Hokum" is defined as a device deliberately used by a writer to hoodwink an audience into believing something. If Margolis did not mean this, he should apologize.

<sup>18</sup> A major falsehood. Such is not Velikovsky's view. According to *Worlds in Collision*, p. 371, the probable eruption of Venus from Jupiter took place in the 3rd millennium before the present era.

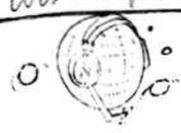
<sup>19</sup> False reporting. The analysis is buttressed and explained on many pages, and once more and at great detail in *Earth in Upheaval*, published in 1955, perhaps unknown to Margolis. For example, going back to the previous para-

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Printer - set in 2 page format, left page with RIFAS & right page with reply.



### REPORTS

#### FROM WASHINGTON:

#### VELIKOVSKY RIDES AGAIN

HOWARD MARGOLIS

The September 1963 issue of *The American Behavioral Scientist* devoted itself to an impassioned defense of Emanuel Velikovsky, the works-in-collision man, and consequently to an impassioned denunciation of scientists for arrogantly refusing the man a fair hearing. The three articles developing these accusations were published under the collective title, "The Politics of Science and Dr. Velikovsky." "While Velikovsky's ideas are not at all beyond criticism," the articles conclude, "as a cosmologist he appears in the company of Plato, Aquinas, Bruno, Descartes, Newton, and Kant. What would therefore be only the duty of the critics of science—to defend ordinary or even mistaken scholars—becomes, by accident, an occasion to defend a great savant of the age."

This is pretty heady stuff. The reasons given for the massive injustice done to Velikovsky range wide, beginning with the conventional accusation that scientists are unwilling to listen to someone without formal credentials, and ending with a bizarre suggestion that "an informal left-wing network might well have been in operation." But all this is by the way. The principal theory advanced in *Behavioral Scientist*, and also in an article in *Harper's* by Eric Larabee, is that the scientists are reacting irrationally to a challenge which they are unable to refute, but which threatens large parts of the scientific worldview built up since Newton. This is the reaction which accounts, according to the editors, for "the prolonged emotional outburst in which almost the entire scientific community of the 1950s took part, an outburst of what Soren

Kierkegaard termed 'fear and trembling.'"

How did Velikovsky free himself of the prejudices that blind the physical scientists? "When the Velikovsky affair is considered in the light of the history of science it loses its puzzling qualities. Velikovsky," we are told, "saw what other scholars were not able to see because he relied on pieces of evidence that they had chosen to neglect, namely the accumulated records of human experience. Natural scientists who scorn these records put themselves in the position of the early astronomers who held that no truly respectable scholar should resort to the telescope."

On this basis, it is unsurprising that the magazine's editor, Alfred de Grazia, a professor of government at New York University, should issue a rallying cry to his readers: "What has not been appreciated," de Grazia writes "... is the high involvement of the social and behavioral sciences. The social sciences are the basis of Velikovsky's work. . . It is by the use of the methodology of social science and the dates of history that Velikovsky has launched his formidable assault upon the heroes and theories of the classics, astronomy, geology, and historical biology. Yet the social scientists have been generally unaware of his work and almost totally disengaged."

None of this seems to have had much impact. The magazine's readers responded favorably in letters. But the physical scientists who were the focus of the attack seem barely to have noticed the challenge. There is no indication that behavioral scientists in significant numbers are rallying to the call to defend Velikovsky. Conse-

quently, the intent of this report is not to discuss the controversy, since no perceptible controversy seems to have developed. What is of most interest here is that this attack on scientists incidentally and quite unintentionally provides an indication of the kind of confusion that must be expected when technical matters become the focus of public debate. For here we have a case in which there is none of the emotional and political passions that appear in matters like those involving fallout or fluoridation; none of the obvious economic and prestige influence that cannot be avoided on issues of where to set up a new space center or to build a new multibillion volt particle accelerator; none of the major national security issues so clearly involved in matters like the test ban or whether to build an antiballistic missile system; in short, we have to contend with none of the powerful factors that make it difficult to get a reasonably dispassionate public discussion of the technical side of political issues. We would expect a nice, reasonably reasonable weighing of objective evidence for and against Dr. Velikovsky. The *Behavioral Scientist* attack is not even directed particularly against those scientists who thirteen years ago felt that an appropriate response to the book was to bring pressure on its publisher to abandon the project. It is a general, unqualified attack on anyone who dismissed Velikovsky's work as plain hokum. And what makes the attack interesting, coming in a scholarly journal with a prestigious board of editorial advisors, is that Velikovsky's work, as clearly as anything can be in this world, is plain hokum.

