## THE VELIKOVSKY AFFAIR\*

Henry H. Bauer

The Velikovsky Affair began in 1950. In April of that year, *Worlds in Collision* by Immanuel Velikovsky was published by Macmillan, a firm with a high reputation for both its textbooks and its trade books. *Worlds in Collision* was advertised lavishly and sensationally and it quickly became a best-seller. Most reviews in newspapers and popular magazines followed the lead given by the advertisements: the book was highly original, a tour de force in history and science, a challenge to conventional ideas, a work in the tradition of Galileo, Newton, Darwin, and Einstein.

But among the academic community—in particular among scientists—the reaction was very different. Velikovsky was called ignorant and incompetent in science and in historical scholarship: his method was tendentious, his data biased, his conclusions impossible. And there followed strong actions congruent with those words of outrage: professors threatened that they would boycott Macmillan textbooks as long as the publisher sponsored pseudo-science in the form of *Worlds in Collision*—and Macmillan responded by transferring to a rival publisher, Doubleday, the rights to that best-selling book. James Putnam, who had been Velikovsky's editor at Macmillan, was discharged. Gordon Atwater, of the Hayden Planetarium and American Museum of Natural History, had planned a show based on the scenario of *Worlds in Collision*; first he was told not to proceed with the show, and then he was dismissed from his position.

What sort of book could produce such violent reactions? How could it happen that so much high praise for scholarship and originality was expressed for a work that others described as incompetent or worse? What could lead scientists to seek the suppression of a book, to boycott a publisher of respected textbooks, to be implicated in the firing of an editor and of a planetarium director?

Worlds in Collision was an unlikely volume to become popularly read. It has nests of footnotes at the bottom of most of its 400 pages; its language is rather florid, allusions to the ancient classics abound, and it goes into minute detail on many points, about astronomy and history in particular. The book begins with a survey of contemporary knowledge about the Solar System and the history of the Earth. Then follows a recounting and analysis of ancient history and legend about notable cataclysmic events: the fall of stones from the heavens, associated with the standing-still of the Sun at Joshua's command and, on the other side of the

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Earth, an abnormally long night; the Exodus of the Jews from Egypt and such associated events as the parting of the Red Sea and the fall of manna from the heavens; and so forth.

Stories about the gods—Jupiter, Saturn, Mars and others—are taken as referring to movements of the planets bearing those names. The upshot is this: some thousands of years ago, Jupiter emitted a cometary body which came close to Earth several times around 1500 B.C.—close enough to cause the mentioned disasters of fire, flood, hurricane, mountainous upheavals, tidal waves, and more; the length of the year was permanently altered. Then the comet swung by Mars and displaced it from its orbit (which was at that time inside the orbit of the Earth); several times around 700 B.C. there were close encounters between Mars and Earth, accompanied by more devastation, The guilty comet, meanwhile, had settled into orbit around the Sun: it is now the planet we call Venus.

Surely, one would imagine, such conjectures could be decisively settled on scientific grounds? Certainly that was my thought when, in the early 1970s, I first became interested in the matter. My fascination with the affair only increased as I read of the controversies that had raged in which the scientific arguments seemed to remain inconclusive. For example, if the orbits of Earth and Moon now are different than they had been before 700 B.C., and different again from those before 1500 B.C., then the records of eclipses of the Sun would show it: the dates of ancient observations of eclipses would not fit calculations based on current planetary movements. Astronomers cited several eclipses and claimed that they disproved Velikovsky's suggestions. But Velikovsky was not subdued: he showed himself to be entirely familiar with the writings about those eclipses, and pointed to uncertainties in the ancient records; most tellingly, he reminded how the dates of those ancient eclipses had been determined—by using the present planetary orbits to calculate exactly when eclipses might have occurred in the past and then assigning the most plausible of those possible dates. One could not now claim that those dates proved the constancy of the planetary arrangements; that would be entirely circular reasoning! In any case, Velikovsky said, he had already shown on other grounds that the conventionally accepted chronology—especially of the Middle East during the two millennia before Christ —was seriously in error; that part of his work would be published in due course. (The first part of it actually appeared as Ages in Chaos in 1952. Four additional volumes were foreshadowed, of which only two have actually been published.<sup>1</sup>)

But if Venus was once absent from the Solar System, pointed out another critic, how to explain Bode's Law, which shows a regular relationship between the sequence of the planets and their distances from the Sun? No problem, responded one of Velikovsky's supporters: if Venus were missing, the remaining planets would still follow the Bode-like relationship  $r = 0.4 + 0.6x2^n$ , in which 0.3 was simply replaced by 0.6!

