

CHAPTER SIXTEEN

PRECURSORS OF QUANTAVOLUTION

"Life is like an endless procession, long since begun, which we join as it passes by." So comes down to us a saying of Pythagoras. V. didn't mind joining the procession but he wanted to be seen carrying the largest idol of science. This sentiment led him to understate the height of the people walking before him, as well of those walking alongside.

The recounting of one's precursors has in it an element of snobbery, like the genealogical research that discovers barons but not brigands, big shots rather than bums. V. was especially careful to admit no disgraceful ancestors and came near to the point of acknowledging no one; *pari passu* he would not recognize any contemporary descendants of non-existent ancestors. This led him into an awkward position where, on the one hand, he was extolling the observations of ancient catastrophists of religion and natural history but disdaining the multitude of their descendants who were equally impressed by ancient catastrophism; he lost sight of most of the world's people when accusing mankind of a collective amnesia of ancient catastrophes, focusing his mind upon the uniformitarian intelligentsia of modern times.

He was loath to draw sustenance from and give thanks to the long line of Christian defenders of the historical and catastrophic accuracy of the Bible, whose works on subjects such as evolution and geology were, for their times, as good as his own in *Earth in Upheaval*. He was unfriendly to religiously committed writers who pursued parallel paths and sought to ignore them. When Donald Patten, who had published an extensive and substantial scientific work on the Biblical Flood in 1966, was introduced to him at a home reception in Portland around 1972, V.'s first words were spoken angrily: "You are trying to destroy me, but you will fail in

the end!” So relates Patten and there is no reason to doubt him, especially when he adds that a while later V. returned to him and apologized. Says Patten:

While I view Ron Hatch as both an associate and protégé, as we have developed our model of the dynamics of ancient cosmic upheavals, Velikovsky viewed me as an unwanted protégé, not to be encouraged. He seems to have resented the fact that I disagreed with his conclusion in part, and he did not acknowledge or consider that I agreed with him in many ways. Often criticized as he was (and many times unfairly), Velikovsky regarded me as yet another critic trying to destroy his work. He was uncomfortable with my evangelical, Christian faith; I was comfortable with his Zionist bias; many evangelical Christians support Israel strongly, and I am one of them.

Patten was a geographer, hailing originally from Montana. In 1973, he published a second book, "The Long Day of Joshua and Six Other Catastrophes," all of which events Deg found acceptable in the history of the millennium after -1450 B.C. Deg purchased them in London in 1976 through a member of the Society for Interdisciplinary Studies. In them, he found stimulus and information. Before then, he had heard only a few derogatory remarks about the books.

Patten and his collaborators, of whom the most prominent were Ronald Hatch and Loren Steinhauer, were fully committed to astral catastrophism and built a complete succession of scenarios around orbital intersections of Mars and Earth, beginning with the deluge of Noah. (At first Mars was exculpated for the Deluge but now Patten would implicate it then and there as well.) Patten's admiration of V.'s work, which he expressed most strongly in an article of 1982, did not extend to accepting the participation of planet Venus. He presented the Deluge in an unusual structural form; generally his work has this geometrical structure of thought. Like Deg, he was prone to set up categories and lists. He developed also a short-term calendar of the ages.

His brief but friendly criticisms of V. were threefold: that V. was over -- influenced by Freud and prone to accept too many evolutionary and uniformitarian doctrines, that he was

unquantitative and unsystematic in his geology, and that V. was overconcerned with his critics. I cannot dispute Patten, because these same several views emerge from our own pages as well.

Patten 's books, which he himself published, circulated widely and well over the years, and hundreds of thousands in due course watched a 60-minute filmstrip of his ideas presented in English and other languages. He could not be said, however, to have conformed to the ruling formula in Christian Evangelism, which was determined by Henry M. Morris and the leaders of the Creation Research Society, who held to an age of 10,000 years for the world, therefore constraining creationist science greatly. Deg was next in line of constraints, with his 14,000 years for a holocene period full of quantavolutions, including lunar fission, nor could he believe that the Judaeo-Christian God had laid down this constraint; it was miserably self-imposed with full blame unto himself. Still he was grateful for the works tendered him by the creationists and, unlike V., felt no need to disavow them.

V. cited with relish ancient predecessors, but when it came to citing modern scientific ones such as Georges Cuvier, Brasseur de Bourbourg, Donnelly, Hoerbiger, and Bellamy, his lines were niggardly, rather derogatory, and somewhat aside from the point of their precession. When accused in a letter to the *New York Times* (May 7, 1950) of having taken wholesale from Hans Hoerbiger, an older contemporary, V. rightly answered with details of their divergences and Hoerbiger 's failings. But here, as elsewhere, V. held to a narrow view of what constituted the procession of life and science, and precession.

V. had come upon Donnelly 's *Ragnarok* in 1940 at the New York Public Library and was depressed by the discovery, according to his own words. Thomas Ferte published in 1981 an account of the numerous fore-shadowings in Donnelly 's widely known work of less than a century before. But then V. unsportingly downgraded Donnelly. I have earlier discussed the remarkable case of Beaumont, whose claims were so similar but whose method so differed from V. 's. I mentioned that V. noted to himself that Beaumont must have gotten his ideas from V. by telepathy (though the reverse should be more true, if any credence were to be given

telepathy).

Discovery of V.'s belief in "telepathy" amused Deg. He was reminded of Hans Kloosterman, the catastrophist geologist leader, whom Deg had joshed for decrying V. as fanciful while himself espousing telepathy. V. might well have agreed with Kloosterman's explanation of the uses of telepathy to Deg, in a letter of May 5, 1976 from Rio de Janeiro:

Telepathy is not irrelevant to my main line of investigation, because:

- a) Telepathy is possibly important in evolution (see p.e. "The Living Stream" of Alister Hardy);
- b) The biosphere interacts with the lithosphere. And what holds for telepathy holds even more for dowsing, which involves rocks and ground water and ore bodies.

When Greenberg published in 1981 a posthumous note of 1948 by V. on precursors, he reacted too strongly "to put the lie to the idiotic and petty criticism of certain people (e.g. James Oberg) who have accused Velikovsky of failing to mention 'his antecedents' - - particularly Whiston, Donnelly, Hoerbiger, and Bellamy -- as recently as the Fall issue of *The Skeptical Inquirer*, a trivial publication with debunking pretensions." Then Greenberg advanced three other works that V. might have mentioned, provided he had come upon them, Godfrey Higgins, *Anacalypsis* (1833-60), Comyns Beaumont *The Mysterious Comet* (1932), Harold T. Wilkins, *Mysteries of Ancient South America* (1945). Neither Greenberg nor V. mentioned Nicolas-Antoine Boulanger, a most important predecessor, as I think V. would have granted. Deg carries this story in his journal:

Deg's Journal, November 4, 1972

...I then spoke to Livio [Stecchini]. Did Velikovsky know about Boulanger when you brought his name forward? No, he replied. When I gave him my draft paper to read, he said afterwards that that was the one thing he learned from it, because he didn't like the paper.

This was in the spring of 1963. I asked L. where he found Boulanger. In the Princeton Library. I probably picked up his name as an Enlightenment scientist.

I am relieved. I have been pursuing an unpleasant task. V. does not cite Boulanger, who is a predecessor in that he ascribed a variety of religious beliefs to actual human catastrophes. Yet V. cites an immense number of sources and combed the literature thoroughly.

I recollect V. telling me not long ago that Boulanger was a predecessor, the most important one -- not a cause, note well, he didn't say he had read Boulanger. I wondered why he bothered to tell me this. When one is suspicious, of course, one looks hard at any clue. No matter that I admire V. greatly and like him as a friend; one has to chase down a suspicion that he might pull the "silent-footnote" technique on a causal as against a merely chronological predecessor.

Another precursor of V. (and of course Deg) was Howard Baker a geologist who first mentioned Venus as a possible intruder into Earth's space sheath, but had much to say concerning the Moon. Again I resort to Deg's Journal:

Washington, February 19, 1979

Yesterday Ami and I spent the day at the Library of Congress to clean up the last of the bibliography and footnotes of *Chaos and Creation*. It is tedious and often unrewarding. Yet I located a copy of Howard Baker's mimeographed book of 1932, another copy of which had been stolen from the Princeton University Library, *The Atlantic Rift*, and 2 articles by Marcel Baudouin from 1916 on paleolithic astronomical symbols, especially the Pleiades. As a bonus, there was a pamphlet from Baker's hand, of 1954.

So far as I know, only the one sentence, by Walter Sullivan in his 1975 book of *Continents in Motion*, has ever been addressed to Baker's work, and that [was] a breezy reference in passing, obviously intended to show that anybody could be a predecessor of Velikovsky. V. himself said that he had heard of the book, probably from Sullivan, but when he searched for it, it was gone. I must ask Sullivan some day what assistant dug it up for him.

Baker 's work is professional and brilliant, he says that he was working in the field from 1909 to 1954. I shall try to discover more about him. Apparently only 106 copies of the book were mimeographed, and perhaps less were distributed. He argues that Pangea was an all-land Earth, that the moon was pulled in the Mesozoic from the Pacific by a planet now missing, that prior to this, Venus may have interacted violently with Earth, and that the ocean basins were once empty and are now filled with waters from a late disintegration of the same planet (now probably the asteroid belt between Mars and Jupiter) that had earlier caused the Earth 's crust to erupt the moon.

There is, in other words, a marvelous correspondence between Baker 's ideas and my own, and his method of reasoning, his very mentality, is close to my own. He sees the same things on the globe. And he saw all of this before the flood of information of the past 50 years from oceanography, and when continental drift theory was held in contempt by American geologists. He does not use legendary material but says reasonably and in measured tones that it can be applied and may support his theories; perhaps had he set a more recent date for the eruption and fissioning of the continents, he would have been able to use the legendary material about which he may have known.

V. had found in legend brief evidence that the Moon was young in the sky. He published it in 1973, claiming that the Moon had been captured, a Hoerbiger idea, and showing no awareness of the large quantity of legendary and geophysical evidence that H.S. Bellamy had brought to bear on the capture theory in several books, especially in *Moon, Myths, and Man* (1936). The main reason why V. dismissed the fission-eruption hypothesis was saying that such a catastrophe would have been too destructive: "since human beings already peopled the Earth, it is improbable that the moon sprang from it; there must have existed a solid lithosphere, not a liquid earth. Thus it is more probable that the moon was captured by the earth."

On several occasions Deg would say to V. that he was pursuing affirmatively the theory that the moon was wrenched from the earth in the time of man. V. had no interest in discussing the question. He offered no objection. He would grunt some vague expression like "You are working much, I see..." when Deg would say "Just look at the Pacific Basin..." and then move on the another topic. That he

didn't object seemed to Deg a kind of *nihil obstat*.

The mystery of the purloined book of Baker was unsolved. Deg wrote Walter Sullivan one time asking where he had obtained the reference to Baker's work, but received no reply. Deg made a last-minute change in his manuscript to credit Baker's work, not that he believed in credit *per se* but that he was happy to find like-minded company in the Pythagorean procession of life.

The idea of "precursors," believed Deg, was about as slippery, nonsensical, and morally disturbing as the idea of prior claims in science. In this I certainly agree with him. We know little about how a fruitful hypothesis is achieved and developed. Merely applying words will not help; what are the operations? And he goes on to explain:

Synonyms for "precursor" might be forerunner, pioneer, predecessor, ancestor, scout, forebears, progenitors, inventor, creator, leader, conductor, pacesetter, guide, steersman, pointer, mercury, bellwether, and pre-centor. Let us keep "precursor" which is an empty enough vessel to fill with what we want. What do we want to say? The relation between writer B. at T1, to writer V. at T2 is such that V. has heard -- forgetfully heard -- did not hear of B.V. has arrived at Proposition "M" that is 90% identical (as it operationally describes a set of defined events) with a Proposition "N" of B.V. has arrived at Proposition "M" by employing the same method as B., or did not employ the same method, or did not use any method, or employed a method to arrive at Proposition "M" whereas B reveals no method for arriving at "N".

Suppose V. takes "M" from B's "N." Does he get no credit for perceiving it? Yes, some, you say. But who gets the credit as precursor to V. who was the cause of V.'s perceiving "N" or of reading B? His parents, teachers, colleagues; his type of mind, preparation, briefing, search discipline? His wife for driving him to the library, for cooking food that stimulates the imagination? The librarians over the years?

And what of the precursor of B who may have directly or indirectly provided him with "N"? We cite Aristotle, knowing he stands for that stimulates the imagination? The librarians over the years?

And what of all the people who knew and conveyed "N" between B. at T1, and V. at T2, but whom V. did not know about?

Would not V have thought of "M" anyway, and is not the decision to cite "B" as a precursor a socially acceptable choice? Horse thieves are unlikely to appear in genealogies and discredited writers are unlikely to be cited as predecessors. Whether "B" here is Boulanger or Beaumont will make a difference. Deg can testify to this statement; he felt better, and he knew his critics would be more accepting, if he acknowledged Boulanger and did not acknowledge Beaumont as a precursor on one or another point. Boulanger is farther back in time, and more conventional than Beaumont, who seized upon certain quite incredible ideas.

I have scarcely begun to discuss the ramifications, doubts, dilemmas, tricks of the mind, and tactics of the writing scholar. We have been talking of a single skimpy proposition "M" and "N". Suppose "M" and "N" represent averages of many propositions, then the way in which they are combined, the theory behind their selection, and the style with which they are conveyed are only several of the numerous conditions that may render even a close correspondence between "M" and "N" whether single or an average of a multiple nearly meaningless.

So V. was accident-prone with precursors. It was quite unnecessary. The absurd attempt of critics to pretend that what he said was not only false and anyhow not new could be taken seriously only by fools. But as I have shown here time and time again he seemed to think that knowledge came in gobs, and he had produced some gobs, and had to defend them against theft by others.

Who were V.'s precursors, I asked Deg, the truth now, and nothing but the truth. Precursors were many, he replied.

All the ancients were precursors. Beginning with Renaissance times, some score of major precursors have worked. Of these, directly, V. took from Whiston, Donnelly, Bellamy, Brasseur de Bourbourg, and perhaps innocently or amnesiacally from Beaumont and Hoerbiger. After 1962 he probably took from many people of his circle, both directly and from their

references, like Stecchini with Boulanger and Juergens with Bruce, or Schorr on the Dark Ages and Mullen on the Pyramid Texts, but he was writing little after 1962.