Velikovsky's view is that around 1500 B.C. the planet Jupiter expelled the planet Venus as a comet, which then brushed past the earth, producing vast catastrophes (for example, boiling oceans) and incidentally the ten plagues of the biblical Exodus, the splitting of the Red Sea, and the pillar of cloud by day and fire by night which the Hebrews followed in the desert for the next forty years. The visit of Venus either temporarily stopped the earth's rotation or tilted it over on its axis, to produce the effect of prolonged night in the Near East. Fifty-two years later, the comet returned, according to Velikovsky, again stopping or tilting

approaches between celestial bodies a much more intense interaction must result.

22 The misfortune of science is that no person of the Establishment has condescended to argue with Velikovsky. No general theory provides for everything. But there are four detailed books to argue with.

23 Who says so? Dogmatic denial.

24 Historically, in natural and social science, it is often indeed observed, not merely conceivable, that one man is right when most others are wrong.

25 See above. Also Velikovsky offered a series of crucial tests, such as the great heat of Venus (when it was agreed that Venus' ground temperature was higher by 3° than that of the earth). It was found (1962-3) to be around 800°. Or, the hydrocarbon nature of Venus' envelope. Apparently confirmed: 1962-3 (Mariner II).

26 "Wrong in detail and still be magnificently right" This is logical nonsense. As above there is ample ground for testing his theories and they have begun to be tested. However, the historical tests are eminently in order. Agreed that, "If these do support his thesis, then the scientific community is indeed gravely at fault. . ." They do so support and the community is at fault.

27 Margolis says he dislikes impassioned language!

28 "Anyone" and "a few hours." These are apparently the *Bulletin* qualifications for abuse and slander. An incredible position for a scientific journal. Cf. the similar attempt of Mrs. Gaposchkin (*ABS*, Sept. 1963, p. 17).

29 R. Juergens checked on Margolis' careful compendium, and reports: "In two brief paragraphs of quotations from *Worlds in Collision*, Margolis deletes five pairs of quotation marks, in effect, attributing words to Velikovsky that are not his; deletes two words, misspells a third, and inserts a questionable synonym for the fourth; he capitalizes four words not so capitalized in the book, and de-capitalizes three others which are capitalized in the book; he ignores Velikovsky's paragraph structure, running parts of two as one; he drops a colon and inserts a period in its stead."

30 Conveys the idea that Margolis did so; but he gives indication only of having read a version in English by Griffith, not the originals or the later French version.

31 False. It is fairly certain on its face that the document tells one story and the events are described as parts of the story: tempest, darkness, Pi-Kharoti, battles of King Tum, the apotheosis in the surges of the whirlpool.

32 Thom=Toum=Tum. It is difficult to believe otherwise. "Les combats du roi Toum en ce lieu" (Goyon, p. 33), "The conflicts of the king Tum" (Griffith).

33 King's battles or advance against the 'evil doers' is in text. Velikovsky interprets the two forces opposing Thom as identical.

34 "Pekharti which Velikovsky alters into Pi-Khiroti." Margolis is unaware that the hieroglyphic text has no vowels, but only consonants; further, he did not read Goyon, because Goyon transcribes Pi-Kharoti. "Pi-ha Hiroth which Velikovsky alters into Pi-ha-Khiroth, further enhancing his evidence." Margolis should know that *het* and *khet* are two different letters in Hebrew (as in Handel and Bach, they are pronounced differently); he argues as if the original text of the Old Testament was written in King James Version. Finally, Velikovsky quoted the King James version as is: "encamping by the sea, beside Pi-ha-hiroth" and added in square brackets [Khiroth]. In a letter to Velikovsky of June 6, 1946, W. F. Albright, eminent Orientalist, expressed himself favorably as to the possible identification of Phrt with Pihahiroth of Exodus. (Albright was at least then a strong opponent of Velikovsky's chronology). "Ha" is in Hebrew what "the" is in English; Margolis

graph, the story of events as narrated in the *Iliad* and quoted also from other sources, recounts repeated strong perturbations between Mars and Venus, the former being the more disturbed of the two.