A good deal of the controversy dealt not with such specifics, however, but with the question, could something like Velikovsky suggested happen at all?

Velikovsky's scenario, it was claimed, contradicted Newton's laws of motion, the laws of conservation of momentum and of energy, and other well-founded laws of science: it simply could not happen. Yet these criticisms were not accompanied by proofs of the sort that one sees in the scientific literature, namely a statement of the laws and the boundary conditions, then a series of calculations, and finally the results: rather, Velikovsky's critics merely asserted that the chain of reasoning would be obvious to anyone conversant with physics; to answer Velikovsky's errors in detail would require the writing of the equivalent of several textbooks, and who would care to waste time in such an endeavor? For example, Velikovsky had written

<sup>&</sup>lt;sup>1</sup>Immanuel Velikovsky, *Peoples of the Sea* (New York, 1977); *Ramses II and his Time* (New York, 1978).

that the Sun had indeed stood still for Joshua, either because the Earth had stopped rotating around its axis or because that axis had tilted. Quite impossible, said the critics: enormous energy would be required to stop the Earth rotating; and even if that had actually happened, everything not firmly anchored to the ground would have flown off into space; and what could make the earth then start rotating again? One physicist<sup>2</sup> appealed to the public in this way: to experience the dramatic effects that a deceleration of the Earth's rotation would produce, put a dishpan of water on the seat of a car, and then observe what happens when the brakes are applied: the water slops over everywhere. But a member of the public actually tried that experiment<sup>3</sup>: he could accelerate to 2 mph within a minute, he found, without causing any water to spill, and that would correspond to only a few hours to bring the Earth's rotation to a halt. Observers of this little argument might also have noted that Velikovsky's critics spoke only against the idea that the Earth had stopped rotating. They simply ignored his alternative suggestion that Joshua's miracle might have been due to a tilting of the Earth's axis.

Velikovsky's critics pointed to the difficulty of explaining technical matters to the general public: suppose, for example, that someone was worried that a skyscraper might be set swaying by the air currents produced by a passing sparrow; how to convince people that was absurd, if those people knew no mechanics?

An unrecognized and presumably unintended consequence of this mode of argument by Velikovsky's critics was that observers of the debate were asked not to attempt to judge it on its substantive merits: they were asked to believe Velikovsky's critics not because they had set out an impeccably argued scientific case but solely on the basis of their credentials and their authority. And to this Velikovsky had a cogent reply: every notable advance in human knowledge, he pointed out, had been resisted by the conventional wisdom of the time, by the intellectual authorities and the power they commanded—remember Aristarchus and Bruno and Copernicus and Galileo; remember the resistance encountered by Sigmund Freud; recall that mathematicians had proved powered mechanical flight to be impossible, just a year before the Wright brothers nevertheless flew their first aeroplane.

So to the impartial observer who was not an astronomer or a physicist, or perhaps an historian or philosopher of science, the dispute must have seemed unresolved. After a while—a year or so—the bitter public controversy died down, but nothing had been settled. Scientists said that the events postulated by Velikovsky had not happened, and indeed could not happen; Velikovsky and his supporters maintained the opposite, with at least equal vehemence; and to an outside observer, there was no obvious way of judging whether either side, let alone which one, had the better case.

When Velikovsky's first book of historical revisionism<sup>4</sup> appeared in 1952, little fuss was aroused. Historians dismissed it, but the reviews were not nearly as numerous as they had been of *Worlds in Collision* two years earlier, nor were they as intemperate; the public media paid little attention. Again in 1955, Velikovsky's summary of archaeological and geological evidence of catastrophes<sup>5</sup> was published without much fuss. And his suggested identification of the pharaoh Akhnaton with the legendary Oedipus<sup>6</sup> went almost unnoticed. But in 1962, the Velikovsky Affair exploded again. *Science*, the respected weekly magazine sponsored by the American Association for the Advancement of Science, published a letter from the Princeton

<sup>&</sup>lt;sup>2</sup> John Q. Stewart, *Harper's*, June 1951, pp. 57-63.

<sup>&</sup>lt;sup>3</sup> Paul C. Craig, *Harper's*, August 195), p. 14.