On the matter of human psychic origins, he took from Freud directly and from others probably as currents of thought, the psychoanalysts especially. And of course, he was getting a great deal of material from his opponents; we must never forget that. He was a sad man when the Apollo Moon program was cut back. He used Sagan's material on the Venus greenhouse effect to dispute the matter. But I tell you it doesn't matter -- not to science, not to the truth of what he is saying, not to me -- only to the question of how big a hero was V. -- how many scalps on his belt are really his own prizes.

Did V. ever use anything of Yours, I asked Deg.

Perhaps, but I couldn't say. Yes, definitely, he used me to figure out what was happening sociologically to his interests. He soft-pedaled certain of his views on collective amnesia, on anti-semitism, on the wrongness of others like the English heretics, on the inheritance of acquired traits, and such kinds of matters when I was around, though this cannot be perceived in his writings. I am not speaking of tactical advice in his self-defense, of course. All in all, practically nothing.

And you, I asked, what did you take from him? Everything I could, Deg answered.

I got very little out of conversations, but a great deal from his writings. But I wish to make one point clear. Although V. was my precursor, predecessor, forerunner, etc. I did not accept V. on anything, except for a time his reconstruction of Egyptian history after, say, 800 B. C., and this because it seemed irrelevant to most of my interests. Not until I realized that V. was destroying his own 8th century catastrophic history by moving kings too far into modern times did I become worried and stop accepting that set of events.

What I mean by "accepting," he continued, is taking for granted, and not reconstructing the same structure alongside his structure. "Accepting" is what, say, a paleontologist does who has a fossil ape and gets it dated at 12 million years by a laboratory on potassium-argon dating and accepts this as his date.

"Accepting" is taking a cloth made by someone else, before going on to embroider it. Everything I took from V. I examined and took apart and put together again. I guess you could call it "factory rebuilt." I did not deny him, underrate him, or even disagree with him seriously and often. However, I was building a much larger, more systematic, broader, more scientoid model. I tell you frankly, I had in mind to supersede him.

Did you succeed? Yes, Deg said. How?

Like I told you -- putting all that I could of his machine into a larger, more systematic, and broader model. I swung the whole mass of ideas and evidence into a hypothetical model -- nothing was true; it simply could well be true. Everything is swung into position for testing; logically, empirically, comparatively. V. worked like a detective who is looking for a culprit, there was no crime! And if there were, who is the culprit becomes a sociological question, always plural. And I am always suspicious of the detective, too; maybe he staged the crime!

Well, I said, dubiously, how does it happen that your writing often races along breezily and confidently?

It 's matter of style, he said, and of necessity. I am confident of what I am saying, believing that I have put proper limits on it. There is a characterological element in it; I 've always written that way, hammering along like a thumping heart, or the old diesel motor of a caique. There 's something else, though, purely for the sake of the reader. There is a limit to how many times you can use the word "tends to" or "may" or "on the average" or "holding all other factors constant" in place of "is" or "does". That 's one kind of problem; a writer shouldn 't carry his miasma of doubts to the extent that he is never clear; actually, every sentence you utter distorts the reality of which it speaks.

Also, when, after having defined Yahweh and Moses and the nature of their "communications," I may be saying "Yahweh then speaks to Moses," I hope that it is understood that this statement of mine is subject to the prior definition of all three keywords, "Yahweh," "speaks," and "Moses." But the total posture of my work is different. V. accomplished marvels of

detection in myth and legends. Also in history. He sets up a contradiction or confusion, then puts forward his resolution. Yet ordinarily he is not self-conscious, about his logic, method, and epistemology. He was a practitioner and an empiricist. By contrast, there must be hundreds of pages on the method of myth analysis and anthropological culture analysis in my writings.

Onetime, V., in an unusually frank conversation with Wolfe, Milton, and Rose -- at the same set of meetings in fact that produced the euphoric letter that I described in the chapter on Holocaust and Amnesia -- denounced the coining of words as the tactic of crackpots, and then confessed that he had coined a word; it was "introgenesis." It meant that "everything wishes to make everything else to its own fashion." Existence, whether animal, plant, or even celestial and inorganic bodies, operates by this imperative, to take whatever it encounters, digest it, and reconstitute it with oneself. Introgenesis was marked by him to become the key word in his philosophy. It would have become my philosophical system, he said, if I had not come upon *Worlds in Collision*. Everything wants to swallow up every other thing.

When this burst of philosophical confidences was conveyed to Deg, he wondered at it -- it seemed so meaningless -- and only years later, when he heard a full statement of it, did he appreciate that V., without realizing it, was simply coining a word (typically he credited words with substance) which referred to his own immense narcissism, the same narcissism that he urged all psychiatrists to fish up from their patients at the beginning of analysis.

The sole coinage of the realm was to be one's own. This wish seems to go hand in glove with the wish for unassailable proof of the purest assay of gold in the coin. V. as he grew old appeared to be ever more hopeful that some one critical test would occur, some grand fact, that would prove him right. The attitude became at times an obsession in that he would disregard problems or proof that lacked this *capability*. This explains why he became barely interested in myth while hanging upon every new discovery in space. A fully professional intellectual such as he should have known that there is a) no proof of *right*, b) no *single* right, c) little chance that *right* on a single test would erase wrongs on others,

but, too, sociologically, d) one 's opponents are not likely to define *right* in one 's own terms, e) they are not inclined to come to grips at one 's strongest point (even though ideally this would seem proper), f) they will seek to recognize someone else as the originator or predecessor of the chosen point (creating a new issue and argument of an undefined kind). V. was not alone in this regard; he had supporters who worked hard to establish him as champion predictor of the one right critical test results. Still it didn 't work.

It seems that all three behaviors join together in an authoritarian character: the ultra-sensitivity to "priorities of claims" to which I referred before, the anxiety over precursors, and the hope for the single critical test. In all of them we discover the intolerance of ambiguity which is a strong trait of the well-researched "authoritarian character" in psychology, and Deg alludes to the research in several of his early writings. There is, too, in all of them, an aversion to the close proximity of others, to a trespass upon one 's possessions, a need to define exclusive boundaries.

Dislike of ambiguity is not only "authoritarian" but also "scientific" by the way, for which the antidote is pragmatic operationism, a subject for another essay. Perhaps it is time to venture a clearer statement. How did Deg and V. diverge from their basic narcissism, so that V. fiercely defended his claims whereas Deg untypically and diffidently recollected his claims after dispensing them like the money of a drunken sailor?

Both men, encouraged by their early models, commanded unusually strong energies that they used to conquer their existential fears by creating an independent self, a self not dependent upon others, that would take in the world and refuse to let the world include them. But then V., to enhance his primary ego clutched, contained, and possessed his aberrant egos, his poly-ego, whereas Deg dispersed his ploy- ego hoping and expecting dividends to return.

The result was the formation in V.'s case of an authoritarian character, in Deg 's case an anti-authoritarian character. (I trust that you will not be put off by the fact that V. had to attack the scientific establishment and that Deg sometimes liked authoritarian

causes("universal national service") and people (such as V.) The authoritarian character led to predispositions to monolatrous, monarchical, and presidential forms, on V.'s part, while the anti-authoritarian character led to polytheistic and republican forms on Deg's part. On V.'s side, the same character ran continuously the risk of enhanced paranoia; on Deg's part the risk was hypercritical reformism.

I shall not elaborate upon the distinctions farther here, but a rough example may suggest the effect. I selected six well-known historical figures (there is no use in comparing the two men with the cop on the beat, their local congressmen, or others whom you have not known): Noah, Moses, Stalin, Trotsky, Theodore Roosevelt, and Charles de Gaulle. I asked a couple of persons who knew both V. and Deg to assign each famous character to one or the other, on grounds of relative nearness. V. ended up with Moses, Stalin, and de Gaulle; Deg was assigned Noah, Trotsky, and "Teddy" Roosevelt. I had, of course, predicted those assignments. The test works out even better by using a scale of "nearness" from 1 to 10.

"Hypercritical" is relative to the standard of evaluation. Deg was uncomfortably aware that by normal practice he was hypercritical, but that by logical and rationally instrumental measures he may have been no more than properly critical. He was elated the first time he saw a sign in a printing shop saying "If things look confused around here, that's because they are." Not only were matters everywhere in worse shape than were admissible, but the only intelligent comment one could make all too often had to begin at least with a negative, and he felt, which I think was true, that he rarely failed to come up with a subsequent constructive resolution. Moreover, the line between critical analysis and hyper-criticalness was often too indefinite to bother with. Furthermore, was he not equally critical of himself whom he liked exceedingly well?

Now the same kind of self-justification was possible for V. Was it not true that most conventional scholars and scientists were out to get him? Were they not making of him a target for the release of all too many hostilities toward what he represented, an independent, unprotected proud figure of opposition? Didn't the humanists turn him over to the scientific crowd, and the scientific crowd kick him

back among the humanist crowd, each proclaiming that he had no place among them? So he was then, a heretic, stimulated continually along the dimension of paranoia. And a goodly number of his supporters, several of whom were close to him but the majority of whom were out in the public, were also exercised in their paranoid dimension and felt better to be able to attach their paranoias like tentacles to such a strong defensible stone.

A great difference between Deg and V. was that whereas V. took the greatest pride in being unbending, determined and assured, Deg was continually seeking knowledge through self-examination and the admission of sins and weaknesses. Thus it came about that V. was a kind of Captain Dreyfuss, every inch of him the reflection of his assailants, whereas Deg was an Emile Zola, vehemently led by the inner necessity to espouse liberty, equality, fraternity and justice. And I have a feeling that V., had he been restored to his commission under the colors of science, would, like Dreyfuss and his family, have begged his supporters to retire from the scene.

When he was writing *Homo Schizo*, Deg came upon the essays of the psychologist Morton Prince, edited by Nathan G. Hale, Jr., where material on multiple personality is contained. What Deg marked in the margin of the Introduction as "terrible" are the following lines:

[Morton Prince could not] stand aloof from the Sacco-Vanzetti case [anarchists convicted of robbery and murder and later executed], although his opinion at first flouted that of proper Bostonians. On October 30, 1926, Prince wrote to the *Boston Herald*, protesting the prejudice of the trial judge and the incompetence of the government's major witness. The judge, like most lawyers, was lamentably ignorant of the "science of modern dynamic psychology" and had glibly interpreted the defendant's motives in a way which discredited the impartiality of the courts. The witness had purported to describe sixteen different details about Sacco, whom she had seen at a distance of sixty feet, for from one and one-half to three seconds, from a car going about fifteen to eighteen miles per hour. Only if Sacco later had been deliberately picked out for her to identify, could she have recalled such details, Prince insisted. Her "memory" of him was produced solely by "suggestion" and was nothing more than an "unconscious falsification." Later

Prince agreed with a committee of review, appointed by the Governor of Massachusetts and dominated by A. Lawrence Lowell, that the conviction had been obtained after a fair trial.

Prince's protest and charge of mind had come with the authority of his appointment to a new chair of abnormal and dynamic psychology at Harvard's College. Lowell, Harvard's president and [an] old friend, had accepted Prince's offer of \$150,000 from an anonymous donor, as well as Prince's services as professor and director of a new psychological clinic that opened in 1927. Prince had insisted that it be attached to the College's Department of Psychology, perhaps as tangible fulfillment of his hope to include psychopathology within that discipline. The clinic was to convey a knowledge of the subject, to conduct fresh research and to treat selected patients. Prince held the chair and headed the clinic for the last two years of his life, with Henry A. Murray as his assistant. He once remarked, "La Salpetriere is a monument to Charcot. I want no other monument than the Psychological Clinic."

The sacrifice of principles for prestige and self is an everyday affair in science and academia and the victims of misconduct are legion, nor do they receive the glory of execution or the stake.

When on a snow-enveloped January morning in 1965, Deg's father died, V. projected from the depths of his own character and experience and advised Deg that he would enter now upon a highly creative period. The consoling remark was more revealing of V.'s paternal relationship than of Deg's. Not since he was twelve had Deg noticed his father weighing upon him. Aside from an oration for a junior High School convocation that he considered too important to let the boy write by himself, and letters that were merely informative and invariably encouraging, Deg's father committed little or nothing of his beliefs to paper. He read and worked upon reams of music as a scholar works upon books and papers. Perhaps only a character, not a philosophy, was needed in copying and orchestrating his musical scores -- now a soulful surge of Wagnerian triumph, then again a sweet and lively Mozart Overture, and another time he would prepare a Verdi chorus for brass instruments. The only expression Deg came upon when he

disposed of the music archive to the New Jersey State Prison System was this: "A rebellion is terribly hard to repress when it is born in men 's mind. How can intellectual resistance be killed?" It is not known what occasioned the remark, neatly written on a small note pad.

The heretics, or rebels if you will, carried on with the procession. Deg is now writing Brian Moore in Hartlepool, England:

Princeton, November 17, 1979

Dear Brian:

I regret to report to you and to your colleagues and members of the Society for Interdisciplinary Studies the deaths, within a month of each other, of our friends and colleagues, Livio Catullus Stecchini and Ralph B. Juergens. Besides the personal grief that their passing has brought to us who might count them as dear friends, the loss to pioneering scholarship and science in their demise is great.

Both men left off in the middle of important books and articles, Livio Stecchini on pyramids, on the origin of the gospels, and on ancient measuring systems, and Ralph Juergens on the electrical theory of the cosmos. Professor Earl Milton of Lethbridge University (Canada) has undertaken to review Juergens ' manuscripts and I Stecchini 's with a mind towards their eventual publication. Other colleagues are concerned as well.

Both men were models of honest scholars, of personal modesty, and of helpfulness to all who asked something of them. I know that the thousands of women and men who have become related to them through a common interest in the reconstruction of knowledge about ancient history and nature will wish to think of them in companionship and gratitude.

We may hope that the remembrance of their achievements, like a freshly trodden path, will be enlarged now by the usage of the young and bold.

Deg was both disturbed and amused when, in the last years of their lives, Stecchini and Velikovsky disputed the attitude of Plato towards catastrophe, the first stressing that Plato would have

catastrophists put to death, the latter regarding Plato as the last direct heir of the catastrophist tradition. They did not communicate for some time before Stecchini's death. The issue is germane to political science because it reveals the conditions under which the elitist political philosopher such as Plato will choose *raison d'etat* over truth.