20 "That the planets occasionally hop about from one orbit to another" is a misrepresentation of the incidental analogy drawn with Bohr's model. The book (*Worlds in Collision*) argues the planets with intersecting or converging orbits suffered near-collisions with resulting changes in orbits.

21 Velikovsky's opponents, C. Gaposchkin, J. Stewart (*Harper's*, June 1951) insisted that the solar system is electrically and magnetically 'sterile': no electromagnetic fields or forces are present that are able even to a slightest degree to affect the planetary orderly motions. For claiming such fields in the solar system, he was castigated by Mr. Gardner (*In the Name of Science*, p. 33) and placed among believers in a flat earth because he would "belabor the 'orthodox' for refusing to recognize these im-

aginary energies!" In debate with Stewart, he wrote of "the reluctance to recognize the existence of electrical and magnetic forces in the celestial sphere," and Gardner quotes this to make him appear ridiculous. Velikovsky's claim was based upon several indications and speculations:

1. Jupiter sends radio noises. Confirmed 1955.
2. Earth is surrounded by a magnetosphere, Confirmed 1958.
3. Interplanetary space is permeated by a magnetic field. Confirmed 1960.
4. The Sun has an appreciable charge, which, according to V. A. Bailey, gives it a potential of 10 billion volts (1960; *Nature*, March 21, 1964).
5. The rotation of the earth may be disturbed by an electromagnetic field of force. Confirmed, A. Danjon, 1960. The magnetic force (dipole) follows the law of the inverse cube of distance; at close

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the globe, so producing the miracle described in the Book of Joshua. About eight centuries later, a lesser set of catastrophes was produced by the planet Mars, which repeatedly came near the earth and at one point collided with Venus. The result was that both bodies settled down in the orbits in which we know them today. In the process the length of the earth's year was changed from 360 days to the present 365 and a fraction.

There is a great deal more. Velikovsky feels his analysis helps explain an enormous range of things, from such trivialities as why thirteen is considered an unlucky number, to the origin of the species (Darwin was largely wrong) and celestial mechanics (Newton was wrong in important respects). Except in the most general way, Velikovsky offers no explanation of how it is possible that things could happen the way he suggests. His view is that "the solar system is actually built like an atom" and that the planets occasionally hop about from one orbit to another, more or less as electrons were supposed to do in Niels Bohr's conception of the atom. Velikovsky also assumes the existence of massive, and thus far undetectable, electromagnetic forces in the solar system. Velikovsky points out in his preface to *Worlds in Collision*, "no formula and no hieroglyphic will stand in the way of those who set out to read it."

As a consequence, there are limited opportunities for a technical argument with Velikovsky. He describes a theory which does not seem to make sense, and he does not pretend to offer any detailed explanation about how his theories can be made to make sense. For example, it appears to be inherently impossible for Mars to collide with Venus at some point outside the earth's orbit, as Velikovsky proposes, with the consequence that Venus is knocked into a nearly circular orbit well within the earth's orbit, and Mars remains in a nearly circular orbit outside the earth's orbit. This seems to be the case for the same kind of reason that you cannot pour two quarts of water into a one-quart jar; the world, as far as we can tell, simply isn't built that way.

But that the Velikovsky theories seem to make no sense is not necessarily sufficient reason for regarding his

work as hokum. It is at least conceivable, if however remote, that almost everyone is wrong and that Velikovsky is right.

More plausibly, it would be possible that the details of the Velikovsky theories, as he propounded them, are wrong, but that his general insight is sound, and that something like what Velikovsky suggests did happen.