<sup>&</sup>lt;sup>4</sup> Immanuel Velikovsky, *Ages in Chaos* (New York, 1952).

<sup>&</sup>lt;sup>5</sup> IDEM, Earth in Upheaval (New York, 1955).

<sup>&</sup>lt;sup>6</sup> IDEM, Oedipus and Akhnaton (New York, 1960).

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physicist Bargmann and the Columbia astronomer Motz: Velikovsky ought to be given credit, they said, for having made some predictions that had now been shown correct —specifically that Venus is very hot, that Jupiter is a source of radio signals, that the Earth is surrounded by a magnetosphere! These were things that had not been expected by astronomers but they had been anticipated by Velikovsky.

Velikovsky himself, of course, claimed that these vindications showed that he was right in a quite general way, that both his conjecture and his explanations for them had been verified. And Velikovsky's rightness was also assumed by a group of social scientists: in September 1963 the whole issue of *The American Behavioral Scientist* was devoted to the Velikovsky Affair, which—it was alleged—demonstrated that unwarranted resistance to revolutionary new ideas in science was as present in the middle of the 20th century as it had been for Copernicus and Galileo and others. Reforms were sorely needed in the manner in which science was being conducted and controlled.

In some ways, the public debate of the early 1960s was like that of 1950. Arguments over details always seemed to be inconclusive. Neither Velikovsky nor his critics admitted to being wrong about anything. New, however, in the 1960s was that the concern had to do with much broader issues than Velikovsky's specific views: brought under scrutiny were the nature of science, its interaction with other social institutions, and the roles that ought to be played by scientists, by social scientists, and by others. But the disputes over points of history and philosophy and sociology of science could be quite as confusing to a general audience as had been those over celestial mechanics and ancient records in 1950. For instance Bargmann and Motz, having asked that Velikovsky be given credit for his successful predictions, continued by saying that they themselves did not accept his conjectures or his theories; quite in general, they pointed out, successful predictions do not prove the correctness of the theory on which they are based.

As it had in the 1950s, the intense public controversy died down after a while. However, groups of Velikovskians had now formed at several campuses, Velikovskian journals were founded, Velikovskian seminars and conferences were held, and through the 1970s Velikovsky was something of a hero of the campus counter-culture. Popular magazines occasionally mentioned him and his books continued to be prominent.

Following Velikovsky's death in 1979, however, the Affair seems to have reached an end. Velikovsky's estate has published several more of his books <sup>7</sup>, but they aroused no public interest. Yet if anything could, those books ought to have done it: *Mankind in Amnesia* deals with psychology and fear of nuclear devastation, *Stargazers and Gravediggers* recounts the unethical maneuverings that accompanied the Affair in the 1950s.

Velikovskian journals remain extant, but the movement seems to have lost its drawing power and there are schisms, a splitting of Velikovskians into more and smaller factions quarreling with one another. The journal *KRONOS* represents a sort of Velikovskian orthodoxy, unwilling to modify Velikovsky's statements in any substantial way. Some groups within the British Society for Interdisciplinary Studies, by contrast, have proposed major revisions to Velikovsky's revision of ancient chronology.

Individuals and groups of individuals have been splitting from both these camps; some of them, for example, seeking to show that it was Saturn rather than Jupiter that was most influential in the cosmic catastrophic drama; others are now interested in any catastrophes of any era, not only those postulated by Velikovsky in historical times. Alfred de Grazia, who

<sup>7</sup> IDEM, Mankind in Amnesia (New York, 1982); Stargazers and Gravediggers (New York, 1983).

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probably more than anyone helped to make Velikovskianism respectable <sup>8</sup> in the 1960s, has now published a whole series of books expounding catastrophist notions that differ in marked detail from Velikovsky's; and de Grazia has also published memoirs <sup>9</sup> in which Velikovsky is cut down to human size (thereby making de Grazia very much persona non grata with his erstwhile companions at *KRONOS*). There is effectively no coherent Velikovskian movement still in existence, no movement that has the capacity or the taste for sustained public argument against the intellectual and scientific orthodoxy. Thus the occasional items in newspapers provoke little response <sup>10</sup> and my comprehensive critique of Velikovsky's science and of the whole controversy <sup>11</sup>, published in 1984, has yet to be mentioned—let alone argued with—in a Velikovskian publication. In a sense, therefore, the Velikovsky Affair is finally dead and past.