The argument was not resolved, although to Deg it seemed clear enough that Plato was wearing the two caps of scientist and political ruler. When he played wearing the one, he had to recognize the catastrophe of Atlantis and other disasters, and exhibited little confidence in the stability of the heavens. When he played the role of custodian of public morals, he recognized, as few did afterwards, that men behave in imitation of the sky gods. When the gods misbehave, so do men. Hence Plato would severely chastise those who rendered the gods a disorderly mob or perceived disorder as the rule of the heavens.

On November 19, Deg writes to Brian Moore again:

Dear Brian:

Hardly had I posted my letter than the word came that Immanuel Velikovsky was dead. He died on November 17, at 0800 hours. After a restless night, occasioned by a rapid pulse and feelings of weakness, he arose at first light on the Sabbath and showered. He returned to his bed and Elisheva his wife sat beside him. He murmured several indistinguishable words and took her hand. He became quiet and she saw that he had passed away as if to sleep. He was buried in a private ceremony the next day at a small cemetery not far from Princeton.

He was in charge of himself until the last hour, working daily on his unpublished manuscripts, discussing proposals to film *Worlds in Collision*, and worrying over an article that was half-promised to *Harper's Magazine*. On Monday I had an extended visit with him. We talked of my memorials to Stecchini and Juergens and about the book on Moses that I am completing, and also concerning a brief paper which I proposed to write for *Nature* magazine, setting forth six challenging hypotheses on the worldwide catastrophe of the mid-second millennium.

He urged me to write the article "for tomorrow." I wrote it and talked with him about it on Wednesday. He liked the phrasing of the propositions but disputed my selection of examples and said that he would not become co-author because he had no time to do the necessary research. His powers were fully engaged; he was concerned to advance and defend his ideas;

When I left him as darkness fell, he remained seated. He would usually walk with me to the big door and step out for a moment to breathe the season 's air. I telephoned on Thursday and he was working. I still sense that he is palpably at work and will continue working for a long time.

Then after several years of laboring over Immanuel 's archive, his widow, Elisheva, died. Deg wrote a eulogy of her during her last hours.

Sheva

Whiffs of air, a shot of drug, a tube of soup,
a white-breasted meter-maid intruding now and then --
intensive care -- to confirm her readings of your organs.

Their prognosis for you is poor you must know.
You don ' t speak at all well, though you may perceive,
while your intakes and outputs are disordered.
Your heart stands brave above it all,
like a proud cock refusing the falling night.

How I wish you might know of our plan for you:
That you shall be forthwith removed herefrom,
and placed upon your porch above the greening bushes,
overseen by a nervous flitting finch in the beams,
there to sit and listen while Immanuel speaks
of claims and confirmations in words so deep drawn out
that in between them you plan how you will shape
a bust in stone, and next time play that passage piu adagio.

Fingering the fiddleneck and banging the chisel,
just and nice your big hands were
that shook my big hands roughly.

Your pot of tea is pouring
interminably into our china cups and, yes,
there was something else -- cold white wine of Canaan --
to fetch from the kitchen, but you said "Wait,
one moment, I want to hear this, what did you say?"

I blush to think of injustices done you,
munching buttered cakes and crackers with cheese,
boasting of stalking and snaring man 's mind
as the very quarry was serving the hunter 's breakfast.
Stroking celestial harmonies from your varnished box
and chipping life into becoming, feeding the animals,
then taking up the phone protectively, "One moment,
one moment, Immanuel is on the line."
But I did kiss you, did I not, and hugged you, too,
whenever arose the chance in coming or going.

Don 't get up; sip your own, your own cup of tea.
Why should it be yours to close the doors, draw the blinds,
bury the dead, argue the law, pay the taxes,
comb the archives, fight the battle, placate friends,
watch Hector 's body being dragged around the Trojan
walls?
Did you not earn your porch of peace even before the 1950
War began?
Sacrifices so many that never to utter the word
was your greatest sacrifice.

Your modest scoffing will not avail
as we burn down the skyscraper for your pyre,
each floor a blazing bargain for your first good, next good,
and thereafter.
The last chord is not yours to sound.
When the guests set down their cups and leave,
you are to be held close by your loved one
while your ghost rises lightly through the thick dusk air of
summer.

I've told of the three heretics, heroes of V., who were burned at the stake. Do cosmic heretics live long? Plato voluntarily denounced his own catastrophic views; he lived to 80. Whiston was black-balled from the Royal Academy of Science and fired from Cambridge, but lived to 85. Boulanger died in his thirties. Carli-Rubbi ended his career as an economist in good style, as far as my inadequate sources reveal. Vico died at 76, but his friends got to fighting over their relationship with him and left his coffin standing on the street. Bourbourg was ridiculed at the end of his life. Ameghino was dismissed finally and posthumously honored; he believed in Atlantis. Donnelly landed on his feet, a versatile populist-utopian, writer and lecturer, and died at 70. Beaumont's papers were destroyed by bomb and fire; he was still writing when he died in his eighties, and Stephanos was still peddling his manuscript when last heard of. Hans Bellamy passed away old and with him most interest in Hans Hoerbiger's catastrophism, which occurred from the Earth's capture of satellites. Claude Schaeffer died in his eighties full of public honors, but not from his great work on *Stratigraphie Comparée*. Frank Dachille died quietly aboard a PanAm airplane to Rome, on his way to a conference; he was beginning to move back strongly into the study of catastrophism.

Of the fate of certain others, I've spoken elsewhere among these pages. The remainder are too many to census. I don't mean to imply anything. No curse attends to the practice of heresy; most heretics seem to live to old ages. Their ideas have been accepted. but no one does so, or he is fooling himself if he thinks so. It is easier to found an empire -- and much more common -- than to found a new model of scientific philosophy, and empire of thought. Christ and his early Christians did so. The Galileo-Newton axis powers did so. John Dewey and his pragmatists did so.

I would compare the cosmic heretics with the story of Leonard Woolf's life. His biography reads like a brilliant, long, and useful career, on the margins of heresy, for he was always a reformer, beginning as a Cambridge student, follower of the delightful new philosophy which answered every question by another question: "What do you mean by that?"; proceeding to Ceylon as so efficient a civil servant that he logically arrived at the next step, which was to de-colonize the British Empire; then he became a novelist and a

publicist, edited several magazines including especially the *Political Quarterly*, set up his own publishing company, the Hogarth Press, to put out his books and those of his wife, Virginia, and other friends; helped to organize and bring to ultimate triumph the Labour Party; pushed for international government through the League of Nations; supported pacifist causes and creative writers; and best of all kept Virginia Woolf reasonably happy and at work on her novels and also kept her from committing suicide over many years, until she managed in her sixties to end her career by walking to her death in the sea.

Still, when Leonard came to conclude the fifth volume of his autobiography a few years ago, he had decided that the process of life was more important than its imprint upon the world. For in their effects upon the world, most of what he had attempted had failed. Both Ceylon and England had grown more hideous. Peace efforts had failed. International government had failed. Justice had failed. The Labour Party had failed. The publishing industry was much worsened. He had studied hard for twelve years and then labored hard for sixty-four years. So he named his last work, "The Journey Not The Arrival Matters," the reason being that one never arrives.

All these excuses and explanations of why I have performed 200,000 hours of useless work are no doubt merely another way of confessing that the magnetic field of my own occupations produced the usual self-deception, the belief that they were important...in a wider context, though all that I have tried to do politically was completely futile and ineffective and unimportant, for me personally it was right and important that I should do it, even though at the back of my mind I was well aware that it was ineffective and unimportant. To say this is to say that I agree with what Montaigne, the first civilized modern man, says somewhere: "It is not the arrival, it is the journey that matters."

Of course, if Woolf had believed this in the beginning of his life he would have undertaken few, if any, of his numerous enterprises. It is absolutely essential to society that the young be such fools. And that some of them remain fools forever.

At the end of the third and last volume of his autobiography, Bertrand Russell states what as a boy he wanted to achieve in life

and what he discovered in the end. He "wanted, on the one hand, to find out whether anything can be known; and, on the other hand, to do whatever might be possible toward creating a happier world. From an early age I thought of myself as dedicated to great and arduous tasks." Deg had felt precisely the same. It is the narcissistic heroic vision of oneself.

In the end Russell could appreciate that both his works on knowledge and his books on social realities were partially achieved. But he confessed that he could not crown them with a synthesis. He had succeeded in that many people were affected by his works and these were acclaimed. So far, so good, but the failures rankled.

The external world had refused to cooperate with his efforts and was worse, more evil, if anything. The internal world had failed him, too. "I set out with a more or less religious belief in a Platonic eternal world, in which mathematics shone with a beauty like that of the last Cantos of the *Paradiso*. I came to the conclusion that the eternal world is trivial, and that mathematics is only the art of saying the same thing in different words."

Yet Russell was a tough old optimist and "beneath all this load of failure I am still conscious of something that I feel to be victory." The victory consists of still believing, first that a "theoretical truth" must still exist and "that it deserves our allegiance." Second, "I may have thought that the road to a world of free and happy human beings shorter than it is proving to be, but I was not wrong in thinking that it is worth while to live with a view to bringing it nearer."

Although having some miles still to go and a passel of things to do, Deg might be compared. He never believed in absolute Platonic truth from his first reading of Plato at 15, nor before, nor afterwards, and, being poor at mathematics, he decided early to project the blame upon mathematics, asserting that mathematics were a neat way of speaking and necessarily could not be speaking some basic new truth that sprang *ex machina linguae*; furthermore, there would have to be new mathematics for every important perspective upon the True, requiring therefore many mathematics, whereas mythical and ordinary language, could by its indefiniteness

suggest all of these perspectives. In either case, language and mathematics were largely dependent functions of thought, though they might, interacting with thought, also determine it somewhat. It can be seen then, that Deg was a pragmatist, functionalist, and social psychologist. "The truth" remained for him just what it was to the child, a guiding myth which, by much rationalization, was later fashioned into a politics and then a philosophy. Truth functioned existentially, as a hypothesis that worked better than any alternative hypothesis.

Turning to the external world, the same philosophical instrumentalism led him to believe, not that the world would be ultimately better, although this would take longer to achieve, but rather that the world might become either better or worse (in its concurrent configurations with future times) and one should not expect more than that, while moving pragmatically and existentially through the process of life.

It begins to appear to me that Deg's moods were externally fairly even, with a frequent enthusiasm and hedonism balancing his hyper-criticality. Privately, as with many people, his moods were more grim and irascible. His journal is not a perfectly true barometer, since he seems to express his critical and negative feelings often and his happiness (a word he detested) less.

Deg's Journal, 6 A.M. Sunday, Jan. 21, 1979

I derive pleasure from planning the future -- my personal future -- and thousands of pleasant interludes of 5 minutes to hours of large plans are usually interspersed among the other life operations and taken up euphorically as the whim or impulse seizes me. It is partly this childish pleasure, for I have done it from earliest memory, which leads finally to the drive to shape a world future.

It is written because I have caught myself escaping from some painstaking work on footnotes of *Unsettled Skies* into penciling the best possible calendar I can hope for in the year ahead.

Connected to this impulse is the listing of "things to do." When oppressed by the many little and large obligations, self-imposed and encountered through our hopelessly complex

society, I make a list of all that should be done in the next week, 3 or 6 months, and so on. Whereupon I feel relaxed and confident, as if it were all done.

When Deg became anxious enough to draw up one of his lists, he unknowingly let us have a way of guessing the ratio of concerns to total time available. Here is his list of stresses, dated late in the quantavolutionary period; it reveals that the question of chronometry is still plaguing him as well it might, and that the production of his book and the maintenance of a heretical circle are pressing him too.

Deg ' s Journal, January 15, 1982

Especially worrisome problem (stresses)

1. Inexcusable delay of National State Bank in exchanging a German check for 19,000 DM into \$. Am broke.
2. Mom ' s critical illness and need for continuous surveillance.
3. Whereabouts of 1250 copies of *Chaos and Creation* and their bill of lading.
4. Decrepit and dirty conditions of the house on Centre Street.
5. Seemingly impossible contradiction in short-term dating of natural history and the huge defensive effort accumulated *pro* long-term dating.
6. Difficulty starting car.
7. Blocked hot water pipe(frozen).
8. Bad weather -- snow, ice, cold.
9. No money.
10. Conflict over debts and title of Clearview house with Sebastian and Edward.
11. Carl ' s loss of job and pennilessness.

12. Bad domestic and international policies and actions of U.S. Government.

Plus normally worrisome problems e.g. abscessed tooth and dental work needed; Cathy 's miserable behavior toward me; delays in Anne-Marie 's book and her preoccupation with her work; laundry and sewing needs; growing phobia vs. long-distance driving; inability to visit or be visited by men with the same interest, especially those expert on what occupies my writing; lack of intellectual and social circles in the area and inability to take time, money, effort to construct (reconstruct) same, in which I might participate (this has to do with my present life style, and scattered domiciles -- N.Y., Princeton, Trenton, Naxos).

As a final favor to me who was much impressed by Woolf 's life accounts, Deg prepared a list to end all lists, accounting of his time over the period covered by this book. He skimmed it across my table to me.

"I did what you asked," Deg said, "but I forgot the four hours it took me to do so. So the Q series took 29,904 hours instead of 29,900."

I scarcely believed the figures anyway. Here they are as he gave them to me:

Time Accounting

Hours (Lapsed Time: 21 years, 1963-83, total hours: 183,960)

- 1) 53,655 a) Meals, visiting with family and friends (including telephoning), general correspondence, radio-TV-newspapers; b) Housework and shopping, paying bills and taxes, personal hygiene, car maintenance.
- 2) 57,487 Sleep
- 3) 29,900 Research, writing, production and promotion, Quantavolution Series.

- 4) 10,307 Other research and writing.
- 5) 8,936 Politicking, consulting, and business affairs.
- 6) 9,651 Teaching, Committee work, doctoral supervision, NYU, 12 years.
- 7) 2,400 National Endowment for the Arts (excepting book "1001 Questions.")
- 8) 4,000 New World University at Valais, Switzerland.
- 9) 500 Kalotic movement for World Government (plus in Switzerland).
- 10) 2,000 1 year at hard labor (Naxos).
- 11) 900 En route somewhere (less project time achieved en route).
- 12) 1,940 Spent with V. on "the Cause" a) personal: 1190 b) telephone: 750
- 13) 204 Spent with V. on the substance of Quantavolution (not in 3 above).
- 14) 400 Spent with V. on personal and general socio-political discussions.
- 15) 2,800 Spent with other heretics (except with Milton, included under 3 above and does not include group time with V., see 12 above) on the "Cause": 1550 b) on the substance of Q:1250.