Thus there is no scientific way to examine Velikovsky's conclusions and on that basis prove that his work is worthless. He could be wrong on almost every detail, and still be magnificently right in at least part of his conception. As a result, Velikovsky must be met on his own chosen ground, with an examination of his use of the "accumulated records of human experience." If these do support his thesis, then the scientific community is indeed gravely at fault for refusing to look through this telescope. But what happens Velikovsky so emphatically is that even if his theories violated none of the presently accepted understandings of how the world works, they would have to be rejected as nonsense anyway; for as anyone who spends a few hours in a library checking Velikovsky's sources will discover, *Worlds in Collision* is, if nothing else, a matchless compendium of how you can prove anything if you are only careless enough. If you wish to find refutation of Velikovsky's arguments, you have merely to look up the sources he cites in his footnotes.

When Velikovsky wishes to provide confirmation that the biblical story of the Exodus is literally accurate, he cites an inscription found on a shrine found at el-Arish, on the border between Palestine and Egypt. He quotes a passage from the inscription describing a period of prolonged darkness and storm, which parallels the biblical account of three days' darkness. He goes on:

"That both sources, the Hebrew and the Egyptian, refer to the same event can be established by another means also. Following the prolonged darkness and the hurricane, the pharaoh, according to the hieroglyphic text of the shrine, pursued the evil-doers to the place called Pi-Khiroti. The same place is mentioned in Exodus 14:9. But the Egyptian pursued them, all the horses and chariots of Pharaoh . . . and overtook them encamping by the

sea, beside Pi-ha-Khiroti. The inscription on the shrine also narrates the death of the pharaoh during this pursuit under exceptional circumstances. Now when the majesty fought with the evil doers in this pool, the place of the whirlpool, the evil-doers prevailed not over his majesty. His majesty leaped into the place of the whirlpool. This is the same apothosis described in Exodus 15:19: For the horse of Pharaoh went in with his chariots and his horsemen into the sea, and the Lord brought again the waters upon them."

Velikovsky refers to this evidence again a few pages later: "On the shrine found in el-Arish the story is told of a hurricane and a prolonged darkness when nobody could leave the palace, and of the pursuit by the Pharaoh Taani-Thom of the fleeing slaves whom he pursued to Pi-Khiroti, which is the biblical Pi-ha-Khiroti."

Now if you look up the actual inscription, you notice some curious things: for example, the two incidents of the storm and the leap into the whirlpool are not sequential, as Velikovsky presents them. They are described as taking place at widely different places at widely different times with no relation between them, and they involve not the same king, but two different kings, neither of them named Taani-Thom. There is no mention of the pharaoh pursuing the fleeing slaves to Pi-Khiroti, or any other place. In fact, there is no mention of fleeing slaves. But there is mention of a place called Pekharti, which Velikovsky alters into Pi-Khiroti, so making it more similar to the place actually mentioned in Exodus, Pi-ha-Khiroti, which Velikovsky has altered into Pi-ha-Khiroti, further enhancing his evidence. But Pekharti is not the name of the place near the whirlpool. It is the place where a king (not the king who leaps into the whirlpool) catches and rapes a lady. Furthermore, the king does not leap to his death when he jumps into the whirlpool; rather, to quote from the inscription, "his leg became those of a crocodile, his head that of a hawk with bull thorns upon it; he smote the evil doers in the Place of the Whirlpool." In fact, the whole inscription has nothing to do with historical events at all, but is about the mythological god-kings of Egypt, from whom the Pharaohs were to claim descent, and the king who

wars against the Hyksos. Velikovsky identifies the "rebels" or "evil-men" with the Hebrews. One may agree or disagree on the probatory force of his arguments, but certainly they are founded on specific statements of the text. For instance, it is stated that the convulsion which was both a physical disturbance with storms and darkness and a revolution, started when the king employed the Asiatics in construction work: "He had made his hall with the help of evil-men. Evil fell upon the earth."

37 The fact that there are in the Egyptian text references to the gods does not affect the historical character of other references. Gods and kings are often mixed together in historical passages. It was also a common practice of ancient Oriental historical annals to change defeats into something else. Here too the text seems to explain away a defeat: "When the Majesty of Ra was fighting the enemies in this water of Lake Yat-Desui, the rebels did not reveal a military power against His Majesty. When His Majesty made contact with Lake Yat-Desui, he took the form of a crocodile. . . ."

