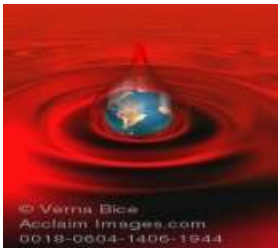
FREUDIAN ASTRONOMY



or
DO PLANETARY ORBITS, BRISTLECONE PINES, & VELIKOVSKY'S BELIEVERS SUFFER FROM COLLECTIVE AMNESIA?

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[Notes added 1974 March; retyped & emended 1990 July by C.L. Ellenberger]

Since the Velikovsky-cult [V = Velikovsky throughout] would have readers of its literature believe that those who reject V's biblical-billiard-ball-Solar-System theory are just prejudiced elder Establishmentarians (who refuse to read his writings), the following may prove off-beat at least.

Its writer is young enough to hope (against much respected advice) that V's advocates are responsive to reason. He was 13 years old when *Worlds in Collision* was published--and has enjoyed an occasional perusal of his own (rare Macmillan) copy of *WC* since age 17. He regards the 1950 boycott by leading scientists to stop V as similar to the tactics of Cardinal Spellman's crusade against Tennessee Williams--it was not merely "unfortunate;" it was dictatorial. He has just chastised *Sky & Telescope* (to whom he has been a contributor) in no gentle terms for refusing ads of the *Pensée* May issue. He has lately demonstrated that the world's largest scientific society published false information during the defensive protection of a grand hoax for which

that society was (& still is) largely responsible.

The persistence of the V-controversy is related to the differing evaluation-procedure employed by the warring camps.

A. Competent specialists in and out of science recognize howlers in V's theory where it impinges upon their own discipline. They therefore reject it.

B. On the other hand, many non-specialists whatever their original reasons for attraction to V, generally end up relying for specific defense upon a list of allegedly successful V predictions.

Let us examine these criteria in order:

A.
My own field of specialization is planetary motion. Every scholar of that description instantly recognizes the gross incredibility of V's rapid-fire worlds-in-collision theory. (Thus the seeming "prejudice" against V.)

For an obvious example: if the Earth really suffered 2 serious encounters ("forced out of its regular motion") with the "comet" Venus (a planet of mass comparable to Earth's—billions of times more massive than actual comets; WC knew nothing of this difference) then how did it (& its battered, molten wreck of a Moon) happen to come out with a near-circular orbit both times? Aside from the collision's direct havoc ("the melting of the earth's surface and the boiling of the sea" etc.): an elongated elliptical orbit (such as V arbitrarily ascribes to Venus instead of the Earth) before, between (over a half-century), and/or after these bounces would have drastically affected weather on Earth—since sunlight intensity varies as the inverse-*square* of distance from the Sun (the ratio-arithmetic of this appears too much for V). Evidently no observer noticed. And no bristlecone pine.*

> *See V's ill-timed *Earth in Upheaval* statement: "The oldest trees on record are [redwoods]. . . the most ancient started life [c. 1300 B.C.]...Thus it appears that no tree has survived...the great [*WC*] catastrophe [c. 1500 B.C.]. . . global catastrophe. . .hurricane and tidal wave....a sunless world for many years." (Dell ed. p. 167; see also this page's sources in

> Douglass--fantastic extrapolation of virtually-insignificant ripples.)
>
> This was penned in 1954 (p. 276n)--unfortunately the very same year it was discovered that bristle-cone pines go back way beyond redwoods, to c. 3000 B.C. They were no more fazed by V's imaginary "great catastrophes" than are his faithful--by this evidential catastrophe: a devastatingly negative test, which could stand by itself as a complete disproof of *WC*.

Equally elementary problems in the V theory were very clearly explained years ago in a number of learned journals—articles which *every* reader of *Pensée* should seek out in obscure corners of his local library (they were not catchy, profitable best-sellers). In a nutshell:

1. The Solar System is exceedingly empty of planets. (Even the nearest to us are so far away in relation to their size that they appear to the naked eye as mere points, not worlds.) So collisions have to be *very* rare (even aside from the stable resonances which characterize the Solar System—e.g., Neptune-Pluto, contra V's guess). Popular ignorance on this point actually led to a mass exodus from the California coast in 1968 out of fear that the approach of Icarus (mass about that of a comet) to the Earth would result in tidal waves. How many of these gullible souls had read V's comet-based diluvial fantasies?

2. The planets of the inner Solar System move in paths nearly circular and coplanar (with the exception of Mercury—the only inner planet not hopping about in *WC*)—showing therefore no vestiges of recent (even astronomically-speaking!) mutual encounter: namely, highly-inclined and near-intersecting orbits. (V supposes ancient peoples forgot via "collective amnesia" all the missing documentary links in his theories. But orbits have "memories" too—which suggests a new monograph in the V' literature: "Was the Solar System a Victim of Collective Amnesia?")

