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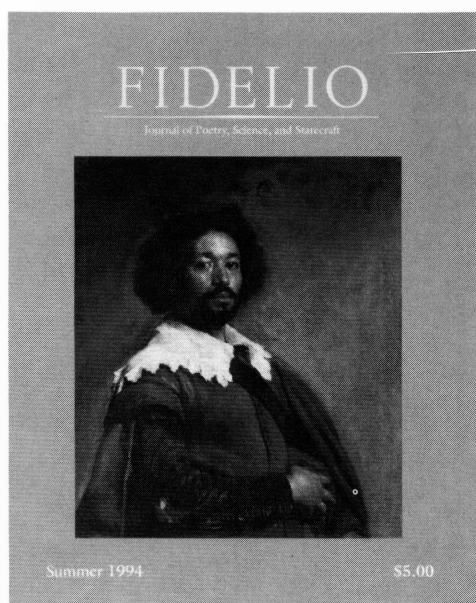
Journal of Poetry, Science, and Statecraft



Fall 1994

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FIDELIO

"It is through beauty that one proceeds to freedom."

—Friedrich Schiller

Vol. III, No. 3 Fall 1994

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Fidelio (ISSN 1059-9126) is published by the Schiller Institute, Inc., P.O. Box 20244, Washington, D.C. 20041-0244. Editorial services are provided by KMW Publishing Company, Inc. © Schiller Institute, Inc.

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On the Cover

Rogier van der Weyden, *The Magdalen Reading* (detail) (c.1440-50). SEE inside back cover for analysis. (Reproduced by courtesy of the Trustees, The National Gallery, London)

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AN OPEN LETTER TO THE PRESIDENT OF THE UNITED STATES

Exonerate Lyndon H. LaRouche, Jr.!

On Aug. 11, 1994, the following statement appeared as a full-page advertisement in the *Washington Post*. The ad was signed by over four hundred leaders in the fields of politics, law, human rights, religion, art, science, and the military from around the world. The list includes one former U.S. Senator and three former Congressmen, two former heads of Ibero-American nations, more than fifty serving and former national legislators and cabinet members from abroad, five Roman Catholic archbishops, more than a dozen bishops of the Roman Catholic and Ukrainian Catholic churches, dozens of Islamic and Protestant leaders, more than fifty state legislators from twenty-four U.S. states, several veteran U.S. Civil Rights leaders, a former head of the U.N. Human Rights Commission, and the President of the African Academy of Sciences.

We have decided to reproduce this statement as our editorial in this special, history-making issue of *Fidelio*, because we are certain that whether or not Lyndon LaRouche and his associates are exonerated will uniquely determine the outcome of the 600-year conflict raging in the world today. This conflict, as identified in Lyndon LaRouche's essay "How Bertrand Russell Became an Evil Man: Reflections Upon Tragedy and Hope," is between adherents of two diametrically opposite concepts of God and man. On the one side are those who in the tradition of the Council of Florence (A.D. 1438-40) conceive of man as in the image of God (*imago Dei*) and therefore defend the institutions of family and the sovereign nation-state as the means to develop each individual's capacity to become an adopted son of God (*capax Dei*). On the

other side are those like Bertrand Russell in the tradition of the Venetian Party, who are currently pushing to establish a genocidal, one-world empire under the auspices of the United Nations.

As LaRouche writes at the conclusion of his essay: "There are three foreseeable alternatives for the next several years before us. Either we reverse the Venetian rule, or the Venetian faction will establish the kind of global, one-world dictatorship which the proposal for the U.N.O.'s Cairo population conference portends, or, the failure of both efforts results in a planetary chaos far worse than that of Fourteenth-Century Europe."

The necessary, crucial step to reversing Venetian rule and to achieving what LaRouche describes as an Age of Survival for humanity as a whole, is the exoneration of LaRouche. Any thought that humanity can survive the current crisis without the exoneration of LaRouche is a delusion. Exonerate LaRouche, and you will have liberated America from its Venetian captivity.

* * *

On Jan. 26, 1994, the American statesman and physical economist Lyndon H. LaRouche, Jr. was freed on parole after having served five years in federal prison as a political prisoner.

His freedom came only after an unprecedented international mobilization. Close to one thousand of America's foremost legal experts had petitioned the court as *amici curiae*, calling the case "a threat to every politically active citizen." The case was brought before the United Nations Commission on Human Rights, the Organization of American States, and the Com-

EDITORIAL

mission on Security and Cooperation in Europe (CSCE). Literally thousands of parliamentarians and other elected officials joined with religious leaders, artists, scientists, and human rights figures from across the globe to demand an end to LaRouche's unjust incarceration. Hundreds travelled in delegations to Washington, D.C. to lobby for LaRouche's freedom.

Finally, after five long years, Lyndon LaRouche was freed on parole. But the fact remains that a terrible crime still goes unanswered. Not only was an innocent man framed, convicted, and wrongfully imprisoned for five years, but, it is now clearly the case, documented by six volumes of unchallengeable evidence, consisting chiefly of government documents and admissions of government-led "task force" officials, that the U.S. government knew at all relevant times, from 1979 to the present day, that Lyndon H. LaRouche, Jr. and his co-defendants were innocent of the false charges for which they were convicted. This proof that the government knowingly and fraudulently charged, convicted, and imprisoned LaRouche and his associates knowing they were completely innocent is part of the public record on file with the Federal appeals court in Richmond, Virginia.

Yet to this day, not only have the U.S. Federal courts and the Justice Department failed to rectify this fraudulent conviction, but, while this critical evidence sits gathering dust without ever being heard, five of Mr. LaRouche's associates still sit in prison, serving decades-long sentences.

We, the undersigned, are compelled to act in the name of law, to demand that you, Mr. President, along with Attorney General Janet Reno, and the appropriate committees of the U.S. Congress, take any and all measures necessary to ensure the full and immediate exoneration of Lyndon LaRouche. The

The Legislation of Lycurgus and Solon

It was beautiful and fitting of Solon, that he had respect for human nature, and *never sacrificed people to the state, never the end to the means*, but rather let the state serve the people. His laws were loose bonds, in which the minds of the citizens moved freely and easily in all directions, and never perceived that the bonds were directing them; the laws of Lycurgus were iron chains in which bold courage chafed itself bloody, which pulled down the mind by their pressing weight. All possible paths were opened by the Athenian legislator to the genius and diligence of his citizens; the Spartan legislator walled off all of his citizens' potentials, except one: political service. Lycurgus decreed indolence by law, Solon punished it severely. In Athens, therefore, all virtues matured, industry and art flourished, the blessings of diligence abounded, all fields of knowledge were cultivated. Where in Sparta does one find a Socrates, a Thucydides, a Sophocles, and Plato? Sparta was capable of producing only rulers and warriors—no artists, no poets, no thinkers, no world-citizens. Both Solon and Lycurgus were great men, both were righteous men, but how different were their effects, since they proceeded from principles diametrically opposed. The Athenian legislator is surrounded by freedom and joy, diligence and superfluity—surrounded by all the arts and virtues, all the graces and muses, who look up to him in gratitude, and call him father and creator. About Lycurgus, one sees nothing but tyranny and its horrible partner, slavery, which shakes its chains, and flees the cause of its misery.

—Friedrich Schiller,
from "The Legislation of Lycurgus and Solon"

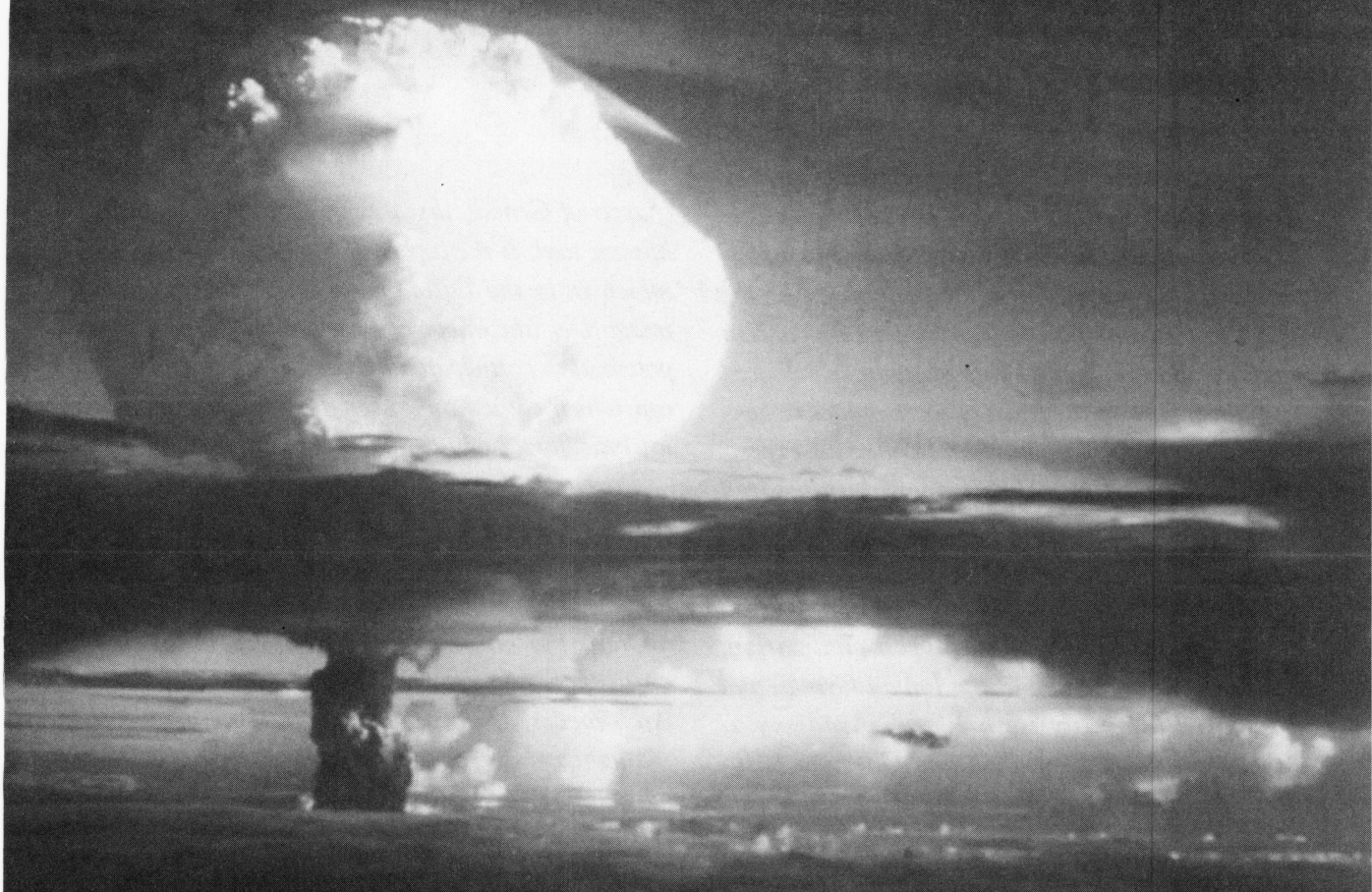
failure to do so does not stain the honor of Lyndon LaRouche, who has paid a terrible price for his innocence, but the honor of the U.S. justice system and Constitution which, for more than two hundred years prior to this dark episode, stood as the symbols of liberty and justice for all.

*Reflections Upon
Tragedy and Hope*



UNESCO/C. Babin

HOW



BERTRAND RUSSELL BECAME AN EVIL MAN

U.S. Air Force

by Lyndon H. LaRouche, Jr.
July 28, 1994

Prologue

The spark of genius in the pre-school child, if it has not been destroyed already, is often typified by the Socratic manner in which the child asks "Why?" Sadly, in the United States in our times, that spark of genius is usually soon quenched by the old dishwasher of what Riesman termed "other-

directedness,"¹ by that peculiar turn of the sadistic screw sometimes named euphemistically empiricism and pragmatism. A child's spark of genius, the wont to find out how and why past or current opinions and events came into existence, is replaced by brutish faith in the fruits of mere inductive generalization from individual and collective experience, a form of moral self-degradation often termed "practical common sense," or with credit given appropriately to bestiality, "horse sense."

All of the truly great philosophers and teachers of the known history of European civilization, beginning with the best of the Ionian Greeks, and associated famously with Plato's Academy at Athens, or Nicolaus of Cusa and Gottfried Leibniz, have evoked true genius from within young people by recapturing that innate spark of potential, using what is most fairly described as Socratic method. Formalism, by contrast, kills the soul, as this was recognized by the most famous of the modern formalists, Venice's Pietro Pomponazzi,² who searched for his own soul, and, poor schlemiel that he had become, reported that he had none.