38 About 'firstborn' and 'chosen,' a chapter under this name exists in *Ages in Chaos*, pp. 32ff, apparently unknown to Margolis. A fairly strong case is presented. The 'explicit' language of the Bible requires a belief in a miracle (only firstborn killed), so, to explain the factual events behind the story, the chapter in *Ages in Chaos* was written.

39 *Worlds in Collision* has *inter alia* this to say on the subject of earthquake as one of the plagues: "To confirm my interpretation of the tenth plague as an earthquake which should be obvious from the expression, 'to smite the houses,' I find a corroborative passage of Artapanus in which he describes the last night before the Exodus, and which is quoted by Eusebius: There were 'hail and earthquake by night . . . at that time all the houses fell in, and most of the temples.' Also Hieronymus (St. Jerome) wrote in an epistle that 'in the night in which Exodus took place, all the temples of Egypt were destroyed by an earthshock or by the thunderbolt.' Similarly in the Midrashim: . . . 'earthquake, fire, meteorites.'"

40 Observe the use of the word 'obvious' above and in this passage in quotes by Margolis. Velikovsky does not use the word at all!

41 All that Velikovsky wrote on this matter was one passage: (p. 171): "The birth of Athena was assigned to the middle of the second millennium. Augustine wrote: 'Minerva [Athene] is reported to have appeared . . . [dots in text] in the time of Ogyges.' This statement is found in the *City of God* (Bk. XVIII, ch. 8), the book containing the quotation from Varro that the planet Venus changed its course and form in the time of Ogyges. Augustine also synchronized Joshua with the time of Minerva activities (*Ibid.*, BK. XVIII, Ch. 12)." It is simply false to say that Velikovsky cited Augustine to show "that Minerva first appeared in the time of Moses."

42 Where? Reckless accusation.

43 Where? Reckless accusation.

44 Some records quoted are contemporaneous with the events, some of later date, such as the Talmud, Pliny, or Plutarch; this is certainly legitimate; no "neglect" is involved unless the reader is uneducated and must be told in each instance the date of classical writings; even this is often done for lay readers of *Worlds in Collision*.

45 "The planet would have appeared to grow larger . . . Yet Velikovsky gives no indication that he is surprised that no one noticed . . ." (Margolis italics). Everyone noticed; the readers must have noticed; only Margolis did not notice: p. 64, "the last night in Egypt was as bright as the noon on the day of the summer solstice (Zohar II, 38-39)"; p. 77, the same; p. 79, description of Typhon: one of his hands reached out to the west and the other to the east; p. 82, Pliny: fiery appear-

should have known this or, at least, read it in the footnotes of *Worlds in Collision*, or in *Ages in Chaos*.

35 The notion that the king raped a lady may be appealing to the subconscious of Mr. Margolis, but is not mentioned in either translation of the text. Anyhow the "lady" talked about in the text was the King's mother. (Of course, nothing is impossible.)

It must not be assumed that there is no room for disagreement on the details, or even on the general nature of the text of documents such as this. Nor does Velikovsky's work, dealing as it does with extraordinarily difficult materials, emerge unscathed. Margolis did not detect it, but we noticed, for example, an omission of three dots from Velikovsky's notes on a French hand-written manuscript translating the original carving, which could mean a "She" instead of "It," was meant in one place with a possible facet of doubt

emerging concerning one element of Velikovsky's exegesis.

36 Margolis gives a preposterous and irrelevant account of the Egyptian text. The text deals with some local events that contributed to the fame of the sanctuary where the inscription was placed. These events were part of a struggle against "rebels" or "evil-men" which was accompanied by terrific physical disturbances. These events were so catastrophic that the story of them took on the style and characters of the standard Egyptian myth of creation. For this reason the events are ascribed to god-kings of the Egyptian myth of creation. In this respect the meaning of the text is evident. The only matter to be subject to interpretation is that of ascertaining which are the historical events that are linked with the myth of creation. The enemies of Egypt are described as Asiatics who lived to the immediate east of Egypt. Goyon suggests that the historical background may be the

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leaps into the whirlpool after his enemies is none other than Ra, the great sun god of Egypt. (The passage immediately following the leap into the whirlpool cited by Velikovsky reads: "Now the majesty of Seb appeared in the seat of the crocodile gods, of Sebek-Ra, of Shu, and of Osiris-Ra, upon the throne of his father Shu as king of gods of men and all flesh, in heaven, earth, and the underworld, water, hills, winds, the ocean and the rocks. . . . Now the majesty of Seb said to the great cycle of nine gods who accompanied him . . ." and so on.) On such evidence, according to the *Behavioral Scientist*, Velikovsky has thrown the scientific world into "fear and trembling."