184,080	Total hours accounted for
<u>183,960</u>	Total hours to be accounted for 365 x 24 x 21
-120	Discrepancy
<u>120</u>	Add 5 days for leap years
0	Total Discrepancy

"Do you have any questions?" he said and I said yes, I do : "Why do you include 'personal hygiene' under '1b)' instead of '1a) '?" His answer was not nice and I see no need to convey it. He went on to explain other matters that he believed to be beyond my comprehension. He begged me to note that at \$40 an hour (he certainly had a modest idea of his worth) he had spent \$1,200,000.00 on the Quantavolution Series. On the heretical movement as such he had spent the equivalent of \$192,000. How did you arrive at the hourly rate, I asked him. It 's near to what the University was paying me and about the average for when I operated as a consultant. You see, he said, after you become a tenured professor you can retire on the job, and many do, letting research and writing go by the board. However, such equivalencies don 't make sense. If I had gone into business I would have made a great deal more, or a great deal less, because I am a speculator; smooth flows of money do not amuse me.

Earlier were mentioned gross disparities in compensation and resources between the conventional established scholars and the heretics. Here another of Deg 's computations presents a shocking state of affairs. The typical prominent professor, at a university of the first or second grade of excellence, may be said to receive the following emoluments:

\$43,000	salary and fringe benefits
30,000	grants (directly applicable for personal support)
60,000	indirect support (government grants for projects foundation support)
40,000	Students who can be put on projects (value of their work) 20 at 2,000 (screened applicants -- admissions, scholarships, fellowships)
15,000	use of University facilities (labs, astronomical, machinery, conveyances, University grants)
22,000	assistants (2)
20,000	overhead
7,000	access by influence to periodicals (7 article \$1,000)
20,000	consultation

2,000	personal support to attend conventions
10,000	use of institutional name (mass media, publicity, influence, public relations, legislature)
1,000	life tenure (worth \$200,000 or more)

\$270,000 Real income applicable (except for personal taxes) to carrying one's prestige and influence into the arena of scientific controversy. A total of \$ 270,000 annually in emoluments is estimated for a single professor. His tenure is certainly worth thousands per year additionally. Nor have we considered that there must be a cash equivalent for the right to impose upon from 10 to 1000 students a year one's viewpoints, applying sanctions to apparent disbelievers. Because the professor is not selling soap does not mean what he does sell has no cash equivalency. This large sum is some measure, perhaps the best that we can arrive at by speculation, of the annual economic impact of an establishment professor upon his fields of activity. The American public, politicians, and business leaders have only a slight awareness of how great is the influence of professors in society. (sample surveys, however, show that the population does rank professors in the highest echelons of respect.)

As for the time Deg had given over to the movement, it was little as you can see, no more than, say, a chairman of the board of a closely-held company would spend on its affairs, much more than, say, V. spent with Einstein, which V. turned into a book (yet unpublished), infinitely more than a day in the life of Leopold Bloom, according to James Joyce, which contained all of the wandering years of Ulysses, ten years in coming home from the Trojan Wars.

Then he said something worth repeating, that the time he spent with other heretics on the cause, and with V., the whole 'schmeer' he called it with fine vulgarity, was essential to the Q project. They would all have run around lost, if they hadn't been held by their crazy quilt network. The network was essential for morale and V.

was the primary reference point; the game worked so that one had to touch base with him in some way, or utter the password, make some symbolic gesture.

Furthermore, working with others on V. 's cause was not like work with a political party or an evangelical sect, where you know what you want and have to believe in it, and there are few surprises, and the question is simply how to achieve them; for V. 's cause excited continually new issues of substantive science -- the argon concentration discovered on Mars, the moonquakes, a radiocarbon date, the examination of King Tut 's skull, the excavation of Ebla, the finding of ash levels below the sea bottom, and in these and scores of other cases, the heretics had to figure out their possible significance. As it developed, certain people gave themselves over to agitation and publicity, like Robert Stephanos, who accepted answers for a long time, while others like Mullen and Schorr were best at evaluating truth and significance, and then there were others, like Lewis Greenberg of *Kronos*, who operated both as agitator and evaluator.

Take the discovery of ash levels below the sea bottoms, a set of discoveries beginning with the oceanographer Worzel, which V., Kloosterman, and Deg, among others, were quick to seize upon for their catastrophic significance. What was their extent, their composition, and their age? Did any pertinent facts remain concealed or unsought because of the conventional attitude of the oceanographers? V. 's cause, or let us say, since Kloosterman disavowed V., the quantavolutionary cause was to discover and prove a catastrophe, possibly exoterrestrial. Until they understood the studies, the heretics could not use them. Until they rewrote and extended the logic of the studies, they could not achieve the full use of them.

When the Quantavolution Series was completed, Deg could be asked what portions of this systematic and complete model of cosmogony might he confidently expect to be useful to science, and what might come apart soonest. I give here his answers:

That the basic principles of quantavolution would hold, he was fairly sure: the world has changed largely by sudden, large-scale,

intensely forceful events.

Also, that the solar system is a broken-down binary and functioned once within a huge sac and plenum of dense gases.

Also, that the solar system was born electrically, changed and changes electrically, and only emulates a "gravitational" system when there is too little change to take note of or build a model upon.

Also, that the Earth exploded the Moon one time, and then it was that the continents began their rafting about the globe.

That the morphology of the Earth is almost entirely due to exoterrestrial interventions, including aftermath effects extending for long periods of time.

That biosphere evolution (and extinction) has occurred in generalized quantum leaps.

That the human is genetically and experientially poly-ego and schizoid, and rationality is a pragmatic form of schizoid behavior.

That liturgy, language, history, and literature, are schizotypical compensations and sublimations for fear.

That quantavolution as a heuristic model of natural and human history is useful for many scientific and human needs involving past time, and environmental and self-controls.

That historical religion had a crude reality base. Also that Moses behaved as he is described in *God's Fire*.

Deg was not sure of other parts of the model:

That his radical compression of time can stand against the fully array of opposing chronometries.

That his microchronic calendar manages to name and divide properly the actual ages of natural and human history.

That gods must exist and that at some point in time they must come to affect the world. (But he insisted upon the axiom that what they are like and when they will operate must stand as open questions.)

That the planets were as fully responsible for quantavolutionary events as he has made them be.

Also he was confident that on many points of detail he would be proven to be in error.

Nor did Deg feel at all certain that the quantavolutionary movement would succeed now, although, if human civilization survived, some model much like it would occur again. Furthermore, he thought it unlikely that quantavolution, if it succeeded in the next century in winning over science, would recognize or acknowledge the heretics of today, but would probably, unless otherwise decreed by a political revolution and for then largely irrelevant reasons, be adopted as a great many bits that would form statistical trends that would quantitatively change the existing gradualist and incremental model until it would appear that the scientific revolution was accomplished by a great many people working independently and empirically until driven together by the facts.

"How would you feel about that?" I asked him.

"It's OK with me," he said, "I'd be so surprised at being right, that I wouldn't think of asking more. Even though it cost me a million dollars."

CHAPTER SEVENTEEN

THE ADVANCEMENT OF SCIENCE

Actors in the dramas of science might learn certain precepts such as:

There is nothing more difficult to plan, more doubtful of success, nor more dangerous to manage, than the creation of a new system. For the initiator has the enmity of all who would profit by the preservation of the old institutions and merely lukewarm defenders in those who would gain by the new ones.

So writes Machiavelli in *The Prince*, which was posthumously published in 1532. He was speaking about politics but the generalization might be enlarged. Probably all who have had anything to do with creating a new science, or trying to do so, would agree with him. Included, even, would be those who could recognize tangible victories in their lifetimes -- Galileo, Newton, Hume, Darwin, Pasteur, Freud, Einstein, Planck, and Heisenberg.

The development of science, that is, sustains a branch of sociology: of historical psycho-politico-anthropo-sociology. When this is applied to science, as the science of science, a partial truth such as V.'s concept of collective fear being inherited from the trauma of ancient catastrophes takes its place as a modest useful contribution to the science of science. The more general truth is contained in Deg's model of the gestalt of creation where *Homo Schizo* emerges out of a catastrophized ambience as the true and normal human, who invents science as a typically schizoid set of operations for inducing psychic control and uniting the psychic with control of the external world.

The science of science discloses in the history of the cosmic heretics the "inadequacies" of the American social system in dealing with the challenges of new science. There are three extensions, unhappily, of this remark. One is that the same types of

"inadequacies" are characteristic of all areas of American science. The same kinds of "inadequacies" furthermore characterize all other branches of the American social system -- political, religious, economic, recreational, and educational. Third, the same kinds of "inadequacies" characterize all ethnic or national societies -- whether Western European or communist or "Third World."

I shall leave my readers to hunt by themselves for confirmation in the non-scientific areas of American life, whether by means of Deg's other works or the works of better teachers. I abandon them also to their own devices and explorations to discover what happens to new science in other nations. And I do little here to arrest their attention upon non-feasance and malfeasance in American society, other than by a few examples cited here and there, as by Burgstahler and Barber. I am tempted into one more example, this from a letter which Deg received from the most noted investigator of supersensory phenomena, Dr. J.B. Rhine.

*The Parapsychology Laboratory
Duke University
December 16, 1963*

Dear Dr. De Grazia:

It is very good to see the systematic study you have been making of the reception of scientific developments. I am reading with great interest and satisfaction your September number of *The American Behavioral Scientist*, and I hope this number will become widely known in American science.

I have long been convinced that reception is the weakest link in the chain of scientific development in this country, and that the situation has been progressively worsening.

I have, in connection with my own studies, been testing the S.R.S., but I became interested in the problem as part of my study and teaching of the history of science, in partial preparation for the work I have been doing in para-psychology. It has seemed to me that what we are up against in the education of the individual, the growth of the university, or the development of a culture is a perfecting of a fixed conceptual ideal which reduces the possibility of *free* adaptation to new ideas.

I am more heartened by seeing this problem of S.R.S. being made the target of a special study than by anything I have seen since the problem first appeared to my mind...

I have just finished reading a book that, more than any other I have ever read, cuts across a large section of the struggle of ideas with the reception problem in the area of medical psychology. It is Frank Podmore's *FROM MESMER TO CHRISTIAN SCIENCE*, published by University Books in New York. It is a reprinting. The book itself was published in 1909. Such books as this and John Davies' account of phrenology in America have led me to feel more kindly toward *earlier* periods with regard to their tolerance. I think I would say I am frightened about the small chance of a true revolution occurring in a major scientific field in America today. Western Europe I think is moving in that direction.

But this contrast is not a reflection from my own frustrations. It is true we are having plenty of difficulties, but we are progressing, and we are winning our case, slow though the progress is. But how many explorers die every year in the freshmen classes of our universities! Yes, this is a subject of primary importance. My hat is off to you, Sir!

In the late 70's Deg began using the term "quantavolution." Not only the increasing number of cosmic heretics, but also restless and probing scientists of the several large fields of geology, astronomy, biology, and the historical sciences had been publishing new materials in which global disasters figured, sometimes mentioning possible exoterrestrial causes, at other times remarking on the shortening of time scales implied in the new discoveries. In paleontology, Stephen Jay Gould, collaborating with Niles Eldredge, was promoting catastrophism in evolution and paleontology as processes of "punctuated equilibria," thus keeping to the fore the gradualist and incremental aspects of natural history and offending as few people as possible.

New York University
September 26, 1980

De Grazia to the Editor, *Discover Magazine* (unpublished):

In reporting the work of Eldredge and Gould, among others,

towards rehabilitating some of the constructive aspects of scientific catastrophism, your author, James Gorman, was suffering understandably from verbophobia. Hardly anyone, and for good reason, wished to advance to the study of sharp breaks and movements in natural and cultural history under the flag of Cuvier. Not only does the term "catastrophism" suggest a long-discredited science, but it ignores the "constructive" and "acceptable" features of the "catastrophic" events. (Our world and ourselves were, willy-nilly, catastrophized over time.)

"Punctuated equilibrium" (Gould's term) is admittedly awkward. "Macroevolution" is getting a little closer. I have tried a number of designations in lectures here and abroad, and for awhile "revolutionary primevalogy" seemed the most appropriate. I also tried "saltatory (leaps) theory." Then I began to use "quantavolution" -- the study of large-scale change by quantum jumps and found it the most satisfactory and reasonable. I administered a little preference test to students and friends, and "quantavolution" came out ahead of all these other words. Hence I suggest that we stick to "quantavolution" when we refer to intensive, large-scale, temporally-compressed events or periods in nature.

Deg knew he was on a right track with "quantavolution" when he read in Otto Schindewolf the new term "anastrophe" as opposed to "catastrophe" and found in it what he meant, for as Schindewolf had stated in 1961, "faunal discontinuities, as understood by us, involve not just the dying out of the old, but also the more or less sudden emergence of new phyla."

Later, Chicago's Field Museum of Natural History hosted a conclave of biologists called by Eldredge, an officer of the Museum, and Gould. Well-reported in *Science*, it did not precipitate an organized movements, even in the single field of paleontology. A different kind of advancement of science is occurring -- could it be the "partial incorporation of revolutions" that I spoke of earlier? In March of 1983, M.J. Benton of Oxford University wrote in *Nature* magazine on "large-scale replacements in the history of life," whereupon we must add "large-scale replacements" to our list of euphemism.

Nearly two centuries after Cuvier, thirty-three years (one

Jeffersonian generation) after Schindewolf, 23 years after V. and even a couple of years after the laggard Deg, it is written that "there is increasing evidence that major physical changes caused more large-scale evolutionary changes than has competition," and that competition or natural selection "will rarely be the sole cause, whereas it could be postulated that a catastrophic change in the physical environment is sufficient on its own."

Warner Sizemore Richard Nixon and his henchmen were accused of covering up the Watergate Affair, their slogan was "stonewall it"; after a while the message was "we 've got to bite the bullet."