Stability of an orbital ellipse is a simple fact of gravitational astronomy; if three inner planets suffered a series of near-collisions c. 3000 years ago, then—unless all these approaches were almost *perfectly* co-planar (all

planets' average distances above or below the Earth's orbital plane—contra V: "The planets revolve in the plane of the ecliptic"—are *millions* of miles, vs. planet-sizes of thousands of miles)—remarkably-inclined orbits would result *and persist* to the present. (The first hypothetical tilt would make any later encounters of those two bodies with others even less likely to occur at all—much less along the plane of the ecliptic.) Moreover, both the Earth and Mars would still, once in each year, pass very near the point of *WC*'s final supposed encounter (687 B.C.) Wherever *is* this common point?-- the two planets' paths in fact have not once come within 30,000,000 miles of each other for as long as reliable positional records exist.

V's response to these little matters have been varied. In 1946, he scrapped Newton's law of universal gravitation for something better of his own: "attraction between dipoles is the fundamental law," [as Payne-Gaposchkin characterized it- *CLE*] However, in the main text of *WC* (1940-1950), V was more politic—and about as decisive and revolutionary as Sen. Muskie; the Preface was bold; the Epilogue shy-frisky:

> The theory of cosmic catastrophism can, if required to do so, conform with the celestial mechanics of Newton. . . although it is singular how, for instance, Venus could achieve a circular orbit, or how the moon, also forced from its place, could hold to an almost circular orbit. [If anything is more out of touch with reality than V's non-gravitational creations, it is this temporary hope that *WC* might not need them after all.]

There follows an unquotably-lengthy fantasy regarding possible Electricity & Magnetism influences and/or quantum-jump behavior in planetary motion. Nowadays V is also intrigued with the notion of vast tidal energy-losses in Venus as a way of non-gravitationally reducing this planet's orbit to a circle in a jiffy.

V stated in 1950 that his challenge to Newton "deserves to be discussed in detail and quantitatively." Twenty-two years later he has still not done so. Specifically: we thus yet await the day when the V-cult will predict planetary motion according to its new & improved V-physics, so that the overburdened

taxpayers of the nation may cease being wastefully drained to support the U.S. Naval Observatory's annual publication of the old-fashioned "Newtonian" *American Ephemeris & Nautical Almanac*—surely far inferior to the upcoming V-tables of the heavens. (Astrologers' slavish reliance on almanacs compiled by men 100% of whom know astrology is bunk suggests an equally comic vision.)

But-seriously-folks. V's assorted attempts to get round Newton have naturally produced a series of fiascos.

The sort of orbits one gets for interacting dipoles are not those of Kepler's 3 Laws. So simple observation proves V wrong here. (The distance-dependence would be nearly inverse-4th-power; as so often V was anticipated—by about two centuries—since Clairaut's first lunar theory wrongly suggested the need for such a term, radial in his case.)

The E&M hypothesis (for which V now absorbs such undivided credit, though he evidently got it from Simon Newcomb—just as the original worlds-in-collision theory comes from Whiston and Donnelly), when put forth in a vague way (without dipoles) seems plausible. And *Pensée's* May issue is chockablock with supposed verifications of such effects—for, after all, much has been learned of E&M in the Solar System since 1950. And had not V warned astronomers not to ignore E&M? Fine—except that 3 points are ignored.

First, E&M wasn't novel to Solar System theory in 1950. (Any more than was the supposed "heresy" of catastrophism—e.g.: the long-dominant Tidal Hypothesis for the origin of the Solar System.) The effect of sunspots on the Earth's magnetic field was discovered in the mid-19th century; the magnetohydrodynamical nature of sunspots was published in 1942.

Second, the particular way in which E&M guides planetary revolution is not explained in *WC*. Dramatic fiction is bad enough when a deus ex machina is blatantly tacked on to a plot in order to extricate the dramatic planetae from an otherwise-irresolvably eccentric & skewed situation. But when in addition the d.e.m.'s part is left unwritten-the theater-of-the-absurd has a new talent.

Third, what V was so swiftly rejected for in 1950 was not the suggestion of

E&M in the Solar System but rather the supposition that E&M forces substantially affect planetary orbital motion in a way contrary to the inverse-square gravitation law of Newton. (Coulomb forces naturally would be confounded with Newtonian forces and so do V no good at all.) *Pensée*'s May readers were not informed of the fact that—despite V's longtime hopes and *Pensée*'s impressive compilation of E&M phenomena re planets—there is still not the slightest evidence of E&M planetary orbital effects. (Understand: no one is denying that there are such effects. After all, even my brainwaves must influence the motion of Venus. The point is: to say that the effect is minute is a gross exaggeration.) And for the spectacular action of *WC*, V needs plenty more than slight forces; that the Danjon rotational trifle is so emphasized by V-literature only dramatizes the desperate bankruptcy of the E&M ploy—as as well make a mountain out of a molehill (or a planet out of a comet.