It is typical of Velikovsky's scholarship. He wished to prove that the great tenth plague, the slaughter of the firstborn of Egypt, actually described an earthquake caused by the approach of Venus. He theorizes that since the Hebrew words for "firstborn" and "chosen" are similar, there may have been a corruption in the text—the plague was an earthquake, the "chosen" (the aristocracy) of Egypt might have been killed when their fancy stone houses collapsed upon them, while the slaves, living in mud huts, survived. This interpretation, decides Velikovsky, is "obvious," for the bible says that the Lord "smote the houses" of the Egyptians while passing over those of the Hebrews, which clearly implies an earthquake. Velikovsky reached this "obvious" interpretation despite the rather explicit language of the biblical account: "And it came to pass that at midnight the Lord smote all the firstborn in the land of Egypt, from the firstborn of Pharaoh that sat upon his throne unto the firstborn of the captive that was in the dungeon and all the firstborn of cattle."

Even the saints are not preserved against Velikovsky's scholarship. He cites St. Augustine's *City of God* as authority for his view that Minerva (who Velikovsky says represented the planet Venus) first appeared in the time of Moses. But the passage he cites says the opposite: that Minerva was "far more ancient."

So it goes in the world of Velikovskian scholarship. When he cites records of astronomical observations,

Velikovsky simply ignores anything that conflicts with the interpretation he wishes to put on the records. He has a chapter arguing that before the seventh century B.C. the year was only 360 days long, consisting of twelve lunar months of thirty days each. But he forgets that earlier in the book he himself has quoted records that contradict that claim. His mistranslates passages from foreign authors, and offers the mistranslations as evidence for his theories. He describes records which he claims demonstrate that the appearance of the heavens has changed, but neglects to mention that the records date from periods 500 to 1,000 years after the change purportedly took place.

Velikovsky and his supporters seem to have an exceedingly vague notion of the size of a planet. If, in fact, either Venus or Mars had brushed up against the earth, and it is this supposition that is the heart of Velikovsky's theory, the planet would have appeared to grow larger and larger as day by day it came nearer to earth. Eventually it would appear to dwarf the sun and the moon. Yet Velikovsky gives no indication that he is surprised at the curious fact that no one noticed, that although he can cite all sorts of legends about floods and earthquakes and every sort of catastrophe, he can cite no description linking these events with what clearly would have been the most striking aspect of the encounter—the gradual growth of a speck among the stars until it became so large as to seem to cover the whole sky.

The *Behavioral Scientist* reports that its articles were read in advance by such well-known scholars as Professor Laswell of Yale, past president of the American Political Science Association; Moses Hadas, Jay Professor of Greek at Columbia; Salvador de Madariaga, of Oxford, and a number of others, all of whom encouraged publication. What is most surprising in this is not that there should be a revival in interest in Velikovsky, for in December 1962 Professor Motz of Columbia and Bargmann of Princeton published a letter in *Science*, arguing that in fairness to Velikovsky it should be noted that several predictions that he had made have since been confirmed. That alone, as Motz

and Bargmann suggested, provides sufficient grounds for taking a fresh look at Velikovsky, although it does not imply that the fresh look should necessarily reach any kinder judgment than the original. There is no shortage of science-fiction writers who can claim to have made some striking predictions, but no one is rushing to proclaim them all "savants of the age."

What is surprising in the *Behavioral Scientist* report is not that someone should question the outright rejection of Velikovsky, but the tone of the attack: the argument that Velikovsky's critics are driven by irrational "fear and trembling"; the frequently, and sometimes startlingly, distorted summaries of the arguments offered by Velikovsky's critics, and the failure of the report to take notice of any flaws in Velikovsky's scholarship, to even consider the possibility that Velikovsky's work might have merited the ridicule it received. Most surprising of all is the suggestion that social scientists ought to rally to Velikovsky as a man who has demonstrated the power of the "methodology of social science."