Thus, since it is that innate spark of potential for genius in every human child which sets all mankind absolutely apart from and above the beasts, we are able to recognize, as Philo of Alexandria shows this the necessary reading of Moses' first

chapter of Genesis, that that quality of genius is the human soul, is the aspect of the individual person which is, in the Latin of Nicolaus of Cusa, both *imago Dei* (the image of God) and *capax Dei* (the potential to participate in God).³ Thus, the formalism which caused the loss of Pomponazzi's soul is intrinsically the adversary of the Good, is evil.

Fortunately, in most cases it is possible to requicken the spark of genius innate to the new child. All the great teachers did this. Every good teacher attempts to do that in some degree, in his or her approximation of the Socratic method employed by Plato, Eudoxus, Theaetetus, Archimedes, Cusa, and Leibniz. One need but reawaken the genius of the child, by citing the password to genius, "Why?"

Begin by choosing an important single event from history. Choose any such event in which there is evidence that the event was motivated by aid of some widely accepted, but fraudulent pretext. Seek to discover what motivated that fraud, and seek to uncover also the reasons that fraud was tolerated by its dupes. Keep asking "Why"? Peel the onion, layer by layer, until the history embedded in that single act is brought to the surface. The result of that sort of Socratic exercise is a referent for the proper definition of the word "knowledge."

So, let us begin.

1. See David Riesman, *The Lonely Crowd: A Study of the Changing American Character*, in collaboration with Reuel Denney and Nathan Glazer (New Haven: Yale University Press, 1950); see also Robert Staughton Lynd and Helen Merrell Lynd, *Middletown: A Study in American Culture* (1929) (New York: Harcourt Brace, 1956).

2. Pietro Pomponazzi (1462-1525), the gnostic teacher of Averroës' Aristotelianism famous for having demonstrated that a consistent philosopher of his teaching has no soul. Major work, *De Immortalitate Animae* (*On the Immortality of Souls*) (Bologna: 1516). See Martin L. Pine, *Pietro Pomponazzi: Radical Philosopher of the Renaissance* (Padova: Editrice Antenore, 1986); see also *Studi su Pietro Pomponazzi*, ed. by B. Nardi (Florence, 1965).

3. See Philo ("Judaeus") of Alexandria, "On The Account of the World's Creation Given by Moses," in *Philo: Vol. I*, trans. by F.H. Colson and G.H. Whitaker, Loeb Classical Library No. 226 (Cambridge, Mass.: Harvard University Press, 1981), sec. XXIII, pp. 55-57. For Cusanus on the intellect as "a living similitude of God," see "On the Filiation of God," in *Toward a New Council of Florence: 'On the Peace of Faith' and Other Works of Nicolaus of Cusa*, trans. by William F. Wertz, Jr. (Washington, D.C.: Schiller Institute, 1993), p. 188. Cusanus refers to *capax Dei* and *imago Dei* in "On the Vision of God," in *Nicholas of Cusa's Dialectical Mysticism*, trans. by Jasper Hopkins (Minneapolis: The Arthur J. Banning Press, 1985), p. 127. In this location, Cusanus writes that man is "capable of receiving" God and that "the capability which conduces to union is only likeness."

See in your mind's eye a B-29 bomber aircraft, called the "Enola Gay," flying to its hellish appointment, that horror-stricken summer's day in 1945.⁴ Why did the United States government drop the only two nuclear-fission weapons in its arsenal upon those two virtually defenseless population-centers in Japan? The U.S. government lied when it said this was necessary to save perhaps a million or so U.S. soldiers' lives. Before the dropping of what quickly came to be described in awe-stricken tones as "the bomb," the Emperor of Japan was already negotiating surrender with the Truman government, through Vatican channels, on the same terms Japan's surrender was accepted after the bombs were dropped.⁵

With that brief reminiscence, we have touched the history of this century at one of its crucial turning-points.

Since the alleged military urgency of the nuclear bombing of Hiroshima and Nagasaki was a lie, whose purpose did that bombing serve? One of those whose purpose was served in Hiroshima that day, was a modern Mephistopheles, Bertrand Russell, whose shadow is cast ominously upon both the living and generations of all mankind yet unborn, at the projected 1994 U.N.O. Cairo Population Conference. To understand why British intelligence networks inside the U.S. government manipulated President Harry Truman into dropping those unnecessary atom bombs upon Japanese civilians, it suffices to read Russell's own explanation of his and Winston Churchill's nuclear-weapons policy, in

the September 1946 edition of *The Bulletin of the Atomic Scientists*: "The Atomic Bomb and the Prevention of War."⁶

In that 1946 report, Russell presents his motive for the continued use of the geopolitical threat of nuclear weaponry by himself, Winston Churchill, *et al.*: to blackmail Moscow into submitting to an agreement whose purpose, Russell states explicitly there, is to transform the then recently established United Nations Organization into the kind of one-world dictatorship for which his world-federalist utopians have continued to work throughout this century.⁷

Russell's strategic dogma, as articulated in that 1946 edition of *The Bulletin of the Atomic Scientists*, has shaped most of the history of this planet since that date. Since Soviet General Secretary N.S. Khrushchev sent four official representatives to Russell in London in 1955, to negotiate a thermonuclear condominium along the lines Russell had prescribed in that 1946 statement of his strategic doctrine,⁸ until the fall of the Gorbachev government in August 1991, the smaller and weaker nations of the world have been ruled by a U.N.O. world government in the form of a thermonuclear condominium between the political blocs dominated respectively by the two rival super-powers, Moscow and the Anglo-Americans.

For those who know both the approximately fifty-years history of the discovery of nuclear fission and

4. Aug. 6, 1945. Claude Eatherly, the pilot of the reconnaissance plane on the "Enola Gay" mission, was never able to adjust to civilian life; in 1962 he wrote (with Gunther Anders) *Burning Conscience* (New York: Monthly Review Press, 1962). Robert Lewis, the copilot of the "Enola Gay," later said: "If I live a hundred years, I'll never quite get these few minutes out of my mind." [Quoted in Robert Rhodes, *The Making of the Atomic Bomb* (New York: Simon and Schuster, 1986).] When the U.S. Army Air Force General Carl Spaatz took over as commander of Strategic Forces, Pacific and was briefed on the atomic bomb mission—which would officially take place under his new command—he insisted, "If I'm going to kill 100,000 people, I'm not going to do it on verbal orders. I want a piece of paper." [Gordon Thomas and Max Morgan Witts, *Enola Gay* (New York: Pocket Books, 1977), p. 244.]

5. The recently deceased Max Corvo, then OSS field chief for Italy, represented the U.S. in the mediation supplied through the Vatican by the late Pope Paul VI (then, Cardinal Montini). A massive operation by British agents, including London assets, such as the OSS's Allen Dulles and James Jesus Angleton, worked to discredit the Vatican as a way of neutralizing the evidence of the hoax behind the bombing of Hiroshima and Nagasaki.

6. Bertrand Russell, in *The Bulletin of the Atomic Scientists*, Nos. 5 and 6, Sept. 1, 1946, p. 19.

7. Russell writes: "It is entirely clear that there is only one way in which great wars can be permanently prevented, and that is the establishment of an international government with a monopoly of serious armed force. . . . An international government, if it is to be able to preserve peace, must have the only atomic bombs, the only plant for producing them, the only air force, the only battleships, and generally whatever is necessary to make it irresistible. . . . The international authority must have a monopoly of uranium, and of whatever other raw material may hereafter be found suitable for the manufacture of atomic bombs. It must have a large army of inspectors who must have the right to enter any factory without notice; any attempt to interfere with them or to obstruct their work must be treated as a *casus belli*. . . . [T]he international government . . . will have to decide all disputes between different nations, and will have to possess the right to revise treaties. It will have to be bound by its constitution to intervene by force of arms against any nation that refuses to submit to the arbitration. Given its monopoly of armed force, such intervention will be seldom necessary and quickly successful. . . ."

8. For a history of Pugwash, see J. Rotblat, *Scientists in the Quest for Peace, A History of the Pugwash Conferences* (Cambridge, Mass.: The MIT Press, 1972), p. 2.

fusion, since the discoveries of both Professor Dmitri Mendeleev and the Curies,⁹ the proof exists to show that Russell's intent as expressed in that 1946 article, was the same intent which Russell and his cronies had in duping the United States government into building the bomb in the first place: to produce and use a weapon so horrifying that nations would surrender their sovereignties to a global arbiter of policy, a United Nations world-government dictatorship, the "final imperialism."

Excepting a few, such as the Dr. Leo Szilard,¹⁰ who was approximately as evil as his master Russell, most of the scientists working on the Manhattan Project were, like the Fusion Energy Foundation co-founder, the late Professor Robert J. Moon,¹¹ dedicated and accomplished persons, who sincerely believed Russell's great lie of 1939, that Hitler was committed to building a nuclear-fission weapon, and that we must get there first. Russell and his cronies, the true authors of the famous letter to President Franklin Roosevelt which Russell's cabal induced Albert Einstein to sign,¹² knew that Hitler was not going to sponsor such research and that the relevant German scientists around Professor Werner Heisenberg were determined that such a weapon not be built for Hitler's use.¹³

Unlike the misinformed honest atom scientists, the

Russell of 1939 pushed to have the weapon built for exactly the motives he articulated later in the 1946 restatement of his intent. World-federalist, utopian fanatic Russell conceived of the development and use of nuclear weaponry as a trick for terrifying governments into abandoning the right to defend their sovereignties by military means. As he stated this purpose in his 1946 piece, he intended to terrify the peoples of the world into submitting to rule by a global arbiter of conflicts, to a world empire, a global, Malthusian dictatorship of the United Nations Organization.

Britain's Lord Bertrand Russell has been, beyond any reasonable doubt, the most evil public figure of the passing century. England's murdered Christopher Marlowe might have said fairly that the Thule Society's monstrous Adolf Hitler was but a picaresque rogue cast as Dr. Faustus, whereas Russell was a true Mephistopheles. Marlowe would insist upon qualifying his observation: "A truly Venetian Mephistopheles."¹⁴

Russell personally did not cause all of the evil which has proliferated throughout our planet during the past hundred-odd years, but he was one of the most influential individuals among those who did. Moreover, if one traces out the influences which caused Russell to become an evil man, one will also come to understand not only what went wrong during the Twentieth Century, but many preceding centuries before that.

The Twentieth Century will go down in future history, as the century which is outstanding for the endless monotony of its popularly believed lies. The myth of Bertrand Russell as an utopian humanitarian, is perhaps among the more widespread such lies which persist as generally accepted among literate people who ought to know better. How is such amazing credulity of presumably literate, educated people possible, even up to the highest ranks in academia and even the intelligence services of the U.S. government, for example? We use the case of Russell here as an example of that problem. Reviewing the highlights of Russell's multifarious evil provides the setting in which to supply the answer to the question, "Why are today's putatively literate people so blindly credulous?"

The answer to that question is the subject of this report.

9. Professor Dmitri Ivanovich Mendeleev (1834-1907), discoverer of the famous Periodic Law of chemistry, and teacher of the founder of the Soviet nuclear weapon, Academician Vladimir Ivanovich Vernadsky (1863-1945). By the beginning of the Twentieth Century, the addition of the Curies' discovery of nuclear radiation to the implications of Mendeleev's Periodic Law had established the notion of nuclear energy as a source of power. Cf. Frederick Soddy, *The Interpretation of Radium and the Structure of the Atom* (New York: G.P. Putnam's Sons, 1922), based upon lectures first given in 1908. See also H.G. Wells' Acknowledgement to the Soddy work, and the incorporation of the idea of nuclear weapons into Wells' pre-1939 fiction, in his *The World Set Free* (London: Macmillan, 1914). For a review of Wells' activities, see Carol White, *The New Dark Ages Conspiracy* (New York: New Benjamin Franklin House, 1980), pps. 11, 172-174, 183.
10. Leo Szilard (1898-1964) Hungarian-born physicist, crony of Russell, and the man whose real-life address at the 1958 Quebec Pugwash Conference, advocating what came to be known as "mutually assured destruction," earned him fictional fame as "Dr. Strangelove" in the 1960's film of the same name.
11. Robert J. Moon (1911-1989), Professor of Physics, University of Chicago, a co-founder of the Fusion Energy Foundation, assembled the first test pile under the direction of Professor Enrico Fermi.
12. According to James Hershberg, *James B. Conant, Harvard to Hiroshima and the Making of the Nuclear Age* (New York: Alfred A. Knopf, 1993), p. 137, "Leo Szilard, Eugen Wigner and Edward Teller saw Albert Einstein and persuaded him to sign a letter to Roosevelt warning of the terrible danger should Hitler get the bomb first. On October 11, the financier Alexander Sachs [Szilard's patron—ed.] carried this warning to FDR . . ."
13. Thomas Powers, *Heisenberg's War: The Secret History of the German Bomb* (Boston: Little, Brown & Co., 1994).