[The Danjon effect's millisecond rotational glitch would require about 10,000x more electric charge than Earth can possibly hold; see AEON II:2, pp. 62-63.—CLE]

With utter indifference to V, the inner planets and Moon continue as ever to revolve with such Newtonian precision that even tiny relativistic and tidal effects are clearly isolatable as small systematic residuals (first remarked in the mid-19th century): fractions of arc-seconds per year (3600 arcsecs = one degree of arc). Thus E & M effects must be far smaller even than these miniscule corrections—i.e.: despite the most extraordinary observational sensitivity, for over a century, no orbital anomalies are detectable which require acceptance of V's eager (if unspecific) offer of E&M assistance.

As for the planet-quantum-jump folly—that is (obsolete) science-fiction even for V. And the tidal hypothesis re Venus is like the others: not observed.

All these ad-hoc forces were (as Gardner rightly says re E&M) simply "invented" to do just what V needs them for--specifically: to save V's *prime* concern, his legend-based worlds-in-collision theory. It's simple: if Newton can be made to agree with numero uno, 0.K.—but if either has to go, it's going to be Isaac Newton, not the real genius.

B

The only reason occasional sane persons (usually unfamiliar either with science or with *WC*) take V seriously is because of his record of supposedly successful predictions. However, before we are taken in, certain precautions are in order:

1. How many a-priori-unlikely predictions could ever counterbalance the odds against the V theory of the Solar System?—considering the fantastically-improbable coincidences *WC* unwittingly demands (not to mention the "foundations" of the whole theory—to be examined further along). Do Swift's remarkably precise guesses re Mars' moons prove there was a Gulliver journey there? (Don't miss V's own Swift explanation).

2. If you garnish a book (& articles & countless unpublished memos) with incessant conjecture (not of specific numerical data, but simply either-or—e. g.: a planet is hot or cold) in a scientific field, then, when beliefs change in response to new data, you are bound suddenly to appear "right" on a few points. The others?—well, orthodoxy just hasn't caught up to you yet, or these "stand as further experimental tests." So you're never wrong. Another trick is to avoid predicting negatives (e.g.: planet so & so lacks charge, or is radio-quiet). A wrong guess of this type is much harder to explain away than the reverse sort, when contrary data turn up.

3. Rule for the wise observer: never trust a professional predictor unless his prognostications are clear & published in advance. All astrologers have long stock lists of pseudo-predictive hits.

In any case, if prediction is the V-followers' chosen arena of challenge and criterion for belief, they could not have picked a more formidable antagonist than celestial mechanics. The various non-gravitational forces V proposes would--if they are sufficient to greatly alter orbits in a few thousand years (as they must to justify their role in V's universe)--cause easily measurable departures from Newtonian orbits in a few decades. Yet in the three-quarters of a century since their publication, Newcomb's strictly Newtonian *Tables of Venus* have proved so accurate that the surface of the planet (a few thousand miles in radius—vs. the tens of millions of miles of V's difficulties) <u>still</u> (for any chosen moment in 1972) virtually contains the point Newcomb in 1898 predicted Venus' center would be at. By the test of prediction, then, whom will you choose: Newton-Newcomb, or Dr. V?

Relative to Venus' motion: V is currently suggesting—as his latest "test" of his theory—looking for recent decrease in Venus' temperature. (A substantial drop in a decade or so would indeed establish recent catastrophe.) But why wait (through another booming decade of Doubleday's V-sales) when a flock of similar "tests" are available here and now? Venus' (& Earth's & Mars') orbital eccentricity has a long-observed rate of change—from which one may easily extrapolate to see whether close approaches to Earth occurred c. 3000 years ago.

The results of the "test": Venus' aphelion was then approximately 100,000 miles farther from the Sun (Earth's apsides move at about the same radial rate) and Mars' perihelion was something under a half-million miles farther away—drops in the bucket compared to the distances of closest approach to Earth (about 25 & 35 million miles, respectively).

The well-validated American Ephemeris theory of Venus also provides figures for the rate of shrinking of Venus' orbit (which bears on V's tidal-energy dissipation theory): in 30 centuries, Venus' mean distance from the Sun has diminished by about the length of a football field. (The force responsible is Newtonian anyway, but even pretending it's tidal-based: the point is that the force is so small as to not have been reliably observed in centuries of records.)