Is the *Behavioral Scientist* seriously arguing that Velikovsky's methodology, of which a small but representative sampling has been presented here, provides grounds for defending Velikovsky?

The pages of the *Behavioral Scientist* report spill over with anger and passion, and good judgment quickly falls by the way. As noted earlier, it will be useful to keep this incident in mind, for example, the next time we hear questions of why it is that an impartial body of scholars is not set up to provide unbiased factual reports, which will then be universally accepted as the basis for discussion by all parties to political controversy. The problem is not that there are no objective facts, but that it is naive to suppose that on any issue that arouses passions—that is to say, on any significant public issue—scholars will not be found to support both sides. And faced with that choice of expert opinion, it is, of course, not easy for participants in the debate to resist the temptation to believe that the scholar who shares his approach is the man with the objective facts.

archaeological discoveries of current Egyptian objects in Greek ("later") diggings, are some of Velikovsky's wild guesses.

48 Since this is the third reference to a phrase that occurred [once] in L. Stecchini's article, Margolis should be informed that Kierkegaard's use of the phrase did not involve people literally going about shaking like aspen leaves. Kierkegaard meant man's Fear in relation to the Cosmos.

49 Example? A single case, at least?  
50 But cf. ABS p. 67, "While his ideas are not at all beyond criticism. . . ."

51 Inaccurate quote. Certainly, however, Velikovsky has shown what remarkable resources still exist in ancient materials.

52 Next Margolis will be an expert on sampling!

"The small but representative sampling" actually consists of criticism of two points out of four extensive volumes of published writings. In one, which deals with an Egyptian inscription, Margolis flunks in Egyptology and linguistics. In the other, which refers to Augustine, he fatally misquotes both Augustine and Velikovsky.

53 The grounds are very clearly stated, if Margolis will read them. Velikovsky deserves defense primarily as a serious scholar attempting to place his work before a scientific public without censorship, personal abuse, slander, and ostracism. NOWHERE DOES MARGOLIS TAKE UP THE GRAVE ISSUE OF VIOLATION OF A MAN'S PERSONAL LIBERTY AND CENSORSHIP BY A BODY OF OPONENTS, NOR DOES HE TREAT THE SECOND MAIN EFFORT OF THE ABS ARTICLES: THEIR PROPOSITIONS ABOUT THE SOCIOLOGY OF SCIENCE.

54 Alas, the double-talk begins again. Six careful readings of this paragraph leave us baffled and bemused. Perhaps our readers can make sense of it.

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ance . . . twisted like a coil and it was very grim to behold . . . a ball of fire.; p. 83, "in the shape of a globe and was of terrible aspect" (from Rockenback, 1602); pp. 83-84, Lydus, Servius, Hephestion, Junctinus mention the Typhon comet: it is depicted as an "immense globe" (*globus immodicus*). Even in the subsequent centuries: p. 164, Chaldeans: Venus—"bright torch of heaven" that "illuminates like the sun." "A stupendous prodigy in the sky."; p. 165, Chinese: "Venus . . . rivaled the sun in brightness."; p. 165, Hebrews: "The brilliant light of Venus blazes from one end of the cosmos to the other end." Many more quotes could be extracted from *Worlds in Collision*.

trite device of transition (cf. above paragraph 3, and next paragraph below) that unfortunately leaves whole ideas introduced and dangling. What is surprising in this?

47 There is a shortage of good wild-guessers. The *Encyclopedia Americana* cites as a most striking prediction J. Swift's prediction of two satellites of Mars (1726), actually discovered by A. Hall in 1877; but who is to say? In the time of Swift, one year before Newton's death, there were known to be five satellites of Saturn, four of Jupiter, one of Earth, two (imaginary) of Venus. A lucky guess of Mars' satellites is conceivable. Predicting radio noises of Jupiter, or the great heat of Venus (claiming, against the calculated value of 17°C, a state close to incandescence), or

46 This perennial surprise of Margolis is a

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