14. Christopher Marlowe, playwright and collaborator of William Shakespeare, murdered en route in 1593, presumably by a representative of the so-called "Venetian Party" of Paolo Sarpi *et al.* His celebrated drama *Doctor Faustus*, is a dramatic treatment of the ongoing takeover of England by Sarpi's Venetians.



Drawings by Gary Gennazio

1. Russell and Hitler

RUSSELL PLAYED MANY STRINGS on his fiddle of evil. His proposals for genocide, especially against populations with darker skin-hues than that of the Vrill Society's self-esteemed Anglo-Saxon master race, are fully as satanic, and more viciously personalized than his policies of world dictatorship through nuclear terrorism. He was also a savage hoaxster in his corrosive influence within the domains of philosophy and natural science. He was not even truly British; there is not a gram of concern for the well-being of the inhabitants of the United Kingdom in that scoundrel. No notable representative of liberal philosophy during this century, not even such consummately perverse creatures as Sigmund Freud or

Theodor Adorno,¹⁵ has been so consistently a virtual incarnation of Satan as the Mephistopheles of this century, the evil Russell.

Yet, within each part of the intellectual spectrum which he infested at one time or another of his life, there are still dupes who regard this unmitigated scoundrel as a respectable figure, even a great intellect. How could

15. On Adorno and the Frankfurt School's influence, see Michael J. Minnicino, "The New Dark Age: The Frankfurt School and 'Political Correctness,'" *Fidelio*, Vol. I, No. 1, Winter 1992; see also, Michael J. Minnicino "The Nazi-Communist Roots of Post-Modernism," *Fidelio*, Vol. II, No. 2, Summer 1993.

civilization have fallen so low, that many among the world's putative intelligentsia exhibit such intellectual or even moral shamelessness as to profess what is termed popularly "respect" for such a creature?

Consider a handful of crucial passages from Russell's racist writings of the pre-war and post-war period; these writings show the true moral nature of the purpose to which Russell dedicated that dogma of nuclear blackmail which he and Leo "Strangelove" Szilard bestowed upon such worthy apostles as Robert Strange McNamara of the Vietnam "body count" enterprise¹⁶ and upon self-proclaimed British Foreign Office agent Henry A. Kissinger.¹⁷

This writer had reached his present judgment on Russell by 1978. It was a conclusion which had emerged in steps, beginning the 1950's. Over the following two decades, the insistent evidence piled up, piece by irrefutable piece. In 1978, this judgment was shared with a pair of collaborators, who produced a 1980 book documenting Russell's evil nature.¹⁸ During 1978-1980, the purpose then was to show the horrifying things which had happened to humanity during this century, things which would not have happened but for Russell's influential, and thoroughly evil role as a self-proclaimed utopian pacifist, world federalist and genocidally inclined Anglo-Saxon racist.

16. Robert S. McNamara (b. 1916). Dr. Edward Teller emphasized in a famous public address in Washington, in the Autumn of 1982, that the middle initial "S" in the former Defense Secretary's name, like his opinions and actions during and after that service, does actually signify "Strange." Teller was referencing the insanity of McNamara's perfervid advocacy of "Mutual and Assured Destruction."

17. In acknowledgement of services rendered to the British crown, former U.S. Secretary of State Henry Kissinger delivered the featured May 10, 1982 address commemorating the founding of the British foreign intelligence service, by Jeremy Bentham and Lord Shelburne in 1782. On that occasion, Kissinger boasted to British foreign service's Chatham House audience, that he had always taken the side of Britain against the United States in disputes such as those between President Franklin Roosevelt and Winston Churchill, and illustrated this by reference to his own going behind the backs of Presidents Nixon and Ford while 1973-77 Secretary of State. Kissinger's career with the British foreign intelligence service began under Professor William Yandell Elliot of the Harvard University-based section of Chatham House's Wilton Park unit, continued under the direction of the London Tavistock Institute, and continued with a seconding under the sponsorship of McGeorge Bundy at the New York Council on Foreign Relations. From that seconding to the present time, Kissinger has served British interests in and out of the Fabian Society's Pugwash Conference, pushing Bertrand Russell's long-range scheme to establish the U.N.O. as a global world-government tyranny. See footnotes 60 and 87 for excerpts of the Chatham House speech.

18. Carol White, *The New Dark Ages Conspiracy* (New York: New Benjamin Franklin House, 1980), pps. 11, 172-174, 183.

All of the immediately following quotations of Russell are from a selection provided in one of the chapters of that 1980 book.

Begin with the Bertrand Russell of the early 1920's, the Russell who had just returned to Britain from a stint indoctrinating numerous of the future leaders of Communist China.¹⁹ Read the following gem from Russell's treasury of a liberal pacifist's sentimentalities, this from his 1923 *Prospects of Industrial Civilization*²⁰:

Socialism, especially international socialism, is only possible as a stable system if the population is stationary or nearly so. A slow increase might be coped with by improvements in agricultural methods, but a rapid increase must in the end reduce the whole population to penury, . . . the white population of the world will soon cease to increase. The Asiatic races will be longer, and the negroes still longer, before their birth rate falls sufficiently to make their numbers stable without help of war and pestilence. . . . Until that happens, the benefits aimed at by socialism can only be partially realized, and the less prolific races will have to defend themselves against the more prolific by methods which are disgusting even if they are necessary.²¹

In his 1941 *Generalplan Ost* for the occupation of Russia and other parts of Eastern Europe, Adolf Hitler put precisely these disgusting policies of Russell's into practice.²² So, in 1945, we came to identify the consequences of Russell's empiricist dogmas by such appropriate terms as "genocide," "holocaust," and "crimes against humanity," as practiced in war-time Auschwitz and other locations in Eastern Europe:

In the areas in question we have to push a deliberately negative population policy. With the propaganda campaigns, especially in the press, radio, movies, leaflets, short brochures, educational presentations and the like, the population must be induced toward the thought of how damaging it is to have many children. We must point to the costs which children entail, and then it should be pointed out what could

19. See Roland Clarke, *The Life of Bertrand Russell* (New York: Alfred A. Knopf, 1976), p. 389.

20. Bertrand Russell, *Prospects of Industrial Civilization* (London: George Allen & Unwin, 1923).

21. *Ibid.*, p. 273

22. See "Stellungnahme und Gedanken zum Generalplan Ost des Reichsführers SS," drafted by Erhard Wetzel, head of the department for racial questions in the Reichsostministerium under Alfred Rosenberg, Geheime Reichssache, Dokument Nr. 2 (Alliiertes Dokument NG-2325), as quoted in Helmut Heiber, "Der Generalplan Ost," *Vierteljahreshfte für Zeitgeschichte*, Heft 3, 1958.

have been bought instead. The great dangers to the health of women which can emerge in births can be pointed out, and the like.

In addition to this propaganda, generous propaganda in favor of means of birth control must be spread. An industry specialized in such means has to be created. Neither the approval or dissemination of birth control means should be punishable, nor abortion. We ought to absolutely promote the establishment of abortion institutes. Midwives and medics can be trained to give abortions. The more professionally the abortions are carried out, the more the population will gain trust in this respect. Also physicians must of course be permitted to carry out abortions, without a violation of his medical oath coming into question.

Voluntary sterilization is also to be promoted. Infant mortality must not be combatted. Mothers must not be instructed about care for infants and children's diseases. . . .

Once we have converted the mass of the people to the idea of a one- or two-child system, we will have reached the goal we are aiming at"²³

On the basis of such evidence, the sole grounds we might be prohibited from describing as "neo-Nazi" Russell and such among his liberal U.S. co-thinkers as the Harriman and Bush families' eugenics circles of 1932, is that on these ideas Adolf Hitler copied were those of his British and U.S. admirers of the 1930's, such as Sir Peregrine Worsthorne's father, Montagu Norman, George Bush's father, Prescott Bush, and those other professed non-German admirers of Adolf Hitler who authorized and funded the coup d'état which put Hitler into power in Germany in 1933.²⁴ It would be appropriate to describe Adolf Hitler as an exemplary follower of Bertrand Russell.

Even the post-war exposure of the horrors of the Nazi concentration camps did not hinder Russell's continued brazen exhibitions of shamelessness. Read some gems from his post-war writings, his 1951 *The Impact of Science on Society*:

But bad times, you may say, are exceptional, and can be dealt with by exceptional methods. This has been more or less true during the honeymoon period of industrialism, but it will not remain true unless the increase of population can be enormously diminished. At present the population of the world is increasing at about 58,000 per diem. War, so far, has had no

very great effect on this increase, which continued through each of the world wars. . . . War . . . has hitherto been disappointing in this respect . . . but perhaps bacteriological war may prove more effective. If a Black Death could spread throughout the world once in every generation, survivors could procreate freely without making the world too full. . . . The state of affairs might be somewhat unpleasant, but what of it? Really high-minded people are indifferent to happiness, especially other people's."²⁵

Then hear Russell the pacifist speaking in a BBC interview in 1959, approximately four years after Soviet General Secretary N.S. Khrushchev had sent four emissaries to Russell's 1955 meeting of the World Parliamentarians for World Government. The Soviet emissaries had praised Russell publicly in Khrushchev's name, and had opened up subsequent negotiations with Russell for the Soviet nuclear condominium associated with such Pugwash Conference creatures as Dr. Leo Szilard and British foreign intelligence's agent of influence Henry A. Kissinger. Russell speaks in answer to a British Broadcasting Company's question concerning his advocacy of a post-World War II "preventive nuclear war":

Q: Is it true or untrue that in recent years you advocated that a preventive war might be made against communism, against Soviet Russia?"

Russell: It's entirely true, and I don't repent of it now. It was not inconsistent with what I think now. . . . There was a time, just after the last war, when the Americans had a monopoly of nuclear weapons and offered to internationalize nuclear weapons by the Baruch proposal, and I thought this an extremely generous proposal on their part, one which it would be very desirable that the world should accept; not that I advocated a nuclear war, but I did think that great pressure should be put upon Russia to accept the Baruch proposal, and I did think that if they continued to refuse it it might be necessary actually to go to war. At that time nuclear weapons existed only on one side, and therefore the odds were the Russians would have given way. I thought they would

Q: Suppose they hadn't given way.

Russell: I thought and hoped that the Russians would give way, but of course you can't threaten unless you're prepared to have your bluff called."²⁶

23. *Ibid.*, p. 317ff.

24. See Webster G. Tarpley and Anton Chaitkin, *George Bush: The Unauthorized Biography* (Washington, D.C.: Executive Intelligence Review, 1992), pp. 26-62.

25. Bertrand Russell, *The Impact of Science on Society* (New York: Simon and Schuster, 1953), pp. 102-104.

26. Quoted in Bertrand Russell, *The Future of Science, and Self-Portrait of the Author* (New York: Philosophical Library, 1959), pp. 81-83.

Pervading these and other public utterances by Russell, there are three pervasive themes overall: (1) a racism as virulent as Adolf Hitler's; (2) a feudal-aristocratic socialist's Ruskin-like hatred for modern European civilization; and (3) a utopian's obsessive commitment to bringing about civilization's descent into a parody of pre-Renaissance feudalism, or sometimes even pre-civilized barbarism. No one could miss this in Russell's published utterances such as those famous titles referenced here.