Similar "tests" should be easy to arrange right here on our much-battered Earth. Halley once suggested finding the Earth's age by measuring the changing salinity of the closed Caspian Sea for some years and then extrapolating backwards. (The modern linear conversion of the Hubble Constant to the age of a Big-Bang universe (another instance of the supposedly-anathema catastrophism, pre-dating V by decades) is similar in concept if not in time-span.)

Considering the various cometary deposits V imagines occurring during the Exodus, all sorts of compounds should have noticeably increased their concentration in the Dead Sea in recent times. But "test"—failure here (as re orbit-change) will be forgot in Quixotic enthusiasm re new Signs (Venus-heat, etc.).

Turning next from future verification-dreams to the proud past record:

Those trusting souls not familiar with crank science may not realize how easy (and common) it is to fudge things about reportorially, thereby making a "prediction" look better retrospectively than it originally was. Some instances:

Probably V's best-known prediction was that Venus is "hot." Reading *Pensée,* one would imagine V had in 1950 boldly hurled his gauntlet in astronomers' heckling faces, on the matter of Venus' temperature. Reading V's actual conjectures in *WC* is therefore something of a letdown. V nowhere even hints that he is proposing a novel theory, in conflict with orthodoxy—for the very good reason that he was doing no such thing. To the contrary, he explicitly supports his supposition of a hot Venus by citing the 1922 work of (horror of horrors) professional astronomers (St. John & Nicholson) who (V):"have shown that 'a considerable amount of heat' is emitted by the dark part of the disc of the planet Venus."

In 1950, it was hardly news that Venus was hot--after all, the planet is closer to the Sun than the Earth. *Conquest of Space*, a popular picture-book of astronomy published in 1949, guessed perhaps about the boiling-point of water--which most of us would consider plenty "hot."

That V was not betting on anything much hotter is obvious: "*If*. . . Venus is too hot for the liquefaction of petroleum. . . (c. 200°C.-300°C. at std. pr.—vs. c. 500°C. actual temperature of Venus),(emph. added). And maybe Venus "is populated by vermin". Asbestos vermin?

Pensée: V "predicted that the ground *surface* temperature of Venus would be found to be extremely hot..." (emph. added). V: "the *core* of the planet Venus must still be hot." (emph. added).

A similar "prediction": the reader of *Pensée* would suppose (since all supportive-evidence literature cited is dated post-1950) that V's *WC* assertion that the Earth's magnetic field had reversed its polarity was original. In fact, he took the idea from a 1939 scientific volume.
As for the prediction that Jupiter might emit radio noise: this was, again, hardly a revolutionary thought—which, perhaps, explains why V (despite

much publishing activity throughout the early 1950's) did not bother publishing this. But it now has evolved as a major victory of V over entrenched orthodoxy. *Pensée*: "Remember your astronomy textbooks. . . We all 'knew'. . . how cold and dead Jupiter is." Perhaps the V-cult is a victim of its own "collective amnesia." (This is getting out of hand—we've got more amnesia than the whole history of the soapers.) Regardless, I would appreciate being shown one instance of a general astronomy textbook of the 1900-1950 period that ignored mention of the vast Jovian storm called "The Red Spot." *Conquest of Space* frontispiece: flaming 'lava' & 'ice' surface of J.

The related "prediction" that Jupiter is a "dark star" is treated solemnly by *Pensée*—however when checked, it turns out to be at best nothing but an incidental, scientifically-vacuous literary metaphor*--at worst it might well be that V just got mixed up re the difference between a star and planet.

*V's 1953 Princeton lecture remarks—not published until 1955 (post-discovery of Jovian radio-noise)—are more substantial, though not necessarily more correct.]

In any case, if we are consistently to read into oracles what we learn afterwards (a traditional method of bringing intelligence into vague rubbish, from Delphi to the present), let us at least assign credit to the proper Discoverer of Jupiter's stellar aspect. I wish to announce therefore my finding that the 1931 children's book, *The Stars for Sam*, speaks of Jupiter as a "wandering star." Moreover, we know by the end of the book, little Sam not only knows a star from a planet, but a planet from a comet. Unlike some.

Sam also knew that Venus' surface is "burned by intense heat" (emph. added)—far more specific than V two decades later.

The foregoing instances illustrate what the alchemy of predisposition can make out of pretty tame raw materials. A similar psychological bent is largely responsible for the entire V phenomenon: from the selection of his books' mythic "supporting evidences" (with their necessarily re-arranged chronologies—all of which only make the ad-hocced-up end-product seem all the more sweepingly revolutionary to those who share the derangement)—right on through to the attitude toward the pros & cons of the incoming evidence.

The V-camp treats such matters as Venus' heat and Jupiter's radio-noise as convincing evidence that Venus popped out of Jupiter a few thousand years ago—there being no other explanation of the phenomena one presumes. This being the sort of compelling "proof" V's followers accept for the V theory—it is enlightening to examine, for contrast, the reception accorded the negative evidence.