Substantively, that must be in part because it became increasingly difficult to find room for Velikovsky's conjectures among the mass of accumulating information about the planets, including the Earth. Into the 1970s, the exact composition of the Venusian atmosphere remained unknown and one could not decisively counter Velikovsky's claim that there was much hydrocarbon there and a high temperature resulting from Venus's young age as a planet following energetic encounters with other planets. Nowadays, however, we know what is on Venus: no hydrocarbons, but so much carbon dioxide that the planet's temperature must be high owing to a "greenhouse effect". (Just as the glass of a greenhouse allows in energy from the sun but prevents heat from escaping, so such gases as carbon dioxide and methane in the air permit sunlight to penetrate but prevent heat from the Earth from being radiated back into space.) Again, as Ellenberger has pointed out <sup>12</sup>, the catastrophes claimed by Velikovsky would have left a record of debris in the ice deposited during those years in the Arctic and Antarctic regions, yet analysis of ice-cores has failed to reveal any such traces.

Yet in one sense, the Affair is still with us. It lives on vividly in the memory of many people and in the literature of the history and the sociology of science. By those scientists who had some part in it, or who were aware of it at the time, it is remembered as an uncomfortable episode, a curiously yet-to-be-explained episode in which otherwise sensible people did not listen to sound scientific common-sense but were taken in by the pseudo-scientific notions of an utterly unqualified crank. Historians and philosophers of science remember the Velikovsky Affair somewhat differently, namely as a useful illustration of the difficulty of defining science, let alone of prescribing what science ought to be; a useful case-study in attempts to seek criteria by which to distinguish science from pseudo-science. And many social scientists recall the Velikovsky Affair in an again different way: it serves for them as a cliché for the imperfections of the scientific enterprise, illustrating that the practice of science falls short of its professed ideals—scientists are just as fallible, just as subjective, as are social scientists and others.

Because of those different recollections (which are actually, of course, different judgments) and for a number of other reasons, the Velikovsky Affair remains instructive. What, for instance, can we learn from the fact that different groups continue to hold different judgments of the Affair? And there is a question of interest to everyone, irrespective of their particular

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<sup>&</sup>lt;sup>8</sup> Alfred de Grazia (ed.), *American Behavioral Scientist*, September 1963; *The Velikovsky Affair* (New York, 1966).

<sup>&</sup>lt;sup>9</sup> IDEM, Cosmic Heretics: A Personal History of Attempts to Establish and Resist Theories of Quantavolution and Catastrophe in the Natural and Human Sciences (Princeton, 1984). For a review, see Henry H. Bauer, Skeptical Inquirer, 9 (Spring 1985), pp. 284-288.

Letters to the *New York Times* by C. Leroy Ellenberger, 16 May & 29 August 1987; Robert R. Gallo, 16 April 1987; Robert Hearn, 16 May 1987; Clark Whelton, 29 September 1987; letter in *Skeptical Inquirer* from Ellenberger, 10 (Summer 1986), pp. 380-1.

Henry H. Bauer, Beyond Velikovsky: The History of a Public Controversy (Urbana, 1984).

<sup>&</sup>lt;sup>12</sup> See Footnote 10.

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judgment: could such a thing happen again?—a question that is of concern to everyone because everyone agrees that there was something undesirable or even pathological about the Velikovsky Affair, even though they have not agreed over what about it was pathological.

In my view, the most important things to be learned from the Velikovsky Affair have to do with the role of science in contemporary society. Specifically, the Velikovsky Affair illustrates "the two cultures" of C. P. Snow: too many non-scientists were too gullible toward Velikovsky's scientific statements and pretensions—they did not recognize rather obvious indications of incompetence and crankishness. The Affair is even more significant, however, in illustrating that scientists as well as non-scientists typically harbor seriously mistaken views about the nature of science—even at the same time as there is a consensus throughout society that science is our ultimate arbiter of what is true.

In retrospect, it seems difficult to believe that any significant group of educated people should have given credence to Velikovsky's assertions having to do with physical science—as did articles in *Collier's*, *Harper's*, *Readers' Digest*, and others. His assertion of analogy between the microcosm of the atom and the macrocosm of the Solar System was a rehashing of ideas superceded decades earlier; his statements about matters of spectroscopy, electricity and magnetism, and gravity, for example, were either dead wrong or so vaguely worded as to be entirely non-scientific; his predictions about the temperature of Venus, radio signals from Jupiter, and so forth were allusive and picturesque but impossibly vague from a scientific point of view, entirely untestable. But even apart from points of scientific fact or law, one might have recognized that there was no reason for expecting anything scientific from Velikovsky: he had no training or qualifications in science, he had never worked as teacher or researcher or applier of science, he was entirely outside the scientific community; his work was not submitted to the review of other scientists, not submitted for publication in scientific journals: nothing marked it as anything but uninformed and incompetent speculation.