If there were any doubt of Russell's racism after reading relevant passages from his books, one might compare what he published in 1923 with remarks on the subject of African-Americans, supplied in a 1914 letter to Ottoline Morrell, written on the subject of his visit to the United States:

I find the coloured people friendly and nice. They seem to have a dog's liking for the white man—the same kind of trust and ungrudging sense of inferiority. I don't feel any recoil from them.²⁷

His hatred of the past six centuries of European civilization permeates his writings, like the writings of John Ruskin's Oxford-based Pre-Raphaelite Society. Russell's 1923 books, *The Problem of China*²⁸ and *Prospects of Industrial Civilization*, teem with eruptions of his neurotic's petulant obsession on this account. A passage from his cited 1951 book is fairly identified as typical of such maudlin outbursts; he prophesies, that under the influence of his utopian dogmas,

the present urban and industrial centers will have become derelict, and their inhabitants, if still alive, will have reverted to the peasant hardships of their medieval ancestors.²⁹

From the Sixteenth into the Eighteenth Centuries, Venetian bankers shaping the policies of the English government created a new stratum of the modern British feudal aristocrats and financial nobility, of which Russell and his ancestors are typical. It is as the heir to the title of Earl of Russell, and as grandson to that same Palmerston crony, Lord John Russell, who directed the Confederate insurrection against Lincoln's United States,³⁰ pre-Nazi Bertrand Russell reflects upon his ha-

tred for modern civilization, hating the United States of America with that same Metternichean passion to which British intelligence's own Henry A. Kissinger has subscribed over the past four decades.³¹ The following passage from Russell's cited 1951 book is typical:

... when I first became politically conscious, Gladstone and Disraeli still confronted each other amid Victorian solidities, the British Empire seemed eternal, a threat to British naval supremacy was unthinkable, the country was aristocratic, rich and growing richer. ... For an old man, with such a background, it is difficult to feel at home in a world of ... American supremacy.³²

These were not only the ideas of Russell. They were shared fully by the stoutly plebeian one-time head of British foreign intelligence, Russell's crony and sometimes factional rival, the "Morloch"-hating Fabian H.G. Wells.³³ These were not simply aristocratic atavisms; Wells was a man whose claims to the social status of picaresque are as impeccable as those of such like-minded wretches as 1932 New York Eugenics Congress hero Adolf Hitler,³⁴ or the Henry A. Kissinger who authored the Nazi-like policies of 1974 *National Security Study Memorandum 200*.³⁵

Caucus of Labor Committees Conference, Feb. 19-20, 1994, Washington, D.C., including "Palmerston's London during the 1850's: a tour of the human, multicultural zoo," by Webster Tarpley; "The Venetian takeover of England: a 200-year project," by Gerald Rose; "How the Venetian virus infected and took over England," by H. Graham Lowry; "The bestial British intelligence of Shelburne and Bentham," by Jeffrey Steinberg; "America's 'Young America' movement: slaveholders and the B'nai B'rith," by Anton Chaitkin; "Palmerston launches Young Turks to permanently control Middle East," by Joseph Brewda; "Freud and the Frankfurt School," by Michael Minnicino; and "Jim Crow, a cultural weapon in the hands of the Confederacy," by Dennis Speed.

27. See Ronald Clarke, *op. cit.*, p. 229.

28. Bertrand Russell, *The Problem of China* (New York: The Century Co., 1922).

29. Russell, *The Impact of Science, op. cit.*, pp. 102-103.

30. See "Lord Palmerston's multicultural human zoo," *Executive Intelligence Review*, Vol. 21, No. 16, April 15, 1994, pp. 3-35. This feature contains nine articles on the above-cited topic, taken from presentations to the Schiller Institute and International

31. Henry A. Kissinger, *A World Restored: Metternich, Castlereagh and the Problems of Peace 1812-1822* (Boston: Houghton Mifflin, 1957), *passim*.

32. Russell, *The Impact of Science, op. cit.*, p. 108.

33. "Morlocks" appear in Wells' 1895 *The Time Machine*, when the future human race has split into two different species: the physically beautiful Eloi, and the monstrous Morlocks. According to Wells' present-day protagonist, "the gradual widening of the present merely temporary and social difference between the Capitalist and the Labourer, was the key to the whole situation." The narrator explains that the British workers de-evolved into subterranean beasts in strict Darwinian fashion. Wells' view of mankind's essential bestiality is also the central motif of *The Island of Dr. Moreau* (1896) and *The Invisible Man* (1897).

34. Tarpley and Chaitkin, *loc. cit.*

35. Recently declassified NSSM-200 defines population control of Third World and other nations a matter of U.S. national-security interest—in the natural resources of those nations, lest the people eat up those resources before we in the U.S.A. might require

These ideas were the evil against which this present writer fought during the 1960's, ideas which took over a large section of those youth drawn into the Anti-War movement and "rock-drug-sex counterculture" cult. These were the ideas of pacifist Bertrand Russell and his cronies; these were also the ideas which many 1960's New Left advocates attributed accurately to the New Left followers of the "Frankfurt School" of Georg Lukacs, Herbert Marcuse, Sigmund Freud, Walter Benjamin, Theodor Adorno, Hannah Arendt, and Arendt's former lover, official Nazi philosopher Martin Heidegger.³⁶

These were also known as the educational and related ideas of Kurt Lewin and his National Training Laboratories, and of the National Education Association ideologues steered by National Training Laboratory influences.³⁷ During 1969-1971, this stratum from the New Left of the 1960's was re-programmed by its Reichian and other T-group controllers to become the polymorphous perversity of the early 1970's "Rainbow Coalition."

Many among the now aging relics of the 1960's "rock-drug-sex counterculture" youth movement entered the 1970's as the "Rainbow Coalition" constituency for the Nazi-like population policies of the Club of Rome's defeated first, Bucharest U.N.O. Conference of Summer 1974.³⁸ Today, the ranks of that pre-New-Left generation which successfully resisted the Club of Rome's neo-Nazi population policies in 1974 have been depleted by twenty years' attrition. As the proposed Cairo U.N.O. Conference on Population menaces the last shreds of moral decency upon this planet, the dwindling number of bearers of the moral heritage of European civilization

is nearly outweighed by the multiculturalist horde of satanic ideas of Bertrand Russell, Theodor Adorno, and Adolf Hitler's Martin Heidegger.

From Whom Russell Copied His Ideas

During the 1920's, 1930's, and 1940's, unless one studied the Russell texts referenced above, or unless one were a specialist in the relevant branch of mathematics, Bertrand Russell was perceived as little more than a notorious British eccentric with a wont for lewd utterances. This present writer had traversed his own adolescence, steeped in the controversies of the principal English, French, and German philosophers of the Seventeenth and Eighteenth Centuries, before his first, late-1930's encounter with some of Russell's shorter pieces. From then, until the mid-1950's, Russell was put aside as trivial stuff, Voltaire on a very dull day.

Then, there came a more time, nearly two decades later, that Russell's mathematical and related philosophical writings were examined more systematically. By the late 1970's, this writer recognized the monstrous effects of Russell's continuing influence. The combined effect of seeing both the banality of Russell's thought and the evil consequences of his influence, was the thought that perhaps the roads leading to Hell are paved with platitudes. To put the point more exactly, the present writer recognized that the successful practice of evil builds upon diffidence respecting those creative qualities of intellect which set the individual person absolutely apart from and above all species of beasts.

Understanding Russell begins with the realization that Russell's published writings contain no true originality, but only novelty of the same special quality provided by the writings of the Marquis de Sade. If we limit discussion to the matter of essentials, there is nothing essential in Russell which is not repetition of what had been written by the founder of the British foreign intelligence service, Jeremy Bentham, now more than two hundred years ago.

Once that point is grasped, one should not be startled that the consummate evil of Bertrand Russell, like that of Bentham's inspiration, Giammaria Ortes, is served up as gobs of trashy empiricist sentiment. Russell's Mephistopheles is a shallow-minded British snob quoting snippets from the banalities of Bacon, Locke and Hume; he is Goethe's Mephistopheles in Auerbach's cellar, prating unctuously on the matter of a flea.

Is a sense of the quality of evil not typified by a

them. See "Implications of Worldwide Population Growth for U.S. Security and Overseas Interests," National Security Study Memorandum 200 (NSSM-200), Dec. 10, 1974 (unpublished, available in the National Archives, Washington, D.C.).

36. On these Frankfurt School characters, see Michael J. Minnicino, *op. cit.*

37. For a history of the Kurt Lewin-created National Training Laboratories (NTL), see Kurt Back, *Beyond Words: The Story of Sensitivity Training and the Encounter Movement* (New York: Russell Sage, 1972); for a more-critical review of Lewin, see Richard Freeman, "Rockefeller's Fascist Labor Policies," *The Campaigner*, Vol. 7, No. 7, May 1974. Lewin's relations to the National Education Association (NEA) are described in the pamphlet, "Will You Allow Your Child To Be Spiritually Molested?: Get the ADL-NEA Brainwashers Out of the Schools," published by *The New Federalist*, Leesburg, Virginia, August 1993.

38. Helga Zepp led a delegation of the LaRouche-founded International Caucus of Labor Committees to expose these Nazi-like policies during the conference. See "Rockefeller Blasted at U.N. Meeting," *New Solidarity*, Vol. V, No. 42, August 31, 1974; see also Lyndon H. LaRouche, Jr., *The Power of Reason: 1988* (Washington, D.C.: Executive Intelligence Review, 1987), p. 289.

deception which might cause one of us to imagine for but a moment that a cleverly contrived, full-scale, programmed puppet is the dear friend one had thought deceased, come back to life? After that moment, comes a horrifying aftertaste of such a virtual reality, a sense of the principle of evil: that this sophisticated puppet, this wind-up toy demonstrates the principle of the fabled *schlemiel*, a Padua Professor Pietro Pomponazzi, a poor *Golem* with no soul of its own.³⁹

The author's deeper insight into Russell came during the mid-1950's, in recognizing that a special kind of wickedness is packaged within the deceptive superficiality of Russell's utterances. True, all of Russell's sentimental babbling in the name of philosophy and mathematics was no more than a stream of shallow sophistries, chiefly petty, malicious mere gossip against the reputations of Leibniz and Georg Cantor. Compared to the Immanuel Kant against whom this writer had wrestled in defense of Leibniz's *Monadology* during his adolescence, Russell's philosophical method was that of parodying crudely the Eleatic sophistries which Plato treated to such devastating effect in his *Parmenides*.⁴⁰ Reading some selections from the writings of Russell's intellectual cronies, this author saw that the motive for much of that literary output had been Russell, Carnap, Korsch, and the pathetic Wittgenstein, maleficent sophists all, telling one another how devilishly clever they all were. This snobbish banality is also to be recognized as evil.

Seen with rigorous objectivity, Russell is a satanic bore. Precisely therein lies that Venetian-monkish quality which made Russell, like the Eighteenth-Century Giammaria Ortes, so dangerously influential among those whose impaired psychosexual sense of personal scholarly identity dwells within fantasies residing at or below their waistlines. It is in the controlling influence of Ortes over the thinking of his British contemporaries Adam Smith, Jeremy Bentham, and Thomas Malthus, that one finds the key for understanding both Russell and his exemplary place of influence among the greatest follies of our vanishing present century.

He is exemplary of a strictly definable, sterile *type*⁴¹

39. See footnote 2.

40. Plato, *Parmenides*, in *Plato: Cratylus, Parmenides, Greater Hippias, Lesser Hippias*, trans. by H.N. Fowler, Loeb Classical Library (Cambridge: Harvard University Press, 1926).

41. "Type" is used here in the sense of Georg Cantor's usage of that term. "Type" so employed signifies identifying a number, for example, according to the "generating principle" which governs the occurrence of that number within a series. To illustrate the point in the simplest way, consider the length of the hypotenuse of a 3,4,5 right triangle. Is that "5" an integer; in other words, is it a member of the set of rational numbers? Clearly, it is not, since this "5" was known to the Classical Greeks by the

of British imperialist, which, collectively, has not made an original scientific discovery of principle in 250 years. This distinct type came into existence as the dictatorial cabal around the notorious William Petty, the Second Earl of Shelburne, during the last half of the Eighteenth Century.⁴² That cabal, known then as "the Venetian Party" radicals,⁴³ has ruled Britain, its empire, and later

Pythagorean theorem, in which the hypotenuse is an incommensurable, i.e., a quadratic number "5.000 ... 0 ...," not the "5" of the series of integers. In mathematics generally, for example, we know of more than four species of cardinalities: rational; algebraic; "non-algebraic," or transcendental; and the *Alephs*, from *Aleph-1*, *Aleph-2*, ... Each of those distinct species of cardinalities represents a distinct generating-principle, a distinct "Type." The same principle of "Type" also applies to comparisons among series of events, or of series of ideas.

42. William Petty, Second Earl of Shelburne (1737-1805), Prime Minister of Britain, July 1, 1782 to Feb. 24, 1783. As Minister under Rockingham, and then Prime Minister, Shelburne organized the first, secret peace-treaty with the United States and France, making the adoption of Adam Smith's new dogmatic fad, "free trade," a conditionality. While Prime Minister, created the British foreign service, with his appointee, Jeremy Bentham, as first head of the British foreign intelligence service. Emerging as the most powerful man in Britain over the last decades of the Eighteenth Century, beginning approximately the time of the accession of George III (1760). Chief representative of the British East India Company and Barings bank, the power behind William Pitt the Younger (Prime Minister, 1783-1801, 1804-1806). For special historical reasons, this Shelburne's name is sedulously omitted from textbook varieties of accounts of precisely those leading developments in British history in which he played a principal role. For this latter reason, he is sometimes confused with the also powerful Sir William Petty, his grandfather, a leading figure of the Restoration Stuart decades, who lived 1623-1687.

In addition to William Pitt the Younger, and, reputedly also the King himself, the East India Company's Shelburne owned such notables of the reign of George III as Adam Smith, Jeremy Bentham, Edward Gibbon, and Thomas Malthus. It was Shelburne who remodelled Britain to become a global empire, and who stamped Britain's establishment with the radical mind-set sometimes described, misleadingly, as British *Nineteenth-Century* philosophical radicalism.