Warner Sizemore was keen for influences from many fields and was aware of Deg 's embracing the term "quantavolution." Deg writes to him:

Naxos, January 12, 1981

Dear Warner,

After spending Christmas with the relatives congregated in Florence opportunely, Ami and I drove off and were ferried in our Renault 4 across the Adriatic and drove again from Patras to Athens for the New year celebrations with the relatives there. After we arrived in Naxos, a weeklong storm closed the shipping lanes. There at the Postoffice I found the batch of material from you. Many thanks. The experiments on imitating the rampages of nature upon dead animals and the studies of what happens to them are long overdue, bound to be feasible, enlightening and supportive. I read, too, the article -- effusive and popular though it was -- in *Brain and Mind*, about Ilya Pirogine 's work. It 's impossible to tell what may be in it for us, but a search into his books is called for. Certainly they are talking of quantavolutionary changes of system-states. But since the mechanism is entirely abstract, i.e. non-existent so far as they say, I presume that a mathematical model is involved, in which statistical states snap into a new alignment by some set of convergences arising at a juncture.

Crystallization can perform this transformation under environmental stresses. Perhaps half the plant species are instances of proportional structural explosions. New, bigger Boeings are planned, to double the B-747 capacity with little

inventiveness. Like catastrophist topological math, there may be mostly wordage here, from our point of view.

The many new ideas that occur to me in my writings appear to emerge from flaws and oversights of science. The philosophy that propagates the point of view that observes these opportunities is largely the pragmatism of James Dewey, Pierce, Mead, and Whitehead, with heavy depth psychology elements out of Freud and Lasswell, these all only being a few, and others like Mannheim on ideological behavior (subtending from Marx) certainly are there as influences. So I guess I 'm in the recycling and recomposing business.

One has to use new images, like the hologram, of course, and devise new images. But I have not yet felt frustrated by an absent "new kind of reality." I hope that I will applaud its discovery, should it come -- whether signals from outer space or a kind of intra-organismic communication that is materially effective upon all elements of the organism at once, or whatever.

I detect in the article on Pirogine the eternal hope that a scientific breakthrough will carry a new insistent and moral order. This sort of hope for a Second Coming always puts me on alert. People who can 't receive the right kind of vibrations any longer from Jesus, or Buddha, or communism, yearn often for an authoritarian voice speaking out of science like the Burning Bush. That's asking too much of the scientific enterprise. We can probably achieve a better answered by a sober and complete understanding of what we have already learned about the world and ourselves, call it theology, philosophy, no matter.

The universe, including its divinity, will always be an open question, and we shall go on forever, so long as allowed, advancing, defiling, infiltrating, undermining and hovering about the grounds of the question. If there were an answer to the question, we should have to negate all that we think we know about ourselves, the universe, for then we would have to be something other than what we are even in our most megalomaniac states. We are already asking too much of ourselves just in order to survive as a species. Again, it is

exalting (and arrogant) to play with answers to the question.
Anyone for tennis?....

Chesley Baity was trying to extend her great bibliographic labor in paleo-astronomy by incorporating catastrophism, working through conventional channels that she had persuaded to accept her so long as she did not push quantavolution.

Deg, I said, I can't use your letter from Dr. Chesley Baity; she won't let me. He said why did you ask her, dummkopf; you're talking about vital public issues; you're not titillating the crowd with private obscenities. It's a great letter: how she's been trying to get a seminar going on catastrophism at a school where ordinarily you're welcome to sell a course on every other known folly. She's forever asking my advice and then sweetly adding you don't mind if I don't mention your name. How many more years is she going to waste on this gambit?

I don't know, I said; she's afraid she'll lose the ground she's gained. A few more years and the ground she's gained will be six feet under, he said; and if she has to go, as we all do, at least there'll be her letter on record showing her as a heroine, a wily heretic who knows what she's after, and who knows how she's been led up the garden path by these deans, and university presses, and intolerant astronomers. It'll make sense out of all these years of running around telling people I'm not a heretic, you know, but then oughtn't we consider this and that cosmic disaster. Meanwhile they are laughing at her because she seems a befuddled southern lady, but they wouldn't if they really knew her as I do. The trouble with her is that her husband dominated her for so many years that she still hasn't recaptured the feisty womanhood she inherited from her old Texas stock. I must suggest she read that biography by Sayre of Rosalind Franklin and the British DNA caper.

Now this book of hers dealing with aspects of quantavolution; it's a good collection; good authors. Why is she wasting her years looking for a publisher for it. She can put it out; she's not broke.

Did you tell her that, I asked. Yes, I did, and of course she said she wouldn't do any such thing. Another victim of the publishing myth. I said give a couple of thousands to a university press then; they'll publish it. Oh no I won't do that. Well, then, bury yourself and your authors. The publishers will shed no tears; they'll puff with pride for having kept a bad book off the market.

After he said this, I went and checked the list of contributors to Chesley's anthology of *Civilization and Catastrophe*. Of the thirty-six approximately half have not been mentioned by me in this book and about a fourth have escaped mention in Deg's Quantavolution Series. As you can see, a lot of "reaching out" occurs among the heretics, each in his own style, Chesley-Baity or, as here, Brian Moore is telling Deg of a new pair of cosmic heretics:

Hartlepool, Cleveland England
9 July 1982,

Dear Alfred:

Thanks for yours of 22 June and I'm glad to hear that the Grecian sunshine is ripening your researches. Great pity you couldn't make our meeting, particularly as I had managed to persuade Victor Clube to come and speak to us about his forthcoming book *The Cosmic Serpent*. I mentioned the book very briefly in the last review as "a catastrophist view of earth history" but had not then seen a copy. Having now read a review copy and met the author I consider it to be a highly significant contribution to the catastrophic cause. Though Clube (astronomer, Royal Observatory, Edinburgh) is conventional enough not to accept orbital changes amongst the planets, what he *does* propose -- particularly as it comes from within the establishment -- should be enough to lift the level of debate considerably. To summarize briefly: most of Clube's published work deals with the possibility of extra-terrestrial catastrophes in geological time; the book proposes them continuing into historical times at dates very close to those of Velikovsky. His mechanism (though we might not agree with it) is sufficiently well supported by known astronomical data to make the critics consider the implications for mythology/religion/history. He proposes that as the solar system passes through the galactic arms it collects vast

quantities of cosmic debris which in the form of comets, interact with the solar system for thousand of years until by collision/interaction/ integration they are thrown out of the system altogether or turn into asteroids. His statistical calculations show that the last series of interactions should have been dying away throughout the 3rd, 2nd and 1st millennia BC. The present Encke 's comet is the remains of a giant comet which was on an earth crossing orbit in those times and was responsible for devastation on the Earth at periodic intervals. He has an ingenious (though I think inadequate) suggestion as to why the agents of destruction were later remembered as Venus and Mars. He also agrees that Ipuwer/Exodus/end of Middle Kingdom were synchronous and that Egyptian history needs to be shortened by 400 years! The book is defective in many respects, but for a respectable member of the establishment who had not had the benefit of contact with our circles it is an intellectual supernova (well, nova, anyway). Clube wanted to meet you. If you let me know precise dates for your U.K. visit maybe we can still arrange this...

Professor Frank Dachele of Pennsylvania State University had long been a catastrophist in geology; he also was a reader of ancient literature; he piloted airplanes and had been building an airplane in his house at the time of his death in 1983. An acquaintanceship with Deg 's work -- they met only by phone and letter -- led him into the reassessment of his own noteworthy work on meteoritics. A letter of July 29, 1979, shows Dachele engaging in the common quantavolutionary tasks of extending the logic of existing science and rereading ancient documents:

Dear Dr. de Grazia,

(...) I meant to mention in my previous letter that at the American Geophysical Union Convention in Washington a paper detailed the possibility existing in Jupiter of nuclear detonation. This is not new, the idea that Jupiter is in fact a mini-sun, sub-critical, having been about for some time. However, on reviewing the presentation after having read your work and *Worlds in Collision*, I can understand the probabilities of electromagnetic ejecta, and even massive emissions from that planet, and Saturn. You might want to look for a work by P.M. Kolor and L.E. Wharton on this subject. Both are at P.O. Box 142, Greenbelt, Md 20770.

References to Plato in *Worlds in Collision* have led me to an interesting finding, something you must be quite familiar with from your extensive research. The Jowett translation is far from that of Bury, at least with regard to the astronomical descriptions. Jowett does convey some of the information as to sky reversals etc., but I believe his translation more modified by his own notions. Bury was more direct.

My head still swims from my reading of the S.I.S. issue you gave me. The discussions of the Senmut sky maps are captivating but whether from my lack of knowledge or ability, the presentations are most difficult for me to follow. (Is it a British style of writing or is it me?) The electricity paper by Eric Crew is good; I intend to look up his other papers.

Some months after Dachille died, Deg suggested to the State University of Pennsylvania that a memorial meeting be held for him that would treat of subjects upon which he worked and that interested him: meteorites, explosion dynamics, catastrophism in ancient translations, etc. The suggestion caused surprise: Dachille was isolated among the some forty professors of geosciences; he was alone in his heresy, which the Chairman referred to charmingly as "extracurricular"; the Department of Astronomy seemed to be likewise uninterested; the name of V. foreshadowed unwelcome controversy; the campus was not near any large metropolitan center where an outside public would be attracted; besides, all the professors were remarkable people, said the Chairman. Yes, Deg agreed, and they were dying all the time.

In reviewing the debate over quantavolution and catastrophe over 30 years (for I see no reason to confine this statement to the twenty years of our scope here,) I am impressed by the flaccidity and ignorance of the opponents of the heretics more than by any other single phenomenon. Should full-fashioned quantavolution fall before the "truth," it would not be the effect of the opposition but rather of inadvertent blows and self-examination. The opposition has continually pressed the attack with ill-prepared *Volksturm* publicists parroting what scientists say, and then with infantry of the science who could only press buttons. The proud creative element of science, the Harrison Browns, Ureys, Neugebauers, Sagans and

another score of top-notch scientists and humanists might be court-martialed for their failures, along with those who thought the U.S. Marines in Lebanon had such heavy firepower and such sophisticated gear that they were impregnable to assault and then were penetrated by the simplest of terrorist mechanisms and tactics. This was the "Vietnam Complex," too. Constantly misunderstanding the opposition; refusing to come to the conference table; seeking allies to help put down the guerrillas among publishers, foundations, universities; laying claim to working for the good of all -- are these actions not patent and repetitious on the record?

The opponents of quantavolution -- by focusing upon the person of Velikovsky; trying to convert a wide spectrum of interests on the part of hundreds of skilled, intelligent, and creative people into a cosmic strip; raising the spurious cry of "anti-science" just like the government raises the cry of "reds" and "enemies of democracy;" -- ended up heightening the public misunderstanding of science, aroused suspicion against themselves, attracted and promoted the most narrow and bigoted scientists and propagandists to the rank of spokesmen for science; Meanwhile, the humanists and social scientists let themselves be denounced for fools, anti-scientists, and mystics, and be accused of blocking flights to the Moon and wanting to steal jobs from the natural scientists.

The anti-heretics have paid no attention to the scores of heretics who have been building a case for quantavolution all these years. They have spoken of them contemptuously as a mad following that showed up to defend V. or to attack them, failing in every case that has come to my knowledge to read the literature of their opposition. Insofar as V. found it inconvenient to advance his own colleagues, he played directly into the hands of the opposition that was engaged in making of his work and mission a caricature. Allowing the issues that have emerged in the past decades of this controversy to be centered upon a caricature of Velikovsky is a way of continuously dampening the fires in the hope that they will die. The issues are much larger, and are important for the advancement of science.

Quite apart from Deg 's voluminous work (and even if he had never written a line) there are available millions of words , at least thirty

volumes of studies on aspects of quantavolution -- and I say nothing of the many distinguished predecessors of V., nor of the hundreds of studies passed as conventional science, that are gems of quantavolution. Nor have I mentioned the mutual teaching and learning going on among hundreds and thousands of students -- many of ripened age -- that cost their government and school systems and foundations nothing, and risked nobody's capital. Paying for itself, the movement practically registers as zero in the absurd artifice called the Gross National Product.

Files of correspondence and numerous tapes that I hold could be used to demonstrate the level of interaction among the heretics. As they exchange honorary degrees, the eagles of science invariably speak of the need for "interdisciplinary cooperation," of a "melding of the two worlds of science and the humanities." It is mostly pap. They never do it. They cannot do it. But the people they detest and call "anti-scientists" and the "lunatic fringe" do it as a matter of course. They do so because logically their interests and language are unspecialized, because they have slipped their intellectual anchors, and because they must talk to whoever happens to be passing by.

In Deg ' s files I find a brief article about a definition. I mention it to show a kind of particle that floats about unintegrated into a body of science. It is by Walter Federn, an Egyptologist, now deceased, who long ago assisted V. in his research. The piece would be almost unretrievable to an outsider for it appears in *Zeitschrift fur Aegyptische Sprache und der Altertumskunde* (33 Band 1966, 55-6). There he reproaches those who have retranslated the line "Forsooth, the land turns round as does a potter ' s wheel," which is from the Ipuwer papyrus, placed now by some scholars to the end of the Middle Kingdom and the Exodus (by those who follow V. ' s chronology). Federn says they must not believe the words mean spinning normally in the same direction, but must mean being spun back and forth, as in testing the wheel, as clockwise then counterclockwise. So, Federn declares, the "point of comparison is the reversal of the social order into its very opposite." A great social upheaval is pictured. Or, possibly, I say, it means that the earth

itself is gyrating: "The land reverses like a potter's wheel." It is highly probable that it was V.'s employment of Fedren that ultimately wafted this dry little piece to drift unintroduced and unexplained in the slow backwaters of scholarship.

The sociology of science should have field workers auditing conversations at meetings, making tape recordings, too, although Deg, for one, would be annoyed if I spoke of hidden recordings, of "goings-on," and would speak of invasions of privacy. But look you where the raw materials of a developing thought-pattern are to be found. I give you an instance where the sociologist of science should be.