Let us be very clear re the absolute-veto power of negative evidence. The world of logic and science is a cruelly Darwinist environment, compared to the heady, why-not? atmosphere in which so many academics speculate. A host of evidences consistent with a theory never conclusively establish it—while, on the other hand, as V's Princeton-town neighbor (whose name V now uses a good deal, safe from retort) Albert Einstein put it, regarding the possible disproof of his own general-relativity theory (Hagstrom, *The Scientific Community* (1965), p. 265): "it would take a single experiment."

[15 Dec. 1919, Einstein wrote Eddington: "If it were proved that this effect does not exist in nature, then the whole theory would have to be abandoned." See S.G. Brush, "Prediction and Theory Evaluation: The Case of Light Bending," *Science* 246 (1 Dec. 1989), pp. 1124-1129, *CLE*]

However, while some theorists are responsive to the indications of unfavorable data, there are those who will never face the truth. The former quietly retire with intellectual honesty intact; the latter may retire on massive royalties.

The motion of Venus is an "experiment" which, relative to V's theory, is as lethal as evidence gets. But he is incapable of accepting this—and so makes up non-existent forces to wriggle out of his bind. How would he react if scientists simply invented a new kind of heat especially to explain away Venus' temperature? (In fact, the "greenhouse effect" postulate re: Venus was well-known since before the controversy.) A real scientist doesn't have a double-standard for data he does & doesn't want to see. Similarly:

1. When in 1951 astronomer John Stewart pointed out the obvious, that radioactive dating showed no evidence of recent worldwide catastrophe, V simply rejected the atomic dating of the Earth's crust.

2. Speaking of crust: when the same method applied in other fields indicated dates seemingly supportive of V, these atomic datings were accepted by the V-camp.

3. But when in 1969, V challenged (New York *Times*) the conventional belief that the moon's features were billions of years old (vs. his figure of 3000 years), the astronauts' lunar samples were shown via radioactive-dating to support orthodoxy. So V again refuses to accept the method."*

*In this tradition, *Pensée* published in 1973 an attack on the entire bristlecone pine chronology (P V-Rec 4:15)—though the purpose (see above, p. 2n) of this characteristic faith-motivated exercise in agnosticism isn't made very explicit.

As always: any twist to save the theory. Blink again at the V'cult chant: it is scientists, not V, who have been stubborn in this controversy!

Considering V's blithe imperviousness to mere facts, it is little wonder that *WC* is described by the faithful as "just about the only theory of the solar system and of ancient history that has *not* had to be drastically revised during the last two decades." (emph. orig.) While astronomy has advanced rapidly by reacting to new data, V plays on in the dark with legends of uncertain date & meaning, polishing the planetary choreography he was stuck on (and with) a generation ago. A comment of Russell seems a bit apt here (since a cult resembles a church): "What physicist. . . active in 1900 would dream of boasting that his opinions had not changed during the last half century?. . . [By contrast] A theologian proclaims eternal truths, the creeds remain unchanged since the Council of Nicea. Where nobody knows anything, there is no point in changing your mind."

By this time, V's pattern is clear: when physics conflicts with V--out goes physics. When established chronologies conflict—they require fixing. And Evolution will just have to move faster. Etc. A near-deadly surfeit of such "interdisciplinary and daring" thought finally suggests a counterattack: what in fact is the underlying nature of the theory that is being saved by assuming that everybody is out of step but V? What deductive chains has V forged with such fearsomely ferric logic that the day may be at hand when

(Larrabee): "textbooks in the sciences of terrestrial history must be almost entirely rewritten."

Let us sample V's method. Take for instance the theory that Venus' encounter with the Earth accounted for Joshua's making the Sun & Moon stand still in the sky. Slight problem: the book of *Joshua* remarks the Sun & Moon (c. 1/2 degree in angular diameter) but neglects to mention the celestial body which by V's theory would have taken up a substantial portion of the entire sky. Perhaps we could stretch things and suppose that quarter-back Joshua was blindsided by Venus' blitz--but, his whole team too? Enough josh.

However, even if V had been lucky enough to find here a reference to a passing comet—could the record be trusted? The ease with which we glibly "prove" nonsense from the confusion of legends is easily illustrated even off the top of the head:

Have you never wondered, dear dull reader, why comets have been so long associated with war? Observe Halley's Comet on the Bayeux tapestry; reflect upon the devastation presaged, on both hemispheres for the following year, by the great comet of 1811. When the *whole world* passed through the tail of Halley's Comet in 1910 (an historical first)—though none of your shallow-materialist Scientists were able to "measure" any change whatever in our air—yet, what was the inexorable result: the *first world* war!