43. The most famous of the events within the field of philosophy which mark the change from the empiricism of Locke and Walpole's Liberals, to British philosophical radicalism, is Immanuel Kant's open break with his former mentor, David Hume, as Kant indicates in his Preface to the first edition of his *Critique of Pure Reason*, and as he clarifies the matter within his *Prolegomena to a Future Metaphysic*. Although John Locke was formally a radical positivist in the construction of his empiricism, as were Francis Bacon and Thomas Hobbes before him, Locke tempered his policy with cautious deference to custom. This respect for custom had later been adopted by David Hume. In this matter of custom, Immanuel Kant followed Locke and the relatively younger Hume; Kant's *Critique of Practical Reason*, especially the concluding section, "The Dialectic of Practical Reason," displays Kant's commitment to this policy. At the point that Hume later altered his views on custom, to take a more radical view, akin to that of Ortes, Adam Smith, and Bentham, Kant made his

the present-day United Nations Organization, since Lord Shelburne emerged, over the course of the 1763-1783 struggle for independence by the American colonies, to occupy the highest level of actual political power in the British imperial monarchy. Bertrand Russell, while he lived, was a purebred Venetian dog of this Shelburne type.

Consider four among the leading figures of late Eighteenth-Century British philosophical radicalism, all political lackeys wearing the colors of Lord Shelburne's British East India Company: Adam Smith the so-called economist, Jeremy Bentham the first head of the British foreign intelligence service, Edward Gibbon the historian, and Thomas Malthus the plagiarist. All but Gibbon owed virtually every idea for which he is famed today to an influential contemporary, a Venetian monk named Giammaria Ortes (1713-1790). There was nothing in the work of the leading Nineteenth-Century British liberals—such as James Mill, John Stuart Mill, Charles Darwin, William Jevons, Charles Darwin, Thomas Huxley, John Ruskin, and so on—which was not derived directly from either these Shelburne lackeys, or from the work of such members of Venice's Eighteenth-Century intelligence service as Ortes. There is nothing essential in the writing of Russell which does not come, in turn, from these sources.

Understand this, and you understand Russell. Understand Russell in that way, and you begin to understand the past six hundred years of European and world history. Then, you begin to understand the important features of the now-fading present century.

Take Malthus for example. His famous 1798 *On Population*,⁴⁴ was nothing more than a bowdlerized version of Giammaria Ortes' 1790 publication, *Riflessioni sulla popolazione delle nazioni*.⁴⁵ In turn, Charles Darwin admits that his now-famous notions were the arbitrary superimposition of Malthus' book upon hapless biology.⁴⁶

reluctant open break with Hume. More on this development below. The issues of Kant's break with Hume defines the singularity separating the old empiricism of Locke from the British philosophical radicalism of Shelburne's lackeys, and of the Huxley family and Russell later. See footnote 154.

44. Thomas R. Malthus, *An Essay On Population* (1798) (New York: E.P. Dutton and Co., 1960).

45. Giammaria Ortes, *Riflessioni sulla popolazione delle nazioni per rapporto all'economia nazionale (Reflections on the Population of Nations in respect to National Economy)* (Venice: 1790). Ortes' economic and related writings are reprinted in *Scrittori classici italiani di economia politica*, ed. by P. Custodi (Milan: G.G. Stefanis, 1803-16). For more on Ortes, see footnotes 56, 85, and 241.

46. Darwin writes in his autobiography, "In October 1838—that is, fifteen months after I had begun my systematic enquiry—I happened to read for amusement Malthus on Population, and being well prepared to appreciate the struggle for existence which

Ortes, in turn, had borrowed the same idea from not only a contemporary Berliner, Maupertuis,⁴⁷ but both had borrowed the same notion from a Sixteenth-Century Venetian by the name of Giovanni Botero.⁴⁸ Properly, none of those efforts can be considered seriously original; the doctrine was already spelled out in detail as the population policies embedded in the decrees of the Roman Emperor Diocletian.⁴⁹

The same debt to Ortes dominates Adam Smith's 1759 *The Theory of Moral Sentiments*, and the entirety of his *Wealth of Nations*.⁵⁰ Ortes' influential work on economics, that for which British agent Karl Marx praises Ortes,⁵¹ is his second work on this subject, his 1777 *Della economia nazionale libri sei*. Of far greater significance is Bentham's *Principles of Morals and Legislation*,⁵² Bentham's major elaboration of what is termed, alternately, his "felicific calculus," or, more plainly, "hedonistic calculus." Bentham's work is derived entirely

everywhere goes on from long-continued observation of the habits of animals and plants, it at once struck me that under these circumstances favourable variations would tend to be preserved, and unfavourable ones to be destroyed. The result of this would be the formation of new species. Here, then, I had at last got a theory by which to work. . . ." Quoted in Christopher Ralling, *The Voyage of Charles Darwin* (New York: Mayflower Books, 1979), p. 169.

47. Pierre-Louis Moreau de Maupertuis (1698-1759). French mathematician and astronomer; member, Académie des Sciences (1723), introduced Newton's doctrine of gravitation to France (1731). Reorganized the Berlin Academy of Sciences beginning 1744, serving as president 1746-1759. Public controversy erupted when he presented Leibniz's "principle of least action" as his own in the *Recherche de lois du mouvement* (1746) and *Essai sur cosmologie* (1750). His *Essai de philosophie morale* (1749) contains the "hedonistic calculus" adopted by Ortes and later Bentham.

48. Giovanni Botero, *Della ragion di stato* (1588; Engl. trans., 1606). See the Appendix, "Delle cause della grandezza e magnificenza delle città," for Botero's theory of population. Botero was a figure in the ambiance of the notorious Paolo Sarpi, who had studied with the notorious Aristotelian fanatic Bellarmino. In addition to his population theory, Botero is famous for his attacks, in *De regia sapientia* (1581), on Niccolò Machiavelli's work.

49. For the decrees of Diocletian and other emperors, see *Codex Theodosianus: Theodosiani Libri XVI cum Constitutionibus Sirmondianis*, ed. by T. Mommsen (Berlin: Weidmann, 1962). For an account of the disastrous results of Diocletian's measures, see Tenney Frank, *An Economic History of Rome* (Baltimore: Johns Hopkins, 1927), chap. XXII, "The Beginnings of Serfdom." See also Stephen Williams, *Diocletian and the Roman Recovery* (New York: Methuen, 1985).

50. Adam Smith, *An Inquiry into the Nature and Causes of the Wealth of Nations* (1776), reprinted as *The Wealth of Nations*, ed. by R.H. Campbell and A.S. Skinner (London: Oxford University Press, 1979).

51. Karl Marx, *Capital, Vol. I* (Moscow: Progress Publishers, 1965), chap. XXV, sec. 4, p. 646.

52. Jeremy Bentham, *An Introduction to the Principles of Morals and Legislation* (1789) (New York: Hafner Publishing Co., 1970).

from the published ideas of Ortes. All British philosophical radicalism, from approximately 1760 to the present day, is premised upon the specific influence of this notion of a “hedonistic calculus,” the radical-positivist notion that all ideas, all social relations may be reduced fairly to representation in terms of linear-algebraic functions modelled (as Ortes emphasizes this connection) on the mathematical methods of Galileo and Newton.

In Nineteenth-Century Britain, Bentham’s Ortesian “hedonistic calculus” is known as the “utilitarianism,” and doctrine of “marginal utility” of John Stuart Mill, William Jevons, *et al.* The most famous mathematical work of Bertrand Russell, his and Whitehead’s *Principia Mathematica*,⁵³ is the application of the same radical-positivistic dogma to arithmetic. It is relevant to stress here, that Norbert Wiener’s “information theory,” and the economic doctrines of John Von Neumann are the same radical form of hedonistic principle carried to the outer limits of ambulatory lunacy, the mathematical *idiot savant’s* so-called “chaos theory.”⁵⁴

London As ‘The New Venice’

The influence of Ortes, in shaping the thinking of the new British imperialist institutions established under Shelburne’s behind-the-throne reign of the late Eighteenth Century, reflected Ortes’ position as one of the key figures within which a later British historian might be tempted to name as “Conti’s Kindergarten,” as pre-figuring that famous Fabian institution, that so-called “Kindergarten” of Lord Milner, Halford Mackinder and H.G. Wells, which cooked up World War I.⁵⁵

The Venetian nobleman Abbot Antonio Conti (1677-1749) was a top intelligence-operations control agent for Venice, working on France, Germany, and England during most of the adult portion of his life; he is one of the more important figures, whose role can not be

omitted from any competent tracing of the crucial turns of the Eighteenth Century.

He assembled a celebrated salon of Venetian agents, through which these operations were coordinated.⁵⁶ During Conti’s life-time, Giammaria Ortes was one of the key agents active in this group. Later, but still during Ortes’ lifetime, two of the most famous of this salon were the notorious Giacomo Casanova (1725-1798) and Count Alessandro Cagliostro (1743-1795).⁵⁷ After the deaths of Ortes, Cagliostro, and Casanova during the 1790’s, the continuity of Conti’s projects was maintained by Venice’s most celebrated agent of that later period, Count John Capodistria, the controlling figure behind Russia’s ambassador Nesselrode and Prince Metternich at the 1814-1815 Congress of Vienna.⁵⁸

56. For a description of the Conti-Emo-Memmo-Ortes salon, the “conversazione filosofica e felice” which also directed Casanova, see Piero del Negro, “Giammaria Ortes, il Patriziato e la Politica di Venezia,” in *Giammaria Ortes: un “filosofo” veneziano del Settecento* (Convegno internazionale di studio promosso dalla Fondazione Giorgio Cini con la collaborazione della Società italiana di studi del secolo XVII di Roma e dell’Università degli studi di Venezia, convegno svolto all’idola di San Giorgio Maggiore nei giorni 14 e 16 dicembre 1990) (Firenze: L.S. Olschki, 1993), pp. 125-182. For Conti’s writings, see Antonio Conti, *Scritti filosofici* (Napoli: F. Rossi, 1972) and Conti, *Prose e poesie*, 2 vols. (Venezia, 1756). For Conti’s influence on Ortes, see Mauro di Lisa, “Chi mi sa dir s’io fingo, Newtonianesimo e scetticismo in Giammaria Ortes,” *Giornale critico della filosofia italiana*, LXVII (1988), pp. 221-233.

57. Giacomo Casanova was officially a paid agent of Venetian intelligence assigned primarily to work against France by his controllers and sponsors, who included Andrea Memmo of the Conti “conversazione” salon, Francesco II Lorenzo Morosini (Procuratore di San Marco), and Senator Matteo Giovanni Bragadin. Casanova’s main patroness in France was Mme. Jeanne Camus de Pontcarré, Marquise d’Urfé, the former mistress of the Duke of Orleans when he was Regent of France. One of Casanova’s agents appears to have been the Cardinal de Bernis, the diplomat who negotiated Louis XV’s Austrian alliance in the diplomatic revolution of 1756. For Casanova, see John Masters, *Casanova* (New York: Bernard Geis, 1969); James Rives Childs, *Casanova: A Biography Based on New Documents* (London: Allen and Unwin, 1961); and Edouard Maynial, *Casanova and his Time* (London: Chapman and Hall, 1911). Count Cagliostro, born Giuseppe Balsamo in Sicily, was the prime mover in the so-called Queen’s necklace affair of 1785-86 which involved the Cardinal Prince of Rohan and others in a scandalous public trial which ruined the reputation of Queen Marie Antoinette and, in the judgment of Napoleon Buonaparte, constituted the starting point for the French Revolution of 1789. See François Ribadeau Dumas, *Cagliostro* (New York: Orion Press, 1966) and John Hardman, *Louis XVI* (London: Yale University Press, 1993).

58. For Count Giovanni Antonio Capo d’Istria (Capodistria) (1776-1831) at the Congress of Vienna, see C.K. Webster, *The Congress of Vienna* (London: Oxford University Press, 1919). For his later career, see Wilhelm Schwarz, *Die Heilige Allianz* (Stuttgart: 1935) and Alfred Stern, *Geschichte Europas seit den Verträgen von 1815 bis zum Frankfurter Frieden von 1871* (Berlin: W. Hertz, 1894-1924).

53. Bertrand Russell and Alfred North Whitehead, *Principia Mathematica* (1910) (2nd ed., 1927) (New York: Cambridge University Press, 1968-1973).

54. No mathematician who understood the significance of the principle of “cardinality” in defining transfinite mathematical types would be lured into the sophomoric blunder of so-called “chaos theory.” In any well-ordered institution, the student’s proposal that cardinality must vanish with the appearance of *Aleph-0* earns the offender an automatic flunking grade for the term. Hence, the appropriateness of the term “*idiot savant*” here.