To the argument that Bruno, Copernicus, Galileo, and every other revolutionary thinker of the past had been initially resisted, some critics tried to point out that not only great revolutionary thinkers had been opposed—many cranks had been opposed and simply dropped out of memory. But the point failed to be pressed that those great people had been entirely competent members of the intellectual communities within which they put forward their unorthodoxies, they were not —as Velikovsky was—quite without competence in the fields about which they spoke. Furthermore, even those great people had been revolutionary and right only in a single matter: there was no precedent at all for a Velikovsky who wanted to overturn the accepted scholarly consensus in astronomy and in physics and in historical chronology and in biblical exegesis and in geology, etc.

Many small reasons can be found to explain why intelligent and well-educated people did give Velikovsky credence. Thus *Worlds in Collision* seemed so scholarly, so well documented—and few people had the inclination to actually check Velikovsky's sources and thereby to discover how misleading his footnotes are. <sup>13</sup> Few non-scientists know enough of the elements of chemistry or physics to recognize how inauthentic are Velikovsky's statements about specific points of science. Few people know much of intellectual history, and so they could not recognize that Velikovsky was arguing in a fashion and at a level of a century or two earlier. Few people have ever come across such a grand pseudo-scientist as Velikovsky—a psychiatrist and thereby automatically granted a large measure of wisdom as well as knowledge; charismatic in the style of the classic European professor, unshakeable in his

<sup>&</sup>lt;sup>13</sup> For instance, Bob Forrest, A Guide to Velikovsky's Sources (Santa Barbara, 1987).

convictions and his dignity (Velikovsky's manner can still be assessed by means of film and videotape). <sup>14</sup> Few people know enough of the history of pseudo-science to recognize how unoriginal Velikovsky was, how much he rehashed outdated pseudo-science (as well as outdated science). All these circumstances contributed to the Velikovsky Affair; but the one that I want most to emphasize here is the mistaken view of scientific activity that is held not only by non-scientists but by scientists as well, a view that is pervasive throughout Western culture, namely the belief that science is the ultimate arbiter of all truth. That belief, scientism, is held implicitly and not explicitly, for it is soon recognized as untenable when openly argued. But one has only to scan the newspapers and popular magazines to realize that nowadays we do not ask whether a thing is true or not, we ask whether or not it is scientific...

In the Velikovsky Affair, non-scientists were prepared to believe that someone like Velikovsky could produce good science because they imagine that a formula exists—the scientific method—through which anyone who applies it can reach new truths about nature: whereas science in actuality is an inextricably social activity that generates consensually held beliefs about nature, whose probability of being true can be very high but never absolute. Scientists, on the other hand, are so captivated by the breadth and power of scientific knowledge that they cannot in practice contemplate the possibility that a scientific consensus can be mistaken (as it sometimes has been); and so they thought that Velikovsky ought to have been discredited simply because most scientists thought and said he was; and they couldn't recognize that Velikovsky could, despite his incompetence, be right about certain details, and so they overstated their case seriously and failed to gain much public credibility. Velikovsky and his followers displayed scientism also: their statements that seemed like attacks on science were actually attacks on Establishment science; they, like everyone else, believed that science is true and all-powerful, just so long as it is correct, proper science; they were not atheists but anticlericals in relation to science.

The pervasiveness of scientism in our culture is illustrated in innumerable ways: the pervasive use of the adjective "scientific" in advertisements and other propaganda, for instance. In social planning, scientism can be seen in the prevailing belief that anything we wish to accomplish can be done, if only we spend enough on the science and the technology: we declare war on cancer, implying that science has the power to obliterate it; we transplant organs, implicitly believing that a scientific cure for the immune response must be possible; homosexual groups take it as an indication of social discrimination that science has not yet produced a cure for AIDS, for they cannot conceive that science might actually be impotent in the matter; a defense against intercontinental ballistic missiles is thought to be only a matter of money and technology; and so on and on. Science is for us all-powerful, and it is to science that we turn when we want to know whether something is true.