The causal relationship is of course undeniable--and so we turn to the only remaining matter in doubt: the actual nature of the cause. The answer is to be found in the immortal works of The Bard, in a passage whose import has never previously been appreciated—doubtless due to the rarity of interdisciplinary geniuses. (How many astronomers ever look at Shakespeare?) *Julius Caesar* (I follow my mentor's easy tolerance for the well-ripened secondary source): as a comet appears for Caesar's death (fore-shadowing 13 years of civil war), "graves have yawn'd and yielded up their dead [an E & M effect V's seminars may wish to develop further]: Fierce fiery warriors fight upon the clouds..."(emph. added). They even "drizzled blood upon the Capitol. . . "

Well, how do you explain *that*? Here is a plain record, multiply-eyewitnessed

in the capital of the civilized world. There is no explaining it away: comets are populated with martial vermin (and appear to consist partly of blood--perhaps suspended in petroleum?)—responsible for the wars of history. How else account for peace-loving man being ever at war? One answer provides another: Ban Comets for Peace. It is hoped that the next budget-appropriations for NASA will not ignore this urgently important proposal.

Meanwhile, back at Josh's world-stopping revenge on the Amorites, with no Venus in sight in any reports of this righteous massacre, we may be excused for wondering: *these* are the "ancient records [which]. . . described in detail" V's Hoppe-history of the Solar System, & which compel the razing of the law of gravity to make room for *WC*?

But, hold: we cannot expect actual descriptions after all. Psychoanalyst V explains why the "detail" doesn't quite come up to advertisement:

> If cosmic upheavals occurred in the historical past, why does not the human race remember them, and why was it necessary to carry on research to find out about them?...The task I had to accomplish was not unlike that faced by a psychoanalyst who, out of disassociated memories and dreams, reconstructs a forgotten traumatic experience in the early life of an individual. In an analytical experiment on mankind, historical inscriptions and legendary motifs often play the same role as recollections (infantile memories) and dreams in the analysis of a personality....
>
> It is a psychological phenomenon in the life of individuals as well as whole nations that the most terrifying events of the past may be forgotten or displaced into the subconscious mind. As if obliterated are impressions that should be unforgettable. To uncover their vestiges and their <u>distorted</u> equivalents in the physical life of peoples is a task not unlike that of overcoming amnesia in a single person [Emph.added]

Thus V's "collective amnesia." In a court of law, it would be obvious that V has had to discredit his <u>own</u> witness in order to squirm out of another of his theory's inconsistencies: his "detailed" records' lack of clear accounts of

some rather unsubtle events*. But, in the jesty court of psychoanalysis, from whence V came, perhaps all this will pass for scholarship or even science.

> [The penultimate paragraph in *WC*'s "A Collective Amnesia" which occurs immediately before the second-quoted paragraph above attempts to account for this apparent "lack of clear accounts" by the ancients' converting clear accounts of cosmic disturbances to "allegories or metaphors." Perhaps one man's clear account is another's ambiguous/equivocal hearsay or vision? CLE]

Again setting things in perspective: what V is asking us to believe, on the basis of *admittedly* unreliable records, is that a good deal of *highly*-unlikely (a priori) behavior of planets occurred—coincidently—not long before reliable positions of the planets began to be consistently recorded—and that about when accurate observations became prevalent, the whole volatile mess shyly settled down into the near-coplanar, near circular-orbit Solar System we've now had for the last few thousand dull years.

Certain eminent organized religions still expect their adherents to accept a similar coincidence: miracles were common in days when men were poorly-schooled (and therefore not nice on points of evidence) but have somehow drastically declined in frequency in better-informed cultures. Whether tales of ancient wonders reflect lapses of the recorder or of the laws of nature & probability is not a difficult question, when seen in such a light.

V's "coincidence" becomes even more astonishing when we realize the implications of his suggestions that Jupiter is a star and that:

> The solar system is actually built like an atom; only, in keeping with the smallness of the atom, the jumping of electrons from one orbit to another, when hit by the energy of a photon, takes place many times a second, whereas in accord with the vastness of the solar system, a similar phenomenon occurs there once in hundreds or thousands of years.

However, many stars besides Jupiter have long been observed in orbit,

outside our Solar System: visual binaries. Alas, all move according to Newton. And note: thousands of such orbits have been tracked telescopically for well over a century each, so that the total orbital history recorded amounts to something on the order-of-magnitude of a million years. And yet not one orbital jump (which V has occurring on the order of every thousand years) has ever been observed. (Hard luck?—or hard science?)

It almost seems as if the measuring process itself destroys the ability of the subject to behave sportively. Such an "effect" has been reported in ESP "research." Naturally.

Incredibly, V's talent at selectivity has yet a further facet, which we now examine through another example from *WC*.