55. See H.G. Wells, *Experiment in Autobiography* (1934) (Boston: Little, Brown, 1962) for his relationship to Mackinder and Milner. For a discussion of Wells, Milner, and Mackinder’s joint work with the Fabian Society’s “Co-Efficients’ Club,” see Carol White, *op. cit.*, *passim*.

Situate that Venetian bachelor, Giammaria Ortes, who fathered Bertrand Russell (and many like him) within this interval, 1688-1818. Look at the Conti salon and its aftermath in this context.

This 1688-1818 interval is the critical period of modern history in which Seventeenth-Century England's London was transformed into the capital of an emerging world-empire. This is the interval during which France, until 1815 the leading nation of Europe in science and economy,⁵⁹ was half destroyed by Venetian design, to remove France as a threat to the emergence of future British imperial power. This is also the interval in which the United States emerged to provide a new model of sovereign nation-state republic which, first as inspiration, and then as strategic threat in its own right, might have destroyed the emerging world empire of London.⁶⁰ This is the period of modern history from which are derived all of the underlying ideas of Bertrand Russell, Margaret Thatcher, and so on, to date. This is the period during which there was established that set of ideas which, among other results, sent the "Enola Gay" winging its way to deliver Hell on earth that tragic summer's day in 1945.

As we have suggested at a slightly earlier point in this report, to understand that flight of the "Enola Gay," one must understand those policy-shaping trends of this century,

59. See G.W. Leibniz, *Sämtliche Schriften und Briefe*, published by the Preussischen Akademie der Wissenschaften (Darmstadt: O. Reichl, 1923-), Reihe 4, *Politische Schriften*, Vol. 1. After his Paris trip and contact with the Académie des Sciences, Leibniz made frequent reference to the science and economy of Colbert's France as far the most advanced among nations.

60. See Henry A. Kissinger, "Reflections on a Partnership: British and American Attitudes to Postwar Foreign Policy," speech delivered at the Royal Institute of International Affairs, Chatham House, London, May 10, 1982 (unpublished, available from the Center for Strategic and International Studies, Washington, D.C.). Kissinger reviewed the unbridgeable philosophical differences between the United States and Great Britain, saying that on these points he sided with the British policy outlook. "British [World War II and post-war] policy drew upon two centuries of experience with the European balance of power, America on two centuries of rejecting it. . . . Britain has rarely proclaimed moral absolutes or rested her faith in the ultimate efficacy of technology. . . . Philosophically, she remains Hobbesian. . . . American foreign policy is the product of a very different tradition. . . . We had created a nation consciously dedicated to 'self-evident' truths, and it was taken for granted in most American public discourse that our participation. . . . in the world could be guided exclusively by moral precepts." Later, Kissinger complained bitterly that "Americans from Franklin Roosevelt onward believed that the United States, with its 'revolutionary' heritage, was the natural ally of peoples struggling against colonialism; we could win the allegiance of these new nations by opposing and occasionally undermining our European allies in the areas of their colonial dominance. Churchill, of course, resisted these American pressures." See footnotes 17 and 87.

within which that type of event was generated. To understand the relevant currents of this century's British policy-shaping, one must know the origin and development of those ideas and their influence since the second half of the Eighteenth Century. To understand the germination of that radical-empiricist current in leading British policy-thinking under Shelburne, we must understand the interaction between those British currents and the influences acting upon them over the interval between approximately 1688 and 1818. Similarly, to understand the Venetian influences on the British liberals, from Locke through Bentham, Pitt, Castlereagh, Canning, and so forth, one must be able to situate those interacting developments of the 1688-1818 interval as a type of development within modern history.

Briefly, then, to situate the 1688-1818 period so, and then return to Conti *et al.*

For reasons to be supplied below, the use of the term "modern history" should be understood to signify the time beginning with the emergence of what is called the "Golden Renaissance."⁶¹ Within that approximately six-hundred years of Modern History to date, the interval from approximately 1688-89 until the so-called Carlsbad decrees of the post-Vienna Congress' aftermath, is marked off as a distinct phase of modern history, during which Venice played its last phase as a state, a state which exerted still a peculiar kind of world power through its diplomacy, its foreign intelligence service, and its still-central position in controlling international finance. This is Venice from the time its invasion of the Peloponnesus,⁶² through the Venetian agent Count John Capodistria's controlling role in the 1814-1815 Vienna Congress and its aftermath.⁶³

61. Although the institutions of that Renaissance were established formally in the ecumenical victory for the circles of Nicolaus of Cusa and the future Pius II at that Council of Florence, in a.d. 1440, that event was the outcome of a process of rebirth which had been begun, chiefly by the followers of Dante Alighieri, such as Petrarca at Avignon, during the preceding century. Consider the period from the collapse of the Venetian debt-bubble, in the middle of the Fourteenth Century, to the Renaissance Council of Florence, as a period of transition from the old to the verge of the new; in that sense, Modern History begins with the transition from the pre-1439 conciliar meetings, including Constance, to the Renaissance Council of Florence.

62. According to historians, the Venetians earned deep hatred from their Greek victims in the course of Venice's 1645-1699 wars of conquest against the vulnerable fringes of that decaying Ottoman dynasty which the Venetians themselves had helped to conquer Constantinople in a.d. 1453. From the Fourth Crusade onwards, looting of the tortured remains of the Byzantine Empire, whether under Paleologue, Osman, or for the purposes of the Fourth Crusade, was a recurring Venetian swindle. In the course of its invasion and occupation of the Peloponnesus, the Venetian occupying force's explosives transformed the Athens Parthenon into a ruin.

63. Capodistria, after serving Venice's diplomatic/intelligence ser-

Conti bore a long Venetian tradition of destabilizing western Europe from the inside going back to no later than the time of Charlemagne. The immediate issues of Conti's concern are adequately represented in the developments within modern history during his time. Yet, to understand the new, one must identify the collapse of the old.

About six and a half centuries ago, the economy of Europe had collapsed into what historians recognize by the name of Europe's "New Dark Age," the greatest economic and demographic collapse of Europe since the collapse of the Roman Empire—from about the time of the Emperor Diocletian (for example).⁶⁴

This "New Dark Age" had its roots in the so-called "Fourth Crusade," beginning circa A.D. 1204. By means of this war, Venice used the pretext of a Crusade to conquer, loot its former patron and its principal rival, Constantinople, establishing the long occupation of the region by the Latin kingdom.⁶⁵ Venice emerged from this as the leading power in the Mediterranean world. It used this power as a lever for taking over all of western and central Europe through usury and related forms of corruption.

In the last part of the reign of the Holy Roman Empire's ruling house, Frederick II and his son Conradin, Venice used this accumulated maritime supremacy, its control of trade and banking, and its increasing control over Italy to orchestrate warfare and usurious looting throughout western and central Europe, at the same time that Venice's Mongol friends were menacing all of Europe from the east.⁶⁶ So, from the middle of the Thirteenth Century until the period of the Black Death pandemic's spread into western Europe a century later, Europe waned in accelerating economic and demo-

graphic decline. The general estimate from the vital statistics and correlated evidence laid down during that period, is that the population of Europe was approximately halved by the famine and disease caused by economic decline, even prior to the eruption of the Black Death pandemic there.⁶⁷ The central feature of this was the Venice-coordinated Lombard banker's use of usury as the means for profiting immensely from the inter-ethnic warfare which Venice orchestrated throughout Europe.⁶⁸

Thus, during the middle of the Fourteenth Century, much of this power of Venice abruptly disintegrated. This disintegration erupted as the sudden, chain-reaction collapse of the worst financial bubble of debt-speculation in history until the 1972-1994 period. The disintegration of the Venice-controlled financial system of Europe was aggravated in after-effects by the arrival of the Black Death pandemic, whose spread was fostered by the unsanitary and other immune-suppressing conditions caused by Venice's orchestration of intermingled warfare and usury over the preceding hundred-odd years of Europe's economic decline from the high point reached earlier under the Stauffer emperors, Frederick I ("Barbarossa") through Frederick II.⁶⁹

As in every similar case in past and modern history, this medieval collapse of the Lombard debt-bubble caused a corresponding collapse in the power among the great oligarchical families who had risen to virtually unrivalled power, as allies of Venice, during the preceding hundred-odd years. At the same time, the Papacy was thrown into virtual disintegration through the cumulative effects of Venice's corrupting games of feudal rivalries.⁷⁰

vices in Russia and Switzerland, ended his life serving as British-approved governor of the nominally liberated regions of Greece.

64. See footnote 49.

65. For Enrico Dandolo and the Fourth Crusade, see John Julius Norwich, *A History of Venice* (New York: Alfred A. Knopf, 1982), p. 122ff. Cf. Frederick C. Lane, *Venice: A Maritime Republic* (Baltimore: Johns Hopkins University Press, 1973).

66. Miriam Beard in her *History of the Business Man* (New York: Macmillan, 1938) writes: "... when Genghis Khan ruled from Korea to Persia, the Mongols were extending their colossal empire westward. . . . At every stage, the Mongol generals informed themselves ahead of time about the state of European courts, and learned what feuds and disorders would be advantageous to their conquests. This valuable knowledge they obtained from Venetian merchants, men like Marco Polo's father. It was thus not without reason that Polo himself was made welcome at the court of Kublai, and became for a time administrator of the Grand Khan." (p. 105). See also B.H. Liddell Hart, *Great Captains Unveiled* (London: 1927) for the role of the Venetians as the "intelligence service of the Mongols."

67. Barbara Tuchman, *A Distant Mirror: The Calamitous Fourteenth Century* (New York: Alfred A. Knopf, 1978).

68. For the Crusades, see Sir Stephen Runciman, *A History of the Crusades*, 3 vols. (London: Cambridge University Press, 1951-54). See also Jonathan Riley-Smith, *The Crusades: A Short History* (New Haven: Yale University Press, 1987) and Hans Eberhard Mayer, *The Crusades* (New York: Oxford University Press, 1988).

69. For Frederick I Barbarossa, see Helmut Hiller, *Friedrich Barbarossa und seine Zeit* (Munich: List, 1977) and Peter Munz, *Friedrich Barbarossa: A Study in Medieval Politics* (London: Eyre and Spottiswoode, 1969). For Frederick II see *Stupor Mundi: zur Geschichte Friedrichs II von Hohenstaufen* (Darmstadt: 1992) and Georgina Masson, *Friedrich II of Hohenstaufen: A Life* (New York, Octagon Books, 1973).

70. The Venetians manipulated the wars of the Lombard League against Frederick I (battle of Legnano, 1176) and the wars of Charles of Anjou against Frederick II and his heirs (battle of Benevento, 1266). Venice was also instrumental in unleashing the Hundred Years' War (1339-1453) between England and France which was started by Venice's ally King Edward III of England. For the "Babylonian captivity" of the Papacy in Avignon, see Guillaume Mollat, *The Popes at Avignon (1305-1378)* (New York:

In this Classically tragic⁷¹ circumstance, the forces of a renaissance emerged into positions of growing influence. These forces were centered around the networks which had been established by Dante Alighieri, and continued by Petrarca. During the Fifteenth and Sixteenth Centuries, the history of Europe, and then of the entire planet, came to be dominated, to the present day, by a ferocious conflict between the forces of good, the Renaissance, and the forces of evil, the oligarchical network of usury-based powerful families allied with Venice.

If we grant that there are obvious distinctions of quality between medieval and modern history, is there a well-defined dividing line between the two? Do they shade into one another, gradually, over a long period of time when the history may be fairly described as a bit of both qualities; or, is there a well-defined dividing-line, some provable singularity, some difference in generating principle, which places one period of history before that dividing point, and the later period of history in the new? If there is a provable dividing-point, how and when, at what singular point of discontinuity did Modern History begin?

For reason of the circumstances under which that ecumenical council had been assembled, and the reunification of the differing rites achieved,⁷² the rational agreement by the combined rites on acceptance of the truth underlying the Latin principle of *Filioque* brought implicit acceptance of the principles underlying the new institutions of lawful nation-state republic and scientific progress as the mandate given to the republics.

Modern history superseded medieval at that moment that the institutions which singularly distinguish modern from medieval history were put into place. That development occurred at the point Patriarch Isidor and other representatives of the Eastern Church convened at the

Council of Florence accepted Nicolaus of Cusa's argument and supporting evidence, showing that the Latin *Filioque* of the Creed was implicit in the understanding of early councils of the united Church.⁷³

From the year the basis for the emergence of those new institutions was established, A.D. 1440, Venice, the leading representative of the old, declared war on the new. That war between the heritage of the Renaissance and the tradition of Venice has been the characteristic conflict within European civilization from that day to the present day.