Earl Milton was chairman of a symposium on planetary surfaces at McMaster University (Ontario) on June 17, 1974, with astronomer David Morrison, electrician Ralph Juergens and astrophysicist Derek York as speakers. Juergens assigned surface effects to recent transactions between Mars and the Moon. After the chairman called an intermission, the tape recorder was accidentally left spinning, and now a decade later we can eavesdrop upon several people, unknown to us, who spent the intermission by the speaker's table. The tape is not edited. The transcript I give here is partial. The voices are there, but they move so rapidly -- and so different are the voices in immediate hasty conversation -- and so impromptu the means of transmission and mechanisms employed -- and so inadequate the resources here for their study that the total episode cannot be captured; it is a *soupHon* of the full flavor. At issue is not a "lie" of President Nixon, which is worth millions, and which the nation's media will pay anything to capture, but merely a small truth that an isolated historian, me, is trying feebly to pick up. The balance of the accidental taping only adds to the impression, you have to believe, of an enthusiastic rapid mini-symposium, except that it ends with a new voice, obviously female, arranging to meet one of the voices at "a quarter to eight."

First Voice....It's an interesting idea and I don't think it has been explored adequately....I was very interested in this discussion....I have done a considerable amount of research in

ultra-high current density of discharges, I hope you don't mind my saying that. I think misconceptions, at least as they came out, imply that the conduction went through solid material...*Other Voices* interrupt.

Second Voice: No, no, no, no, you've got to get the charge...[He begins to draw on the blackboard] you see, if we have a surface here assuming of course that we are dealing with spherical surfaces, let's say we have a circle here, and you are going to get a discharge from this point...Now in order to get a discharge from this point I am going to get a small discharge, I am not going to get any arc, I have got to bleed a lot of charge off the surface into this point and then get it off...

Third Voice: I think from, from...I think I can convert the high density discharge phenomena, as Mr. Juergens describes, you initiate a discharge gradient that would allow this to be discharged through the density of the intervening material. At this point the current density which would occur would initiate locally and would spread out as the breakdown progressed and would continue to build up and continue to expand in current magnitude as long as you have more source available and the implication that this could cover the entire Moon if necessary is not all...

Voices agreeing and protesting...

First Voice: But don't I have a problem here as I start spreading...

Second Voice: You break that down...

Third Voice: As long as a discharge is available, and you spread it out and the farther you move out, you are locally vaporizing - - as you dissipate energy, you are locally vaporizing solid material which then breaks down and contributes to superconductors, I don't mean superconductive in the terms of superconductivity...

Fourth Voice: Sure...

Third Voice: I mean... You are referring to ... what you get essentially is a plasma as a result of...

First voice: That's right, current density from these discharges can go to the levels of 108 amperes per square centimeter and can you maintain...

Second Voice: As long as there is charge available... As long as it is spreading out it could continue, not over days, but in micro-second discharges... Don't call them sparks... The wire was only the initial source of the plasma.

First Voice: Yeah.

Second Voice: During the discharge you have your anode and cathode processes of tremendous pressures on those surfaces due to ion and electron bombardments. Your wire lies between what --between two pieces of metal in this cases -- was intended to be a conductor.

First Voice: But can you do this -- explode a wire between two non-conductors.

Second Voice: Oh, I think you definitely can. Because the metallic nature has nothing to do with it... Only the initial discharge...

Third Voice: Yes, that 's the point... You 'll have a discharge when the voltage gradient becomes at a particular level with regard to the density of the atmosphere.

First Voice: That 's the other question...What does the atmosphere have to do with it? Juergens: You have to trigger it with electrons dragged out by the field and once they bridge the gap, they ionize the material...[One notes a bit of Juergens ' character, he speaks rarely and in low quiet tones, and listens much.]

Second Voice: If you take a little experiment they perform at the laboratory, if you take a tube here and put on some circuitous track a vacuum tube and come around to here, where the rest of the tube comes around to there, you put a little gap there, say a centimeter across, make the density of the tube at a particular level, you can cause that discharge to come all the way around through there.

First Voice: Oh, yeah.

Third Voice: But you will not conduct the material into the center, you will not even conduct the heat into the material except to the manner in which you 're vaporizing the surface at a tremendous rate (from the impact), you are vaporizing the material from these discharges...

First Voice: I agree.

Second Voice: But the material is not blasting off everywhere at this time I am saying that at this time it isnot blasting off. It is only to the degree to being charge carriers and to being transmitted inside the arc but the pressure-electron and ion pressure on surface -- will prevent a massive expulsion of matter until the discharge is terminated. After it 's done, all the material will be vaporized...

First Voice: Now you are getting to an important point...

This goes on for a minute or two longer. The craters, rilles and mares of the Moon are discussed as if they might have been

electromagnetically created. There are quickly disputed points and then we see a transition occurring from talking about the technology of electrical discharges (from the small crude personal experiment with a piece of wire to catastrophic avalanches of electricity between Moon and Mars). The voices move from the *substance* of science to the *behavior*. Let us reproduce this transition, which is important to a science of science.

The voices begin to discuss the "great red spot" of Jupiter, in relation to a newly discovered "red spot" on Venus...A *New Voice* claims the second discovery may be the umbilicus, where Venus spun off...Others exclaim Objections...*Second Voice* says Jupiter, great magnetic field would not let a body escape, nor would a body fly off the Red Spot which is not equatorial. *New Voice* says that there is no reason, only presumption, why Jupiter's field and axis would not have changed at the time of, or after the incident...

Second Voice: But what of Venus' orbit.... *New Voice*: That's different, too; Mars is responsible for it in part... *First Voice*: It may be so when we look at it from Velikovsky's perspective... The arguments against, built on the wrong inclinations and so forth, they are held by uniformitarian but they don't explain anything to a Velikovskyite you see... *Third Voice*: Of course, there is a built-in psychological problem. I don't know that it's uniformitarian but it's built into our Western logic... *Voices of Agreement*... *New Voice*: If that's nature, we should find out. We should overcome that reaction. We've had our Copernicus, We've had our people who came along and said world is different from what everyone thinks. We've had ample evidence that this has happened -- not frequently -- but every five hundred years...And something of this.... and may be one of those times... So that's why I say, we ought to drop our resistance to the idea so much and say, well, holy smokes, you know, we've been confused by what we're doing uniformitarian-wise, let's jump over here and play for a while and see what happens, and that isn't the course that's followed, and I don't understand -- psychological resistance notwithstanding -- the unwillingness of a totally objective person to do that. You see, that's what bothers me. *Third Voice*: I think it's understandable.... I think if you consider, if you look at scientists and engineers, they spend years and years in universities buying their education and

what you 're suggesting is the education I 've acquired...is so much garbage.. *First Voice*: I don 't find it garbage... It 's not a waste... The data stand and the objectivity of these measurements stand. It is their *interpretation* of these problems.... *New Voice*: You don 't sacrifice your education when you change... *First Voice*: No, you don 't, that 's true... You don 't have to throw the baby out with the bath.

All agree. They speak of the strong psychological bent for orderliness in the scientific mind, "neat orderly chambers," dislike of uncertainty. "It 's difficult to say I 'm wrong!" "It 's *easy* to say!" "It 's very difficult to say!" "I 've had so many years in graduate school. It was all bing, bing, bing, this is it..." Then later the very ideas and outlook changed. *Second Voice*: There are a great many scientists who would never come here to speak or even to listen, they wouldn 't even discuss the questions...etc., etc.

What triggered the transition was a quickly perceived misstep or retrojecting Jupiter 's behavior in a uniformitarian way. A second transition then occurs. *First Voice*: people are belongers, I belong to this group, you examine an eccentric hypothesis, then one gets into major trouble, your colleagues branding you a crackpot or idiot. *New Voice*: aren't we suffering from the two-culture problem? *Agreements*. "Velikovsky 's cardinal points were in the humanities." *Yes New Voice*: "Yes, I think so," *New Voice*: They were absolutely unquestioning...

And then *New Voice goes on to argue the factual validity of his proposition*, leaving the discussion of the logic of science and humanities behind and also the straight astrophysics and electromagnetics with which the talk began.

The voices tend to agree in principle: that a consensus of widespread legends is persuasive as to its basic factuality. Now the voices thank each other and disperse, their few moments of exciting discussion ended.

I am afraid that I have lost you, my readers, amidst such a confusion of remarks, but I will regain you if I have merely shown you how the raw materials of this intense human discourse appear.

Ultimately we reduce and clarify the process, introducing the logical order on a printed page but losing some of the intense give and take within the human mind and among different human minds.

Letters are not so important in scientific discourse as they once were, given the telephone, the Xeroxing machines, the airplane, and the comfortable meeting places to be found everywhere in colleges and hotels. They are more important among the heretics than among conventional scholars because they are the cheapest means of communication. Their effect is multiplied too by Xeroxing them and passing them around. But even then they are an unsatisfactory record, because they are rendered fragmentary by intervening telephone calls and meetings. Greenberg's and Lowery's correspondence in editing *Kronos* and the *S.I.S.R.* was heavy but would, especially in Greenberg's case, be enormous were it to include transcripts of the phone conversations.

Still, in letters one can follow the kind of internal argumentation that otherwise disappears. Thus Leroy Ellenberg, reconciled with Deg despite his mean attacks upon *Chaos and Creation* (mentioned earlier), began to use Deg as a postal drop, sending him letters, copies of letters and articles, and memoranda. By 1983 Ellenberger was preparing to abandon much of quantavolution and found now that the story of Velikovsky was not without its shady tones, and more important, that Arctic ice cores and bristlecone pine dating technologies were directly contradicting Holocene quantavolutions by their even pattern of annual regression into time; further, that Gentry's studies of the surprising "instant" polonium halos of creation that came from nowhere -- parentless -- and which threatened the theory of radiochronometry, were probably invalid. You show a total misunderstanding of the Oxygen-18 isotope technique of measuring time in ice varves, he assured Deg, as *The Burning of Troy* with its critique of ice core studies was about to appear.

It seemed that Leroy was on the verge of taking up a macrochronist position in quantavolution, which by 1983 was fast emerging from geophysics and paleontology and which offered respectability to its

clientele. One could thereupon dismiss all apparent human experience with catastrophe and get rid of the historical sciences and humanities.

Deg contemplated the prospect sourly. I could, he thought, surrender michrochronism in the event of defeat, but I would rather relabel the total construction as a heuristic exercise machine, good for the circulation of the blood and the sharpening of the critical faculties.

There were always these honest, upsetting or encouraging, epistolary discussions going on among the heretics, many of them -- how many? -- a score at a time. Here is another one from 1978, going into 1979. The cosmic heretic, Dwardu Cardona of Vancouver, is writing to the cosmic heretic, Irving Wolfe of Montreal:

Dear Irving,

If you don 't already, you 're going to hate me by the time you finish reading this. I'm afraid that, in your cosmic interpretation of Hamlet, I do not concur with you at all.

I should qualify that last statement. I do agree that Hamlet has a cosmic connection but not with the Martian close encounters of the 8th/7th centuries B.C...

The story of Hamlet is, in its skeletal form, identical to that of Horus. To my knowledge, this is the earliest form of the myth we have so far come across. The Egyptian tale was already well developed during the very first dynasties of Egypt. It is that old -- and older still. So is *Hamlet*....

This goes on for several pages, one of several letters in the interchange going to show how much of human history and science evolves around the figure of Saturn, the great god of the Neolithic Age and beyond, everywhere in the world.

I will not print Wolfe 's reply, equally lengthy, also giving and taking. He has published obscurely (save to cosmic heretics) several articles on the catastrophic imagery of Shakespeare, that when published in book form (he collected a number of rejections)

will constitute a formidable body of analysis on Shakespeare, by a new approach.

But then Cardona is also busy with historical astrophysics, and he perceives in Deg ' s ideas a competitor to his own. Never mind, he has his reasons, and he writes to Earl Milton:

...The evidence of myth which points to Saturn having once occupied a position above Earth ' s north polar regions is voluminous. There is not a race on Earth that has not preserved at least one account which states as much. According to this evidence, Saturn occupied a central position in the north celestial regions. It rotated, and rotated widely; but, other than that, it was immovable. It did not rise, it did not set. It merely became brighter and more glorious each night as the Sun set. This state of affairs seems to have lasted for ages. *It is the one single dictum of the ancients from which all other beliefs are derived....*

But, of course, there are physical problems, and colossal ones, inherent in the tenet. And that is where I hope you will be able to help the cause.

The problem, stated succinctly, is this: What force, and in what way, could have kept the Earth locked beneath Saturn ' s south pole?...[one of 3 pages].

And Milton replies:

...As you may know, de Grazia and I are developing a new cosmogony for the planets, one which is consistent with extant mythologies and catastrophic historical events. If AI has spoken to you of *Solaria Binaria*, then you know something of this cosmogony...

Here is an outline of our speculations about how Saturn and Earth were once locked together. Consider a gigantic dumbbell with the sun at one end and Super Saturn (Saturn was much larger then) at the other. The original planets, Mars, Earth, Apollo, and Mercury, were locked between the sun and Super Saturn, very close to the latter. The new planets, Uranus and Neptune, orbited beyond this inner group. A now distant fragment from an earlier era, the residue of Super Uranus, was receding from the system. As we see it, the Earth did *not* rotate

on its axis such that the Sun was visible daily. The Earth's axis, at that time, was aimed along the Sun-Super Saturn line. Earth's "Northern Hemisphere" faced Saturn, the "South," now devastated by the recent tearing away of the Moon, faced the Sun...

And Cardona writes:

I'm glad to see that de Grazia and Wolfe, with whom I corresponded a while back, have not forgotten me. At the time, de Grazia did throw a few crumbs my way concerning his developing new cosmogony and, if I well remember, I cautioned him to be wary of certain mythological identifications. Now I see that de Grazia's *Solaria Binaria* has been echoed by Tresman and O'Gheoghan. But on all that, a little more later on.

(...)

4) De Grazia's super-Uranus needs much evidence. The Uranus of Greek myth seems to be merely an earlier alias of Saturn. This is borne out by Assyro-Babylonian, Sumerian, and Egyptian texts. Annu was the same as Osiris, who was the same as Saturn.

5) There seems to be no mythological evidence that the Moon was torn from the Earth. On the contrary, I have come across evidence which points to Saturn as the parent of the Moon. The Moon commenced its celestial career by orbiting Saturn but when Earth itself was torn from Saturn's gravitational embrace, it managed to carry the Moon with it...

(...)

When I wrote to you asking for your help, I did not know that de Grazia had already cornered you. I do not wish to "steal" you away from him. I do believe, however, that we can help each other. For that matter, I thank you for the information you supplied me with concerning the Roche limit. And if it is not too much trouble, I really would appreciate it if you could, if only for a day or so, put your own model aside and weigh the possibility of a Saturn-Jupiter dumbbell formation with Earth locked in between.