Venus' origin (as a comet) out of Jupiter is supported by the familiar old legend of Athene's birth—springing from the head of Zeus. Those of V's readers about to recall from school that Athene = Minerva and Aphrodite = Venus (Greek and Roman near-equivalents) are then treated to an exercise in musical names that would leave the shiftiest Nostradaman agape with admiration. Partially interchangeable for V's purpose: Pallas, Athene, Minerva (Payne-Gaposchkin notes that V's source, Cicero, refers to almost a half-dozen different "Minervas"), Tritogeneia, Istar, Isis, Phosphorus, Lucifer, Hesperus, Azazel, Gula, Noga, etc. (The acuity of some of the ancients whose records form the basis for V-astronomy may be gauged from their having given separate deity-labels—Phosphorus & Hesperus—to Venus in its morning-star & evening-star roles, unaware that the same planet was behind both phenomena.) Even sex-changes are no problem.

Among V's evidences for Venus' encounter with the Earth: the *Veda* compares Venus to a bull; bull = cow; and a horny comet (= Venus), while passing the Earth during the Exodus, showered down manna = milk. When you realize what critter gives milk, the orbit of Venus is no longer any mystery.

Can it now surprise anyone that archaeologist Wm. Albright (a scholar of orthodox religious bent, who would have been happy to find genuine bible-was-right evidence in V's Work) in 1952 reacted as he did (Gardner): V's "historical method...is on a level with the professor who identified Moses

with Middlebury by dropping the '-oses' and adding '-iddlebury.'"

Over-harsh? Well, let us see—as we finally descend to exhume the ultimate source of V's "method"—psychoanalysis.

In the 1920's and 30's, before turning astronomer, V was a practicing psychoanalyst of some standing—a student of Freud's pupil Stekel in Vienna. The similarity of V's mythological shell-game with Freudian dream-analysis is not only obvious—as we saw, V himself makes the comparison when impressing his public with the herculean task he has accomplished in dredging up repressed nightmares of planetary encounters experienced in the infancy of human civilization. V's whole idea of "collective amnesia" is merely Jung's "collective unconscious" (of the whole race--complete with mythologically-recalled "archetypal" fears) married to Freud's "infantile amnesia" (by which expedient Freud explained away such bothersome details as the fact that people don't seem to remember experiencing the Oedipal phase which Freud knows everybody goes through—why else the myth?).

V's adoption of Freud's methods was so faithful that V's interpretation of a dream of Freud Himself was awarded the imprimatur of publication in the *Psychoanalytic Review* in 1941 and was later granted a different sort of immortality by display in Andrew Salter's sage (and entertaining) *The Case Against Psychoanalysis*—as a classic example of Freudian dream-analysis. As with the whole of that uproarious literature (and V's later Venus-bull in *WC*), it was (Salter): like playing "poker with everything wild."

Freud's dream: he'd done "a monograph on a certain plant. The book lies before me; I am just turning over a folded colored plate. A dried specimen of the plant, as though from an herbarium, is bound up with every copy." Freud recalled that he had just that morning noticed "in a bookseller's window, a volume entitled *The Genus Cyclamen*, apparently a monograph on this plant." The herbarium reminds him of the four-petaled flowers called "crucifers."

V sees here—in the usual "detail"—the world-views in collision in F's unconscious: monograph = monotheism, herbarium = Hebrew, page-turning = convert, crucifers = crucifixes, cyclamen = amen. (Why <u>not</u> Moses = Middlebury and horned-Venus = bull = cow?)* Understand: this is from a learned journal, not an unsold Batman-Riddler TV script.

*Velikovsky in 1937 *Psychoanalytic Review* (24:19): "Don Juan,. . . the eternal quest of women as a masked form of homosexuality.

Salter sums up the conclusion V finds inescapable from the evidence assembled: "Freud in this dream is obviously distressed at the thought of being a Jew and wants to become a Catholic."

It is this approach which, as V's preface to *WC* explains, now (applied to the human race's DT's) necessitates the tossing out of "the celestial mechanics of Newton and the theory of evolution of Darwin."

Nonsense. The secret of the universe is actually to be found in sheep's entrails, tea-leaves, tarot-cards, and the Great Pyramid.

In the foregoing, we discover the roots not only of V's theorizing, but of its ready acceptance in 1950 by Macmillan's editors and by such eminent pundits as Clifton Fadiman and Horace Kallen. (Fulton Oursler's endorsement was predictable. As for Pulitzer Prize winner John J. O'Neill, N.Y. *Herald-Tribune* Science Editor: O'Neill has also written that "astrology is one of the most important fields for scientific research today," lamenting its modern neglect and unmerited disrepute.) Level-headed scholars are resigned to expecting woeful gullibility from a public, large portions of which actually trust: Fundamentalism, astrology, gambling-"systems," Nixon, professional wrassling & roller-games, etc. But to find respected men of letters avidly lapping up V was a shock.