Could something like the Velikovsky Affair happen again? I think it could, for all the necessary ingredients are present. Among the most general ingredients are those I have just mentioned, our attitudes toward science, which stem from the way in which science developed over the last few centuries. I started this article with the statement that the Velikovsky Affair began in 1950; but in a deep sense it began a century or more before that, when religion lost its place as society's arbiter of truth and science was thought or expected to substitute for religion and in another deep sense, the Velikovsky Affair began when science became so vast and technical and specialized that the intellectual domain split into "the two cultures". Scientism and

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<sup>&</sup>lt;sup>14</sup> For example: *The Bonds of the Past*, 60 minutes, produced by the Canadian Broadcasting Corporation; available from Devlin Productions Inc., 150 West 55th Street, New York NY 10019.

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cultural gaps in the intellectual domain are no less prominent now than they were 40 years ago; the essential preconditions for a Velikovsky Affair continue to exist.

But more specific ingredients are needed too for such a controversy, among them an individual with the force of character of a Velikovsky, someone who in other circumstances might have made genuine contributions, a powerful mind that somewhere goes too far into idiosyncratic isolation from the rest of the intellectual community. How large a following such a one may gather, how large a public controversy might be generated, depends in part on how social institutions react. If one regards Velikovsky simply as a charismatic albeit intellectually misguided individual who gathers an appreciable following among intelligent people, then there are countless analogies: the case of Wilhelm Reich has many similarities indeed with that of Velikovsky; then there is the Reverend Sun Myung Moon of the Unification Church, and many other evangelicals; some might say the Structuralists and other modern-day obscurantists who were gurus to the student activists of twenty years ago; some might say Sigmund Freud or Carl Jung. The analogy one chooses depends on how wrong or right one believes Velikovsky to have been, and how wrong or right one believes those others to be whose teachings have grains of truth amid chaff that becomes—to some people at least—obviously chaff only at some later time. But irrespective of the particular analogy one might happen to favor, there can be no doubt that another Velikovsky could surface at any time.

Could an experienced and respectable publisher like Macmillan again publish so deceptive a work as *Worlds in Collision*? That is happening all the time. <sup>15</sup> Since human knowledge—including human scientific knowledge—remains incomplete, there are many areas in which plausibility cannot be infallibly judged, and some things that capture the public imagination and a large public following are bound to turn out later to have been fallacies. Publishers can only take the advice of fallible human beings as to what is substantively worth publishing and there will always be unorthodoxies that one ought not to dismiss as mistaken; in our own time, for example, the idea that red shifts of some quasars are not due entirely to their motion <sup>16</sup> or the view that "continental drift" does not occur, rather the earth is expanding <sup>17</sup>.

Could scientists again be so inept in public debate? Could they again insist that science proves them right when in point of fact it only lends them a high probability of being right? That happens all the time too; thus some scientists have gone far beyond anything that is scientifically demonstrable <sup>18</sup> in forecasting a "nuclear winter", or in alleging danger from carcinogens <sup>19</sup> in the environment.

Could social scientists again be so wrong <sup>20</sup> in choosing an instance with which to castigate science for being resistant to revolutionary ideas? Of course, why not? Could the media and the public again become so involved in such a mistaken way? Again, why not? What is different now than in 1950?

Tompkins and Christopher Bird, 1973; Lippincott (Philadelphia), *In His Image: The Cloning of Man*, by David M. Rorvik, 1978; Macmillan (New York), *Beyond the Quantum*, by Michael Talbot, 1937; Prentice Hall, *Clear Intent*, by L. Fawcett and B. J. Greenwood; Random House (New York), *Intruders*, by Budd Hopkins, 1987; St. Martin's Press (New York), *Mind Wars*, by R. M. McRae, 1984; State University of New York Press (Albany), *Beyond the Brain*, by Stanislav Grof, 1985.

<sup>&</sup>lt;sup>16</sup> Halton Arp, *Quasars, Redshifts, and Controversies* (Berkeley, 1987).

Warren Carey, *The Expanding Earth* (New York, 1916); R. A. Lyttleton, *The Earth and its Mountains* (New York, 1982).

<sup>&</sup>lt;sup>18</sup> Russell Seitz, *Wall Street Journal*, 5 November 1986; Brad Sparks, *National Review*, 15 November 1985, 28-38.