And Milton replies, point by point, in an eight-page letter, concluding:

As with you I am not out to convert but help. To use only myth is equally as dangerous as to use only a computer to prove Venus' orbit never intersected Earth's. We both know better...

Please keep in touch. I need more data to help you further. Should anything I see in your data be germane to our model I will credit you and I trust you will do the same re my comments and ideas becoming a part of your cosmogony.

And so on. Cardona has several sympathizers and is seeking to convert Milton and Deg, who in turn are moving rapidly on their own model. Cardona, meanwhile, begins to publish his rich Saturn materials in *Kronos*. Clube and Napier come forth with a cometary model, derived without contact with any of them, in *Cosmic Serpent*, practically simultaneously with *Chaos and Creation*.

A process is here occurring that resembles somewhat the internal competition among the Cambridge, London and California biologists striving to produce the first and most useful model of the structure of DNA, an event of 1953 described by Watson in *The Double Helix*. By 1984 there were in contention the Cardona-Talbott Saturn model, the Clube-Napier galactic cometary model, and the De Grazia-Milton *Solaria Binaria* model of cosmic quantavolution. All of these were far ahead of, or let us say distinct from the heavy empirical work beginning to appear concerning meteoritic impacts, clay chemistry, and biological extinctions. Perhaps the tides of particular studies will wash away most of the substance of the models. Such a fate has befallen the model of the victorious biological team, as Stephen Jay Gould tells us:

It is a credit to the power of Watson and Crick and to the fruitfulness of good science in general that, thirty year later, this Cartesian view of molecular genetics has been superseded, as a second revolution transmutes our view of inheritance and development. The genome, a cell's compendium of genetic information, is not a stationary set of beads on strings, subject to change by substituting one bead for another. The genome is fluid and mobile, changing constantly in quality, and replete with hierarchical systems of regulation and control...Barbara McClintock is the godparent and instigator of this second revolution. [She published her papers obscurely in her own laboratory newsletter, but, as Gould remarks, she has lived a

blessedly long life.]

And Gould, whom we have come to perceive as a quantavolutionist, can even discover in this movement from the one model to the other a victory for "repaid and profound rearrangement" over the "implication that evolution proceeds slowly and gradually." Pleased as we may be about this aspect of the change, we are here more directly made aware of the possible short life of even the best of scientific and cosmogonic models.

Once more I return to the point that almost nothing of the large number of writings in scientific support of or in modification of quantavolution, particularly as conveyed in V.'s work, has been read by any conventional scholar, including (I stress) those who claimed to have read something by V. prior to attacking him. It is clear that one way of treating with heretics is to go on the principle "Smite the shepherd, and the flock will be scattered." Moreover, anti-heretics lose much of their effectiveness as soon as they discuss work by heretics other than Velikovsky, because they depend so heavily upon a prior inoculation of the public of science with stereotypes against his name.

In this regard, the heretics have suffered by their own behavior. If they must constantly acclaim V. on their first page, like others do Einstein, Marx or Engels, and Freud, it's like prefacing every encounter with a "Heil Hitler" at the worst, or at its mildest, forever snapping salutes between the military, a practice devised to confirm a status system, limit originality, and exclude an outer world.

It must be apparent by now that V. was not without blame. He did not want even one, much less two or a group of martyrs burning alongside him at the stake. He was loath to adopt the ideas or quote or put forward or support anyone who was about to be credited or discredited by a valid contribution that was not *a priori* a confirming footnote to his own work. The idea of a roundtable or true seminar was beyond him. After decades in America he became a citizen, but he had always some of the czarism and mosaism of

old Russia that would not let one kick ideas around like soccer balls.

V.'s prominence absorbed all energies penetrating from outside in addressing him and his claims, diverting attention from all other new work in the field, which was in any event dammed up and had to trickle through his notoriety, whether in magazines of general circulation or in the couple of small magazines, which themselves held back most work not directly concerned with his affairs.

Were I to guess the quantity of useful writing appearing as deliberately directed toward quantavolution, I would suggest a statistical figure approaching a Fibonacci series by dodecennial periods, beginning in 1940-1951 at 1000 pages; thus, 2000 pages for 1952-63; 3000 pages for 1964-75; 5000 pages for 1976-87; 8000 pages for 1988-1999; 13,000 pages for 2000-2011; and so on in time, granted there would be no world war or political revolution.

My aim, in quoting heretical correspondence in this chapter at some length (still not one-hundredth of its volume), has been to give evidence of how science proceeds among heretics and non-heretics alike. The published work (which in the case of the heretics has not been read by the non-heretics) is only the tip of the iceberg showing. The same is true in most scientific work. There must be a consensus of sorts between correspondents else they cannot talk: here, with Wolfe, Cardona shares the belief that literature connects with a mainstream of mythology extending to the birth of the human mind; with Milton, (and with Wolfe, too) Cardona shares the premise, arrived at on both sides at the end of years of study, that the planets have moved and changed, even in early human times

The behavior of the cosmic heretics corresponds closely to that of conventional scholars in regard to their methods of work, and would be practically indistinguishable were it not for the warping of the processes brought on by the heretics' poverty of resources. Back and forth, the shaping form of new kind of science (like the old) works like a complicated weaving machine, capable of darting up and down and sidewise to pluck its threads, strengthen its seams, and sometimes the machine sticks and threads must be pulled out, sometimes a whole line of thread as some major

patterning element has to be rejected.

In the 1960's the American Psychological Association, through W.D. Garvey and B.C. Griffith, conducted pioneering studies of the communication network of the field with which some 30,000 persons were connected. Of these 30,000, 2000 or less provided almost all the materials that were being circulated as current psychology.

Work published in a psychological journal started on the average 30 to 36 months before publication. Between 18 and 20 months before publication the work was shaped to a point where it might be reported. Usually, between 15 and 18 months before publication, the reporting process began. Initial communications were highly informal and occurred typically at the writer's institution. After several months a formal report was prepared that in about 30% of the cases came to be delivered at a national or regional meeting. Almost always the audience was below 100, sometimes only a dozen. Copies become available at the Convention, and special papers might be distributed now also by the author (s) through their sponsors such as a government agency. Preprints were usually distributed, between 10 and 200. These were often given to close- in co-workers, acquaintances elsewhere, and persons who had heard about the work and asked for copies. The interval between submissions and publication ordinarily took 9 months or more, but the interval would be doubled if an article were rejected. Few articles failed to gain acceptance somewhere else. While the publishing proceeded, additional reports were being made to groups and classes. Aside from textbooks, which amount to compulsory subsidizing by students, practically all scientific (and scholarly), publishing is subsidized by scientists as individuals or groups, directly or through tax money whose appropriation and spending they manage to influence.

Exposure of the work by publication is low. The largest journal reaches 30% of the general population of psychologists; specialized psychology journals may reach 1%. The largest journal will expose the title to all; however, one half of the research reports will be expose the title to all; however, one half of the research reports will be read by 1% or less of the readership, none by more than 7%, it

appears. Half the articles in the largest journals are read by only some 200 readers. Current journal reading amounts to only about one-third of the journal reading of one group of active psychologist studied. Some months later an article becomes retrievable by being indexed in one of the now well-equipped services such as *Psychological Abstracts*, thus helping people like Deg, who was trying to find out what work was going on regarding "human nature," only to find nothing because the term was not indexed.

The Garvey-Griffith study offered proof of what disciplinary leaders know everywhere, that long before the rank and file, and quite long before the public, learns of a new line of research, the leaders know it from personal acquaintanceship, membership on foundation and government boards, and operating at the nodes of communication where manuscripts come in and criss-cross and where money changes hands.

The same process that occurs in psychology occurs on a greatly reduced scale in quantavolution, among the heretical community. The scientific creationists too are loosely organized and operate, also in a small way, like the psychologists. They and the scientific heretics engage in mutual eavesdropping. A somewhat different process occurs among the non-heretical quantavolutionaries, who operate on the fringes of their discipline -- psychology, biology, astronomy, anthropology, etc., and are signaled by terms such as "macroevolution," "punctuated equilibria," and so forth. These for the most part are anti-heretical and cling to their disciplinary centers as much as possible. Thus Walter Alvarez, who is himself under fire for a study showing the "iridium layer" marking an end to the dinosaurs in the rock strata is prompt to refer to Deg's work as "anti-scientific." He cannot have read Deg's work or any other considerable literature of the field; otherwise he must be using some narrow and antiquated definition of science, or worse, using the term science for name-calling.

It is widely believed that all astronomers, all geologists, all physicist, all historians, and all archaeologists have for thirty years been close-minded to the arguments continually brought up by the cosmic heretics. This is not so. And this stereotype of the resistant

and rigid collective mind continually exacerbated feelings on both sides. (As did the opposite stereotype, that all heretics were foolish and anti-scientific.) To illustrate my point I will turn to Deg again, for he was always concocting hypothetical statistics. (He should have offered a college course on the subject; it is useful for those areas, most areas, where data is trivial or scanty, and the usual resort is to revert to the Aristotelian modes of thought.)

Deg's Notes, Princeton, 1980

The grades of opposition among the probable quarter million of scientists who have formed any opinion on the cosmic heretics should be sorted out. And here I assign estimates in percentages only to illustrate my view.

They may be, my guess, up to 10% off one way or the other.

- a) Stereotyped rigid opponents: 19%
- b) General dissenters: 35%
- c) Specialized dissenters inattentive to major theories: 20%
- d) Doubters but interested: 13%
- e) Interested and acknowledging truthful elements: 10%
- f) Persuaded of the general truth of quantavolution: 3%
- g) Persuaded of the general truth and also of some special heretical truths, such as a radical change of planetary motions, or a recent great deluge on Earth: 0.1%

If one were to correlate such figures with the prestige of the opinion aggregates in their own fields, using concepts that I have used in studies of political leadership, we might find that the top elite (1%) would be heavily concentrated in classes a, b, and c; the activist productive scientists (3%) would be spread throughout; the ordinary scientists (80%) would be skewed somewhat higher toward elite opinion but spread throughout; the inert scientists (10%) (recalling that most scientists have hardly heard of quantavolution of Velikovsky as an issue and are therefore not tabulated at all, and that inertness mean 'unproductive' ordinary scientists) would be even more skewed toward elite opinion. In consequence of the biases and the gross numbers, we would find the last two categories favoring Quantavolution populated by only a couple of members of the top elite and a few members of the activist productive group. It is understood, of course, that "elite" and "productivity" here may not denote "truth-production" to any

great degree: they are terms denoting network and establishment leadership. Thus, if we were placing people, we would shuffle leadership scores like a deck of cards after three aces in a row were drawn.

Also, "forming an opinion" does not denote extensive reading in the field of quantavolution. Furthermore, placement of a person does not suggest his "flip-flopability." For instance, Carl Sagan would probably score as "top elite" and full under "general dissenters," but his writing and utterances on occasion signify a suppressed readiness to accept general quantavolution. He would have high "flip-flopability." So would the "activist-productive" *e-category* geologist Derek Ager, who, however, would not have to execute a vigorous flop, just a tilt. Melvin Cook, a geophysicist of the same ranking, would be found in *f*, and would probably move restrainedly into *g*. Robert Jastrow might occur as top elite in the *d* category of interested doubters, perhaps even in the *e* category; he, too, might move up readily.

On the whole, there is much subconscious ambivalence (produced by anomalous and contradictory material) in science, plus a goodly concentration of influentials near enough to quantavolution theory to accomplish an easy transition. Not one of the top elite of scientists in the country over the past thirty years has read deeply in the literature of quantavolution. That goes without exception for Sagan, although he has been active in the Velikovsky affair.

Deg was here counting as scientists those humanists and social scientists who profess a scientific approach to their fields. He knew of none of these of the top elite who had studied deeply the literature. Probably no more than 1000 persons in the world have been seriously engaged in the discovery and study of quantavolutionary literature over the past thirty years. If Velikovsky's *Worlds in Collision* has been read by a million people, most of the thousand will have read the book, but 99% of the million readers will have read little else of value besides it.

Many a well-known figure of science has had an exoterrestrial skeleton in his closet. Plato would deny the citizenry the right to challenge the divine and natural order of the heavens and proposed severe penalties for such. Yet Plato has for over 2000 years afforded support to quantavolutionists in history (the Atlantis

report), astronomy (deviations of the planets) and geology (destruction of early Attica by earthquakes), V. was annoyed when Stecchini stressed the anti-quantavolutionist side of Plato's political writings, and urged upon them a consistency that was not there; at least it seemed to Deg that he could not tolerate a double standard for Plato, that what was true should nevertheless be suppressed for the good of the social order. Here was an example of what was forbidden in principle to a psychoanalyst: V. therefore needed to believe that the truth would free man and wished a social policy that would acknowledge ancient traumas of catastrophe so as psychologically to free him in his behavior today. Given V.'s authoritarian bent, a contradiction of feelings arose which was displaced upon Stecchini's innocent and free-wheeling skepticism and attacked unreasonably. It does appear that Plato was deliberately contradictory. He recognized a chaotic universe while officially forbidding its recognition.

Stecchini performed a similar service with respect to Newton and Laplace, discovering in both men the inklings of catastrophism. In Newton's case the contradiction between a stable order of the skies of the new science and a biblical literalism ordaining catastrophic belief was explicit, but glossed over by Newtonian science. Stecchini's exposure of the concern of Laplace that destructive cometary visitations were possible, and of his admission that his mathematics, which fixed the modern vision of an impeccable celestial order, simplified reality, was more surprising.

Deg met with additional surprises and came to suspect that when the time came to throw off the uniformitarian guise, scientists would rediscover a general exceptionalism and anomalism in geology, paleontology, evolution, and astronomy. He relocated persons such as Pickering and Wegener. He found that Shapely, who had become the anti-hero of the Velikovskian sociological scenario, had posited exoterrestrial encounters one time, and so, too, Harry Hess, who had filed *amicus curiae* briefs for Velikovsky, and Sagan to whose burst of fame both hypotheses of exoterrestrial communication and rebuttals of Velikovsky contributed.

Some of such characters found a place in the geology of Deg's *Lately Tortured Earth*. Together with the frankly catastrophic

writers, such as Melvin Cook and Allan Kelly, they would come to play an important substantiating role, like the dissenting minority opinions in U.S. Supreme Court history, when the moment for revising science would occur. Then some of those who had denounced "backward catastrophism" would become forerunners of quantavolution.