What were those new institutions? There are two new institutions which are most characteristic of the singular point of difference between all human existence prior to A.D. 1400, and modern history: (1) the conception of the modern nation-state republic under the governance of natural law as the organizers of the Council of Florence understood the Christian principle of natural law⁷⁴; (2) the central role of the fostering of scientific and technological progress in the morally obligatory functions of such a new form of state.⁷⁵

The very existence of the commitment to these new institutions, even by a significant minority within European civilization, made the existence of those institutions an efficient principle of interaction within European culture as a whole.⁷⁶ To restate this crucial argument: their existence as institutions, in any part of Europe, changed everything in all of Europe, in the degree that all of Europe must now adjust its behavior to this efficient fact. To restate it once more: since these institu-

Harper and Row, 1965) and Yves Renouard, *Avignon Papacy, 1305-1403* (London: Faber, 1970).

71. "Classical tragedy" should be read here in the sense of Aeschylus' *Prometheus*, and in terms of the principles of tragedy as set forth by Friedrich Schiller. For Schiller on tragedy, see "On the Use of Chorus in Tragedy," *Fidelio*, Vol. II, No. 1, Spring 1993, pp. 60-64. See also "Über den Grund des Vergnügens an tragischen Gegenständen" ("On the Reasons We Take Pleasure in Tragic Subjects") and "Über die tragische Kunst" ("On Tragic Art") in *Friedrich von Schiller, Sämtliche Werke in Sechs Bänden* (Stuttgart: Phaidon Verlag, 1984), vol. 5, pp. 127-162. See also "On the Pathetic" and "On the Sublime," in *Friedrich Schiller, Poet of Freedom, Vol. III*, ed. by William F. Wertz, Jr. (Washington, D.C.: Schiller Institute, 1990). For Friedrich Schiller on the role of the *punctum saliens* in tragedy, see, e.g., the "Introduction" to his *History of the Revolt of the United Netherlands Against Spanish Rule*, in *Friedrich Schiller, Poet of Freedom, Vol. III, ibid.*, pp. 177-191.
72. Even if but for approximately thirteen years, until the Ottoman sack of a betrayed Constantinople in A.D. 1453.

73. See Helga Zepp-LaRouche, "Nicolaus of Cusa and the Council of Florence," *Fidelio*, Vol. I, No. 2, Spring 1992, pp. 17-22 (Address to the Schiller Institute conference commemorating the 550th anniversary of the Council of Florence, Rome, May 5, 1989), for her presentation of the proofs supplied to the Council by Nicolaus of Cusa from Greek documents Cusa gathered during his visit to Byzantium.

74. The two principal writings to be consulted for understanding the conception of the modern nation-state republic under natural law are Dante Alighieri, *De Monarchia* [trans. by Herbert W. Schneider as *On World-Government* (Indianapolis: Bobbs-Merrill, 1957)] and Nicolaus of Cusa, *Concordantia Catholica* [trans. by Paul E. Sigmund as *The Catholic Concordance* (Cambridge: Cambridge University Press, 1992)].

75. On the founding of modern science, the key works are by Nicolaus of Cusa: *De Docta Ignorantia* (*On Learned Ignorance*) (1440) [trans. by Jasper Hopkins as *Nicolaus of Cusa on Learned Ignorance* (Minneapolis: Arthur M. Banning Press, 1985)].

76. In formalist's terms, this is analogous to the effect of an axiomatic-revolutionary change within the set of axioms and postulates defining the generating principle which subsumes a specific type of formal theorem-lattice. One such change in axiom (or, postulate) revolutionizes the generating principle, to such effect that no apparently similar theorem of the implicit new lattice has any actual congruence with any possible theorem of the old.

tional changes increased the rate of development of the *per-capita* and *per-square-kilometer* power of mankind over nature, their very presence changed the character of every part of the historical process with which they interacted. This interaction to that effect began virtually the moment the relevant ecumenical agreements were reached in the Council.

For example: Venice correctly perceived accurately the developments at that Council as a relatively immediate threat to the most vital interests of the Venice financial oligarchy and the state. She reacted by such means as enlisting Scholarius of Mount Athos (“Holy Mountain”), among others, as Venice’s ally against both the Paleologues and the Papacy, also recruiting Muscovy to the Venice side.⁷⁷

Similarly, the Europe transformed by the chain-reaction influence of the Council’s new institutions nearly crushed Venice out of existence, through the League of Cambrai; *all of European history, from 1440 to the present time—the essential conflict within European, and later world civilization—has been the effort of Venice and its factional followers to destroy the form of modern nation-state and culture which came out of the work of the 1439-1440 Council.*

Although Venice frustrated the efforts to establish such a new form of nation-state in Italy itself, the first success occurred under France’s Louis XI, who approximately doubled the *per-capita* income of France during his reign, and defeated all of France’s principal adversaries at that time, from England, Burgundy, and in Spain. Louis XI’s success sparked a chain-reaction of efforts to establish a nation-state on this model, in Henry VII’s England and elsewhere, assisted by such followers of Cusa as Erasmus and the Oratorian movement of which Erasmus and Raphael Sanzio were early leading figures.

77. When Isidore of Kiev, who had been the Russian delegate to the Council of Florence, attempted to proclaim the unity of Christendom in Moscow, he was lucky to escape alive from the fury of Grand Prince Vasily the Blind. For Isidore’s story as told in the *Second Sophia Chronicle, The Tale of Isidore’s Council, and Selections from the Holy Writings against the Latins and the Tale about the Composition of the Eighth Latin Council*, see *EIR Special Report: Global Showdown* (Washington, D.C.: Executive Intelligence Review, 1985), pp. 87-89. For an Orthodox account, see Ivan Ostroumoff, *The History of the Council of Florence* (Boston: Holy Transfiguration Monastery, 1971), pp. 182-184. Approximately thirteen years after the Council, Constantinople fell to the Ottoman conquest. Scholarius assisted the Ottomans by mobilizing the Greeks not to rally to the defense of Constantinople. In reward for this treasonous service to his Greek countrymen, the Ottomans took time from sharing up the remains of the conquered Greece with Venice, to appoint Scholarius the religious representative for all of the non-Muslim population of the Ottoman Empire.

The increase of *per-capita* power over nature fostered by these new institutions of the Renaissance produced dangerously powerful adversaries impeding the pathway of Venice’s efforts to resume the kind of power it had had in the Mediterranean region prior to the mid-Fourteenth Century bursting of the great debt-bubble. Indeed, the adversaries of Venice’s evil, led by an alliance between France and the Vatican, came to the verge of crushing Venice at the beginning of the Sixteenth Century.

Venice survived by corrupting its adversaries into making war against each other, breaking up the anti-Venice League of Cambrai.⁷⁸ However, by 1582, a faction in Venice, led by one Paolo Sarpi, had selected London to be the capital of a new Venetian empire.⁷⁹ These Venetians understood, and argued that Venice could not defend its position in the north of the Adriatic indefinitely; the oligarchical families of Venice must cultivate a new base of operations to set up a global financial and maritime power capable of crushing the new kinds of institutions out of existence.⁸⁰

Sarpi’s 1582 factional victory over his opposition inside Venice meant that the power of Venice was committed to a full takeover of England, preparatory to transforming the British Isles into a bastion of Venetian-style oligarchical thinking capable of becoming a global maritime power analogous to Venice’s lost domination over the Mediterranean region. The assassination of Christopher Marlowe, and the Cecil role eliminating Elizabeth I’s adopted heir, Essex, typify the bloody intelligence warfare which was once again echoed in England’s late Sixteenth Century following the Sarpi faction’s policy victory in the Venice of 1582.

Admittedly, it had been Venetian agents, from 1517 onward, which threw the Howards’ ill-fated temptress Anne Boleyn at Henry VIII, to drive him insane enough to break his precious ties to both France and Spain—and theirs to England. That was part of Venice’s playing the former allies of the League of Cambrai against one

78. For the League of Cambrai, see Felix Gilbert, *The Pope, His Banker, and Venice* (Cambridge: Harvard University Press, 1980). See also John Julius Norwich, *A History of Venice* (New York: Alfred A. Knopf, 1982), pp. 390-433.

79. For analysis and bibliography on Sarpi, the *giovanni* faction, and England, see Webster G. Tarpley, “The Role of the Venetian Oligarchy in the Reformation, the Counter-Reformation, Enlightenment, and Thirty Years’ War,” *The New Federalist*, Vol. VII, No. 14, April 12, 1993, pp. 6-7; and “The Venetian Conspiracy,” *The Campaigner*, Vol. 14, No. 6, Sept. 1981, pp. 23-46.

80. See Gaetano Cozzi, *Paolo Sarpi fra Venezia e l’Europa* (Torino: Einaudi, 1978) and Enrico De Mas, *Sovranità politica e unità cristiana nel seicento anglo-veneto* (Ravenna: Longo, 1975). See also William J. Bouwsma, *Venice and the Defense of Republican Liberty* (Berkeley: University of California Press, 1968).

another, seeking to destroy each, one by one, as Venice had played the aristocratic and royal varieties of feudal fools against one another during the Thirteenth and Fourteenth Centuries. Whatever may have passed through the heads of various Venetian factions during the earlier decades of that century, as of 1582, the commitment to building up London as a “Venice of the North” was a formal commitment of the Venetian state, the adopted long-range strategic perspective of the majority of the Venetian oligarchy.

*The role of Francis Bacon, his Thomas Hobbes, Elias Ashmole, et al., following the accession of King James I is tell-tale.*⁸¹

The crucial event leading into the Venetian operations of 1688-1818⁸² is the 1662 accession of Cardinal Mazarin’s powerful protégé Colbert into the position of France’s Controller General (of finances). France, already the leading nation of Europe in science, technology, and economy, was mobilized under Colbert’s leadership into bold achievements which the Venetian patrons of London found most alarming. Given the superiority of France in science and technology, the development of France’s maritime power under Colbert was a direct threat to Venice’s strategic interest. In the effort to destroy France, Venice resorted to its old tricks of playing one nation against the other in debilitating, protracted warfare.

That brought Europe, and implicitly also the European colonies and other non-European regions, too, up to the events of 1688-1818. At that point, still powerful, but decaying Venice moved toward establishing London’s position as the future capital of a neo-Venetian global empire. During this approximately 130-year interval, the Venetian gamemasters and their protégés adopted three principal objectives. These are listed for

identification here; the relevant features of each of the three are treated at a later point.

(1) From the beginning, as early as the 1666 war, the object was to eliminate France as an obstacle to the emergence of London’s global imperial supremacy, beginning with the destruction of France’s credible threat, under Colbert, to establish maritime supremacy.

(2) From near the beginning of the Eighteenth Century, to defame and destroy the influence of Gottfried Leibniz; this was a central concern of Abbot Conti and his salon.

(3) From no later than 1763, to crush permanently the aspirations to political autonomy and economic development among the English colonies in North America; this was a task to which Lord Shelburne assigned his lackey Adam Smith during a conversation held on a carriage-ride in 1763.⁸³

The 1763 Treaty of Paris marked the defeat of France’s possibilities for challenging London’s global maritime supremacy. The new task assigned by the Venetians then formerly associated with Conti’s salon was to destroy France as a land-power, and to induce London to adopt those institutionalized commitments which would guide it to establishing a world-empire according to Venice’s approved principles of a global, oligarchical model.

For this latter “sociological” purpose, the Locke model of empiricism was not adequate; deference, even corrosive deference to custom was not a tolerable trait among those who must be trained and selected as Britain’s ruling elite. For this work, the Venetian controllers of London required the change to the radical empiricism of a “hedonistic calculus.”⁸⁴

Here lies the specific historical significance of the promotion of Ortes’ writings by the Venetian salons shaping the collection of veritable juvenile delinquents composing Shelburne’s “Kindergartn en”—figures such as Adam Smith, Jeremy Bentham, Thomas Malthus—of post-1763 Britain. Thus was imperial London established under Shelburne as “The New Venice.” Bertrand Russell and his followers are the end-product of that metabolic process.

The ‘British Empire’

Bertrand Russell became an evil person because he was developed to become a representative of his family heri-

81. As a matter of population-control applied to their own ranks, in the last two centuries of Venice’s political independence, the time came that her oligarchy imposed increasingly strict celibacy upon a growing majority of its progeny. By the late Seventeenth Century, a typical Venetian oligarch travelling abroad, was, if not an abbot, a monk with vows in more or less perpetual abeyance—like Ortes. This style was associated with a proliferation of homosexuality among male and female members of the Venetian oligarchy, a city which rivalled Biblical Sodom and Gomorrah on such accounts. The spread of this Venetian oligarchical bachelor style, is often a marker for Venetian moral affiliations, which was clearly the case for Bacon and such kookish cronies of his as Hobbes, Elias Ashmole, *et al.*

82. The dates are approximate. Crucial respecting 1688 is the disintegration of the reign of England’s James II, which left Venice no option but to proceed with the deploying of its asset William of Orange into London. Crucial respecting 1818 is the full unmasking of the tyrannical character of the Metternich Holy Alliance.