<sup>19</sup> Edith Efron, *The Apocalyptics* (New York, 1984).

<sup>&</sup>lt;sup>20</sup> Henry H. Bauer, *4S Review* 2:4 (Winter 1984), pp. 2-8.

Not only could something like the Velikovsky Affair happen again: it is in fact happening again all the time, albeit in the form of a chronic and epidemic infection rather than as a discrete episode of acute sickness. There are continuing controversies in contemporary society that have the same roots as the Velikovsky Affair and that show some of the same pathology. One type of controversy has to do with claimed anomalies in science: UFOs, extrasensory perception and psychokinesis, Loch Ness monsters and yetis, and the like. Another type of controversy has to do with such things as fluoridation, or the safety of nuclear-power plants, or with worries about the ozone layer or the presence of carcinogens in food and in the environment, with acid rain and so on and on.

In what way are those like the Velikovsky affair?

- 1. We look to science to deliver definite answers to the raised questions. But the mere fact of controversy, with at least some technically qualified people on each side of the argument, ought to tell us that no definite objective answer may exist at this time. The best we could then aim for is to find reasonable grounds on which to base a personal judgment of probability. (Sometimes, of course, there does exist an objectively conclusive answer that some people refuse to accept.)
- 2. Scientists on both sides of the issue both claim to have the objective support of objective science. One side claiming that the other is too much influenced by adherence to currently accepted theory, the other side charging its opponents with being too gullible about the validity of certain claimed "facts" of nature. No one helps the public to recognize that there are no authoritative experts here because human knowledge remains incomplete. No one reminds the public that when experts disagree, then those experts are influenced not by their objective expertise but—like the rest of us on that issue—by their personal interests and ideologies, by their beliefs and their wishes and not by their thoughts.
- 3. Thus red herrings abound, as in all arguments. And the media take one side or the other, and emphasize the conflict and the personalities, but do not offer us cool analysis. Those who try to offer that are attacked from all sides and find it difficult to gain much public visibility.
- 4. Nevertheless, one who wishes to let reason be a guide can do so even in such matters. It can admittedly take time, but an analysis of the statements by the opposing sides can reveal where they go beyond their documentation, beyond the facts; where they are being evasive; and something can turn up that helps greatly to make up one's mind. For me, the Velikovsky Affair turned up two such items. First, I obtained a copy of a pamphlet Velikovsky had published privately in 1946: Cosmos Without Gravitation. It had been mentioned only briefly in a few reviews of Worlds in Collision, but it was not difficult to obtain since copies are held in a number of public libraries. And that pamphlet, without the slightest question, is the work of a scientific ignoramus: it claims that such perfectly well-understood things as the composition of the Earth's atmosphere demonstrate the inadequacy of the law of gravity... Second, I followed up some brief references in Worlds in Collision and read Ragnarok, published by Ignatius Donnelly in 1883; and I was thunderstruck to realize that much of Velikovsky's book is a rehash of that work. Velikovsky's references to it do not begin to do justice to the similarity, and so I recognized how unfounded had been the praise for Velikovsky's originality that had come from so many reviewers of his book and from supporters of his ideas.

One does not have to be an expert in order to recognize when experts are being evasive or untrustworthy—which is fortunate since we are bombarded so incessantly by untrustworthy "expert" opinion over nuclear winters, carcinogens and so forth, and also over the impossibility of Loch Ness monsters and UFOs and so on. For examples of applying critical analysis to

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arguments about such matters, I recommend Edith Efron's book about carcinogens <sup>21</sup> and my own study of the Loch Ness affair <sup>22</sup> as well as of the Velikovsky controversy <sup>23</sup>.

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<sup>21</sup> See Footnote 19.
22 Henry H. Bauer, *The Enigma of Loch Ness* (Urbana, 1986).
23 See Footnote 11.

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### A Symposium on Myth and Science

### **Obituary**

It is with the deepest regret and sorrow that we report the loss of our colleague Derek P. Shelley-Pearce, of Kent, England, who passed away the victim of cancer on Sunday, February 9th, 1992. Long considered one of the mainstays of the Society for Interdisciplinary Studies in England, his loss will be felt both there and amongst his many friends and correspondents with whom he has been involved in constructive catastrophist debate for many years. His stilled voice will be missed. His ever sharp and industrious mind will leave a void that will not easily be refilled. May he be remembered with love and kindness.

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