But, please note, I have scarcely touched upon the full breadth of the science of science, which would embrace the thousands of cases occurring in the normal operations of conventional science upon conventional offerings to science. Nor can I do so, for I must be done with the case of the cosmic heretics very soon now.

Deg ' s Journal, en route Washington, October 18, 1966.

Sundry of the quantitatively directed natural scientist have told me and others that they believe Velikovsky to be unimportant and irrelevant because of his qualitative, subjective approach to events in astronomy, physics, and geology. For instance, the work on electromagnetism, radioactivity, interplanetary exploration, and solar system aberrations is learned, studied, and developed in a mathematical setting.

But for what V is saying, the movements of phenomena are so large and influential as to make quantitative assertions about them unnecessary. What matters to us is that oceans of soil descended from the skies, that numerous eruptions and earthquakes occurred, that gross changes in the sky appeared. These happenings were reported. The reports are ample. Neither the ancients nor we ourselves today would have had the tools, under the circumstances of the events, to describe them and present them in sets of equations.

Deg ' s Journal, Princeton, January 18, 1968, 10 P.M.

Every physical law states a proposition that is useful to culture, with requirements that are relevant to the practical workings of the law, and derives its "eternal truth" from that fact.

The proof, e.g. of Newton ' s law of inertia, is supposed to lie in the myriad applications of it, in ballistics, industry, and transportation. But one need only think of how many enormous discoveries and inventions occurred before Newton ' s law to see that the law itself does not create the

understanding of nature. It only rephrases that understanding in a slightly better and more useful form. It is a mistake to treat each reformulation as more than a useful temporary rendition.

Some natural laws can be made to appear ridiculously simple and indeed they may be such. A body resists changes in its motions. "Nothing changes unless acted upon." Well, why should it? That's the law of inertia. But the opposite of course is true -- nothing becomes what it is without having been something else. Etc.

Deg's Journal, October 27, 1972

The revolutionary zeal to refute uniformitarianism and evolution has not considered fully their merits. The doctrine, that solar system has been stable for millions of years, and that biological evolution and geological changes have occurred almost entirely through small incremental changes over billions of years, seems weak enough, in the light of our reassessment of catastrophic evidences in every area. The recency of catastrophe is plain.

We have had to explain why uniformitarianism triumphed but have done so only cursorily; one does not pause to strip elaborate armor off the fallen foes until the battle is won. When we can return to consider, we shall find that uniformitarianism has, like the Christianity its allies so disturbed, performed functions that we are not yet ready to provide substitutes for, indeed perhaps are not able to discover and recognize for some time.

In Praise of Uniformitarianism

We have said -- Stecchini and I, at least -- that uniformitarianism was the beautiful philosophy of the Victorian Age and of all those who wished since ancient times to give stability to human affairs. V. has recognized this and says from time to time, cryptically, even in *Worlds in Collision*, that the *Great Fear* remains, and is a cause of war and strife. Uniformitarianism is the culmination of the worldwide amnesia that followed the great catastrophes -- (I would call the period ca 5000 B.C. to 650 B.C. as the *Epoch of Cosmic Catastrophes*) [later extended to 12,000 B.C.] in its triumph, uniformitarianism succeeded effectively to reduce to nothingness the catastrophic theories. Great scholars like Eliade breeze over mountains of evidence of the chaos of "the

beginning" without asking whether such chaos occurred; they become a manifestation of primitive minds.

My position is this: that the effects of the Epoch persist; that Uniformitarianism was a successful myth both psychologically and socially, and was in conformity with many scientific discoveries. But far beyond these functions, uniformitarianism is rooted in the provision of the grand assurance that enabled humanity to:

- a) Challenge nature
- b) Control nature
- c) Set up the idea of History as Linear in Time, destroying the popularity of (and essential conservatism of) cyclical theories of history
- d) Spawn the idea of *progress* as the future of man
- e) Encourage the faith in stability that promoted the exquisite and productive division of labor in all areas (no rushing to the caves or wombs of overall theology needed)
- f) Simplify religion and produce deism, god as mechanic and great designer
- g) Give laws immutability
- h) Promote the idea of a rational bureaucracy and rationalism generally.

Deg' s Journal, New York City, November 18, 1972

Science is protected by a veil of awe and therefore is not usually thought to respond to sociological laws. It does, however, and even to laws about the vulgar sorts of opinion and leadership.

I notice that reforming or revolutionary scientists go back to "discarded," "forgotten" "rejected" sources. (Cf. Velikovsky in "Cosmos without Gravitation" and *Earth in Upheaval*.)

The ordinary supposition is that this is part of the rational system of sciences: viz. a) thorough coverage of sources, b) reexamination of misunderstood writings, etc.

Actually the explanation of this behavior is *très ordinaire*. Science has only a one-channel mind. It cannot proceed with two theories at the same time.

This may seem ridiculous: "What? The most brilliant intellects among humanity and they cannot hold two thoughts at the same time!"

The absurd becomes acceptable when we realize the deductive and administrative nature of science (*Cf.* my "Science and Values of Administration.") An enterprise, which science is, seeks one direction, one consistent set of rules of decision, one comfortable theory (if possible), a hierarchy of access and command, and (like an imperial megalomaniac of any world religion) one world-wide code (without culturally and ideologically distinct competitors)

The "old discarded writers" are therefore to be understood as you would view a rabble before it was transformed into an army. Coming early, they did not hear the call, they could not feel the current's strength. Their students, "seeing more clearly, feeling more keenly." rewrote their science to fit the future history of science, that is, to describe the path to be followed. Thus is science administered.

Newton and Darwin are celebrated for unconscious reason, more than for conscious ones or scientific ones: to cope with increasing anxiety, and yet change from a prescientific to a scientific age:

A) Newton performed a great *theological* role in the transition from geocentrism to helio-centrism by inventing the *clockwork universe*, and absolute laws.

B) Darwin's great *theological service* was to give enormous time and minute change (i.e. to reduce Time from quality to quantity) by inventing gradual evolution [by natural selection].

Deg ' s Journal New York City, January 1973

It is a formidable block to accusations vs. the reception system of science that "you do not know anyone of great merit who has not been recognized." This is fallacious:

- 1) One can find such: e.g. Boulanger.
- 2) Relative ratings are important. Change in rank order from 1 to 30 say, or from "best seller" to "out of print."
- 3) People are "infamous" and regarded as "famous" and vice-versa.
- 4) Famous people now have passed long periods in which they were unattended to : e.g. Aristotle.
- 5) Famous people are degraded on grounds that, though they *were really great*, they were superseded.
- 6) Who knows who is *not* known but great.
- 7) How few scientists on the list are read, and really known, after the first dozen or so.
- 8) People of great merit may not be able to publish, or they may be without the experimental, research, editorial and critical assistance to make their views plausible or digestible.

e.g. if V. had not been able to hire expert editorial assistance, writing as he did in a language only lately and imperfectly come by, he would not have been able to publish any work of consequence.

e.g. Deg has on occasion recommended student Abner highly and student Boggs modestly, then to discover the Boggs got a scholarship to go on at a first class establishment university while Abner did not go on, went instead to a less well-equipped and less influential university and was lost sight of in the production and achievement lists.

Deg's Journal, New York City, 1974

Sidney Willhelm, who has been one of the keenest sociological observers of the *Velikovsky Affair*, gave two excellent new reasons why V. should have been both accepted and rejected by influential elements of American Society. First, he says, the American democracy has given over to scientists its power and will to regiment ideas: "Reins remain extremely light upon the creative person through the delegation conferred by the State; by keeping each other in line, scientists avoid direct State censorship." (One thinks, for instance, of how remarkably well

the scientific groups have restrained the government from acting forcefully in the scientific groups' volatile area of bioengineering and cloning.) "Thus," says Willhelm, "the forces of resistance find a more difficult time to convince skeptics of the lack of true freedom of inquiry by the absence of an explicit state agency charged with thought control."

Willhelm also points to the psychological compatibility of V.'s catastrophic theories with the policies of the political elite.

"While it was the longing for peace and tranquillity which apparently nourished notions of harmony in nature, today it is the momentum of militaristic destruction which introduces the greater reception toward Velikovsky's controversial interpretations. Modern science owes its growth to wars and the threats of war." The cosmic heretics, with their wars of the gods, and clashes of the planets and comets, are setting an example, unconsciously, for the prospering of militarism and the military-industrial complex.

V. realized these dangers, and coined the idea of ' collective amnesia with the purpose of exposing this mentality and thus controlling it, while Deg too realized the danger in the association and went further to explicate the original dynamics of *Homo Schizo*, to build peace institutions, and to devise peace therapies.

Deg's Journal, Washington, D.C., 1979

It may appear shameful that scientists should depend for a new discovery or new perspective upon a lay body of vaguely connected individuals who are interested in an idea. Still, this is not only historically probable; it may be also logically and sociologically necessary deduction. The triumph of the Renaissance outlook and method in the humanities and sciences was a politico-social-economic-ideological effect. So was the victory of uniformitarian geology and, thereafter, biology in the nineteenth century.

Scientists and specialists, once they receive their kudos, become prideful and seek to shed their origins, retrojecting their present behavior and methods back to their science. The story of Albert Einstein's success, for example, is told almost always as a rational discovery, a steady progress through appraisals and tests, to applications and finally to total acceptance. The full story of his great lifetime success,

however, bespeaks a curious figure who caught the popular imagination and was ballyhooed by the press and newsreels under the misunderstood concept of "relativity" until many scientists, no matter how reluctant, had to deal with his idea. Several early opponents of "relativity" (now only a suppressed whisper is heard of this) saw clearly that a "matinee idol" was being foisted upon them. One does not deny Einstein his greatness in pointing out that he might not have wormed his way through the reception system of science and almost certainly would not have received the lion's share of glory if the public and press had not been behind him or, better, dragging him forward.

This is a subject which requires thorough exploration, and has not received such at the hands of science or the history of science. To take up only one point for a moment, few new ideas can penetrate the publications of science; they are pinched capillaries. If they are conveyed, their readership is extremely limited, a few persons, unless they are well-known already, in which event some hundreds read the work. Scientists get little reward from hard reading of anything but items aimed toward their ongoing projects, and they are busy with other affairs. If an idea does penetrate the minds of a very few, the very few must become a group, and must command just enough resources (not so much as to be 'bought off') to become an inescapable pressure against the conventional main front. Then they make a breakthrough, spread out on the flanks, and begin to surround and capture demoralized main body elements.

The winners may not even be correct; they may inspire only one of the many fads that overcome disciplines and the scientific outlook as a whole. If what they espouse is effectively 'true' a surge of scientific advances occurs and, among other by-products, arouses historians to write (and rewrite) this history. A public, consisting of persons who have time to read seriously, like love letters, the otherwise unreal material, constitutes a heavy factor in assembling, encouraging, calling attention to, and forcing recognition of a new viewpoint or method.

EPILOGUE

Surely, said Deg over the telephone, there must be a better way to write personal histories. He had just read my manuscript. If there is, said I, I don ' t know it.

It irritated me that he was dissatisfied, perhaps because I am dissatisfied myself. I tried. But there is no easy way of presenting the whole truth about people ' s lives. The threats of self-censorship and distortion must continuously be warded off, and, if not these, then there may come charging in crying "foul" the police, the torts attorneys, the anti- heretics, and some of the cosmic heretics as well.

I ' ve used many letters of yours, I told Deg, don ' t you think I should have a piece of paper from you giving me permission, but he said, no, you have them in hand rightfully and it ' s quite apparent that you are carrying on a public debate in the public interest on a matter of public concern. How can you do your job without reporting what people say, even if they don ' t like being quoted? If anything, you ' ve been a softy; you haven ' t used a hundred items I ' ve given to you about myself and others... Wait now, I said, that ' s just because they would be redundant... O.K..., he agreed, but bear in mind how important are the freedom of science and freedom of expression -- and truth, and proof of the truth: you couldn ' t do anything else; ideally you might have printed the whole file and let the documents just march out with fife and drums.

I don ' t intend to hurt anyone, I said, and he saw I was anxious. Buck up, man, dammit, you ' re doing a public service. And you ' ve got the First Amendment to the Constitution of the U.S. of A. for shield. Nowhere else is the letter of the law so close to the spirit of the law.

But weren ' t you badgering the *Bulletin of the Atomic Scientist* with a suit for slander? Well, he excused himself, yes, but I wanted to open up their pages to discussion, I wanted a chance to reply,

and their refusal was damaging to science. It made their scientist readers believe in a phony history and misrepresentations; it was a nasty cover-up. You 'd better go back and read what you 've said - - read the chapter in *The Burning of Troy* on the matter, too. The conduct and progress of science is public business and wrapping it in a cloak of privacy -- well, I won 't go on, just look at Nixon in the White House and, all that he tried to do in the guise of privacy to make off with his papers and tapes. I didn 't file suit; I tried to bulldoze them, but they were too smart; it didn 't work nor did an appeal to fair play. Now thanks to you we 've had a marriage between Miss Liberty of Expression and the scientists -- granted it 's a shotgun wedding.

You 've gotten me way off the subject, I said. I called to tell you the book is ended. "*La commedia é finita.*" All that it needs is a final word from you. Please try to make it positive. I like happy endings.

There was a long pause; then his voice came back on the line, carefully stringing out the words:

If quantavolution is untrue, it will stand like a monument to edify all who pass on the road of science... Everyone who seeks a new truth in science must become a party to concerns of civil liberty... Science is half psychosociology... Of all movements, scientific movements are the most rewarding to their adherents, win or lose, and of all these the most adventurous is cosmic heresy... He who knows how to tell time will decide the fate of the heretics.

"O.K." said I "that 's enough."

"Is it?" he asked. "You have not remarked in your book that Velikovsky wrote his works on catastrophe and quantavolution in the years 1940 to 1960, aged forty-five to sixty-five, which was precisely my experience between 1963 and 1983 when I was of the same age, a curious coincidence -- or a signal perhaps that my time is up."

*"Where are they, Sovereign Virgin,
But where are the snows of yester-year?"*

To which I felt the urge to add

*"Yes where is the Queen
Who ordered the scholar Buridan
Cast in the Seine in a sack?
But where are the snows of yester-year ?"*

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End of
Cosmic Heretics

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Home