It should not have been. Indeed, the great service of the V-controversy has been its spotlighting of the gulf separating scientifically (and/or logically)-based knowledge from impressively-constructed hot-air castles, in modern academe. The dichotomy is not so simple as just Science-vs.-Humanities—though surely the dimness of the scientific twilight in which the one half operates is even now not fully grasped by the other. What is truly remarkable—even dangerous—about the situation is not mere scientific illiteracy (an interdisciplinary problem even among scientists)—rather it is the rejection of the scientific approach, i.e., plain horse sense.

Widespread disdain for—or even fear of—a variety of "scientific" horrors:

"cold, rational thinking," measurement, positivism, statistics, the Enlightenment, verification . . .—has evidently necessitated their replacement by more "human" means of thought: "intuition," superstition, Authority, untested (often untestable) and/or over-simple pseudo-explanations, folk-lore, the "wisdom of the ancients" and so on.

Whatever the causes, the fact is that much of what passes for scholarship in certain departments of our universities is so embarrassingly akin to quackery that graduates often cannot recognize crank beliefs when they stumble upon them, in and out of school. Thus the unsuspecting acceptance of *WC* in 1950 by some as a serious contribution to human knowledge—for certainly the book is no more baseless than a great deal of widely-respected "knowledge" outside astronomy: The unbridled reading of "symbols" into literary fiction (see *The Pooh Perplex* for 12 devastating satires on this involuted funny-farm section of the field of comparative literature—more omni-wild poker). Not to mention the fine arts—where the distinction between knowledge and aesthetic convention is oft blurred. In theology, the confusion is with moral conventions—again: reasoning is commonly impossible without arbitrary (usually tacit) agreement upon ultimately-untestable premises. The whole unproved fad of psychoanalysis is still taken seriously in many college departments of social-psychology, education, English. (To these elements, above all, *WC* reads perfectly naturally.)

What is fashionable and cult-cohesive in "soft" philosophy provides abundant illustrations of weakness for simplistic schemes (blithely ignoring a host of alternative hypotheses)—often megalomaniacally extrapolated to all races, history, and even the universe. And then there is plain gimmickry. (Speak swiftly and carry a glib schtick.) Little of it being testable against competing views, the contest of ideas too often becomes one of rhetoric, prejudice-appeal, and academic politics.

Reality is so unfamiliar an intruder in certain spheres of Higher Learning that an unexpected visit can prove disastrous—and provide an enlightening tale. Philosopher G.W.F. Hegel presented to the Univ. of Jena on 1801 August 27 (his 31st birthday) a detailed proof that the order-of-nature dictated that no planet existed between Mars & Jupiter. Unfortunately, Ceres had just been discovered (Jan. 1, Piazzi, Palermo) and even announced (while temporarily lost) in a Jena journal on May 6th. In short: probably *the* classic case in the

history of human thought of the crank's power to ignore facts inconvenient to a pet theory. (The Hegel-Ceres story is in fact so remarkable that the tale has come down to us, distorted by preconception, to read that Hegel published just before Ceres' discovery—the truth is too incredible. Incidentally: so much for the reliability of legend.)

Yet despite this incomparable contretemps, Hegel's particular version of the true-order-of-the-universe (amidst much competition) became the 19th century's dominant philosophy—taken seriously by professional philosophers to this day.

Relative to our earlier discussion of prediction—we see that Hegel, like V, couldn't even postdict. In planetary astronomy, both were proved wrong before publication*--but neither stopped the presses for such [*See also above, p. 2n., a minor point].

By contrast to the netherlands of academe, for example: psychology, the natural and physical sciences, logic, history, anthropology, the classics—all are grounded in reality. The toll of evidential rootlessness elsewhere is inescapable. Just as, for individuals, long removal from dependable reality produces schizoid symptoms (the advanced delusionary universes of which can become as intricate, lingoistic, and consistent as a philosopher's system-of-the-world) and just as power corrupts—so a field of thought which evolves unchecked by empirical verification will find the rule of reason replaced by that of caprice, gut-reaction, and personal connections.

By sheer force of numbers (since the mass of students prefer bull-courses to those involving the challenge—and possible disaster of—measurement and test) college faculties are often dominated by the darker half. Trade book (& magazine) publishing is entirely so—“well-written" nonsense consistently being preferred to dry logic by editors for whom style & sensation is all. Thus the state of the major arenas of the intellectual life of the nation—deadheaded by the weight of men with no expertise whatever in rationally relating a fact to a theory.

Herein we find both the origin and the significance of the Velikovsky boom. There is a long way to go before the problems it has revealed are alleviated.

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