83. Lord Edmund Fitzmaurice, *Life of William, Earl of Shelburne* (London: Oxford University Press, 1907), p. 73.

84. As noted above, this singular change within the doctrine of

tage. That heritage represents a philosophical *type*. In contrast to the Renaissance, of which Russell's family was an avowed enemy, all modern empiricism, including its existentialist and positivist derivatives, is based upon the same *type* of rejection of any principled distinction between mankind and the beasts. Thus, Russell's utopia were fairly named a "Brutish Empire."

There was already the Seventeenth-Century bestiality of Bacon, Hobbes, Elias Ashmole, John Locke, *et al.* However, out of the salon of Venice's Abbot Antonio Conti, the single most important direct influence upon the culture of Eighteenth-Century England, was that radiated from salon member Ortes' writings. Ortes and his depraved British dupes, such as Adam Smith, Bentham, and Malthus, represent what is called *radical empiricism*, which is the same thing *axiomatically* as the Nineteenth-Century French *radical positivism* introduced by the circles of Abbot Moigno: LaPlace, Cauchy, Comte, *et al.*

British radical empiricism, and its bastard child, French Restoration positivism, is, like philosophical liberalism generally, a rejection of the idea of any scientifically knowable distinction between man and the beasts. All liberalism rejects the existence of intelligible truth, on the same philosophical premises. The radical empiricism of the late Eighteenth Century carries this immorality of the liberals to the extreme, by reducing all apprehensions of human behavior to the mechanistic terms of a linear algebra modelled explicitly upon that of Galileo and Isaac Newton. That latter, radical transformation of the previously established empiricism of John Locke, *et al.*, was the specific product of the influence of Conti's salon upon England, a radicalism infused directly through the work of Giammaria Ortes.⁸⁵

Thus, all British radical empiricists, and their bastard French offspring the positivists, were bred to become what is recognizable today as behavioral psychologists, in one or another academic disguise. This includes not only the new pseudo-sciences of ethnology, anthropol-

ogy, Wundt's psychology, and sociology introduced during the post-1814 French Restoration's Nineteenth Century. Through such forms as the *pragmatism* of William James and John Dewey in the United States, for example, this poisonous influence corrupted nearly every aspect of modern culture and education there. Through the ethnologists (anthropologists), the sociologists, the psychologists in the traditions of Wundt, the behaviorists generally, psychoanalysis, and institutions such as the "Frankfurt School" and London Tavistock Clinic and Tavistock Institute, humanity under the emerging world-empire of the U.N.O. is rapidly becoming a multicultural zoo of persons degraded to the status of "just another animal, like the rest."

That transformation, whose echoes are typified by all of the leading influences sponsoring the proposals for the September 1994 Cairo Conference on population, is today's distilled embodiment of an evil far more extreme than that earlier phase represented by the Venetian Thule Society's Adolf Hitler.⁸⁶ From the presumption that mankind is "just another animal species," any monstrous immorality may become enthroned law, such as a Nazi holocaust, or the same method may be employed as apology for such sub-human behavior as ritual cannibalism, or the savage rituals of brutish Aztecs or other depraved forms of cultures. Out of "indigenists'" defense of the hideous Aztec culture, comes an utter abandonment of any semblance of morality; for example, there may come sympathy for the kindred evil of Adolf Hitler, or, worse, Bertrand Russell's one-world and kindred utopian projects.

Consider in this light the invitation to former U.S. Secretary of State Henry A. Kissinger to deliver a commemorative, May 10, 1982 public address in London, celebrating the two-hundredth anniversary of Jeremy Bentham's founding of Britain's imperial foreign intelligence service. On that

empiricism is the issue which prompted Kant's open break with his former mentor, David Hume.

85. For Ortes, see the Cini Foundation symposium cited above under footnote 56. See also Gianfranco Torcellan, *Settecento Veneto ed altri scritti storici* (Torino: Giapichelli, 1969). For Ortes' shorter writings, see *Giammaria Ortes: Calcolo sopra la verità dell'istoria e altri scritti*, ed. by Bartolo Anglani (Genoa: Costa and Nolan, 1984). For Ortes' economic writings, see *Della economia nazionale* (Milano: Marzorati, 1971). Ortes' economic and related writings are reprinted in *Scrittori classici italiani di economia politica*, ed. by P. Custodi (Milan: G.G. Stefanis, 1803-16). See also Webster G. Tarpley, "Giammaria Ortes and the Venetian Hoax of Carrying Capacity," *The New Federalist*, Vol. VIII, No. 22, June 20, 1994, pp. 6-9. For Conti, see footnote 56.

86. The Thule Society, and its later offshoot, the aristocratic *Allgemeine SS*, were creations of princely forces from within the *Fürstentum* of the Twentieth-Century carry-forward of the Holy Roman Empire. This covered, in area, a large portion of the princely and related aristocratic families of the regions from Istria and northern Italy, northward into the circles of the Bavaria monarchy. These, otherwise typified by the renegade Benedictine Abbot who early met young Hitler, had been the backers of Giuseppe Mazzini's British bomber, composer Richard Wagner, created Adolf Hitler, and passed Hitler on to the nominally Protestant, also Venetian-controlled circles of the Vrill Society. As a sovereign state, Venice disappeared into the outhouses of the Nineteenth Century; as a network of interdependent financial and political potencies, Venice continues very much alive, as a parasite within numerous institutions, to the present day. There is thus a continuity between the evil Ortes and the modern expression of this Venetian evil, the Club of Rome, and the proponents of the Cairo Population Conference.

occasion, Kissinger bragged publicly that he had acted as an agent of British foreign-policy influence, behind the backs of two U.S. Presidents, while he was serving as National Security Adviser and Secretary of State.⁸⁷

Note with special interest Kissinger's references to policy conflicts between the U.S.A. and the British Empire, as typified by the quarrels between President Franklin Roosevelt and Prime Minister Winston Churchill over what Roosevelt identified, with a certain pungency of expression, as "British Eighteenth-Century Methods."⁸⁸ Note that these are the motives for the attacks upon President Clinton by the faction of British intelligence and its allies represented by Conrad Black's Hollinger Corporation,⁸⁹ the Hollinger Corporation's Henry A. Kissinger, John Train, the traditional British intelligence service's assets among the so-called U.S. "neo-conservatives," and the Bush League faction of the U.S. secret-intelligence community generally.

Since the Renaissance, all European civilization has been divided into but two principal, contending factions. The one faction is that Platonic current which is Christianity in the tradition of the Moses of Genesis I,⁹⁰ of such exemplary documents as the Gospel of John, the Epistles of Paul, and the work of Augustine, which organized the Golden Renaissance.⁹¹ The opposing fac-

tion is typified by those who, like monks Conti and Ortes, sometimes wore the Venetian mask of feigned Christianity, but are condemned by their own writings as agents of some pagan Mephistopheles, Moloch, Baal, or that Jekyll-Hyde Deity of the pagan vale of Gaia, Python-Apollo-Dionysus.⁹²

Three institutional features interdependently characteristic of the Renaissance have been the principal issues for Venice and its oligarchical allies: (1) the Renaissance's replacement of a system of nested covenants and fealties (the imperial form of society) by a form of sovereign nation-state republic based upon a Platonic Christian notion of intelligibility of natural law⁹³; (2) The principle of the new state's function of fostering generalized scientific and related progress in knowledge and improved practice⁹⁴; (3) the notion of intelligibility of the laws of the universe to persons, through the development of that divine spark of reason which is the aspect of man in the image of God: both *imago Dei* and *capax Dei*.

87. *Op. cit.* Kissinger told the 1982 Chatham House audience: "The British were so matter-of-factly helpful that they became a participant in internal American deliberations, to a degree probably never before practiced between sovereign nations. In my period in office, the British played a seminal part in certain American bilateral negotiations with the Soviet Union—indeed, they helped draft the key document. In my White House incarnation then, I kept the British Foreign Office better informed and more closely engaged than I did the American State Department . . ."

88. Elliott Roosevelt, *As He Saw It* (New York: Duell, Sloan and Pearce, 1946).

89. For documentation on the World War II origins of the Hollinger Corporation as a British foreign-intelligence operation run under private cover by the Churchill-Beaverbrook apparatus, see *Assault on the Presidency!*, published by the Committee to Reverse the Accelerating Global Economic and Strategic Crisis: A LaRouche Exploratory Committee, Leesburg, Virginia, April 1994.

90. The leading allusion here is to the argument of Philo of Alexandria in his *On the Creation*, *op. cit.* God's universe is not premised upon a set of mechanical laws, fixed for all eternity. The universe is governed, rather, by a lawful principle of continuing creation. Cf. William F. Wertz, Jr. on the subject of Nicolaus of Cusa's *De visione Dei*: "Nicolaus of Cusa and The Concept of Negentropy," *Fidelio*, Vol. II, No. 4, Winter 1993. Creation, that power which casts man in the image of God the Creator, is *typified*—in Cantor's sense of "type"—for man's knowledge of this principle, by a valid axiomatic-revolutionary form of discovery of a scientific principle of nature.

91. Since the demolition of the Babylonian Empire (under the Achaemenid dynasty) by Alexander, the ally of the Academy of Athens, the eastern Mediterranean became *Hellenized*, and remained predominantly so until the takeover of the remains of

the decayed Byzantine Empire by the forces of the Osmanian dynasty and the Mamelukes. It was thus so in the time of Jesus Christ's ministry. The highest form of the Hellenic language of thought at that time was not the effectively extinct spoken Hebrew language, but rather the Greek of Plato's Academy at Athens. Christianity was understood generally in the language of the Platonic Greek of the Disciple John and Apostle Paul, for example, until Plato was banned by later Byzantine emperors. Aristotle was introduced into the Venice-dominated western Mediterranean through such Iberian gnostics as Moses Maimonides (1135-1204) and Ibn Rushd (Averroës) (1126-1198) during the Twelfth Century, in the effort to weaken both Judaism and Christianity. The Aristotle of Averroës was revived at Padua under the Venetian Pietro Pomponazzi as part of Venice's efforts to undermine and destroy the anti-usury forces of the Renaissance. The alleged authority of Aristotle's putative authorship of the pro-slavery, pro-usury (*Nicomachean*) *Ethics* and *Politics*, was employed as apology for those and related practices of the Venice-centered oligarchical forces.

92. The site of Delphi was originally consecrated to a pair of pagan deities, Gaia and Python, of the Shakti-Siva, Isis-Osiris, and Cybele-Dionysus model, typical of cults based on a moon-goddess who is also both Earth-mother goddess and patron deity of witchcraft and prostitution. Python is a serpent, belonging to the same pagan paradigm as the semitic Satan. From the East a new factor was introduced, the hybrid deity Apollo-Python, or, alternatively, Apollo-Dionysus. More on this Apollo-Dionysus cult in the European oligarchical tradition at relevant locations below.

93. On the contrast with imperial law, see Friedrich August Freiherr von der Heydte, *Die Geburtsstunde des souveränen Staates* (Regensburg: Druck und Verlag Josef Habel, 1952). On the principle of the modern nation-state republic, compare Dante Alighieri's *De Monarchia*, *op. cit.* with Nicolaus of Cusa's *Concordantia Catholica*, *op. cit.*

94. See Nicolaus of Cusa, *De Docta Ignorantia*, *op. cit.* Consider also the unprecedented explosion of fundamental scientific and technological progress during the Fifteenth Century, from Filippo Brunelleschi through Luca Pacioli and Leonardo da Vinci.

Venice, sensing the power flowing from the application of these three interdependent sets of ideas, knew that its power, its very existence was mortally threatened. All European history since that time has been shaped predominantly by the efforts of the Venice-led oligarchy to crush out of existence this three-fold institution of the Renaissance. It may be said fairly, that those who do not understand this to be true, know virtually nothing essential of the internal dynamics of the history of the Twentieth Century, of the past six centuries of European and world history, or concerning the vital issues immediately confronting us today.

Prior to this Renaissance, there is no known instance of the existence of such a form of republic in all of human existence. On the basis of evidence yet to be identified here, below, it can be reasonably inferred that none such could ever have existed. The first proposal for such an open break with the old imperial system was Dante Alighieri's electrifying *De Monarchia*.⁹⁵ Then, at the beginning of the Fourteenth Century, the political and financial power of Venice in the Mediterranean region was near to its zenith⁹⁶; Dante's proposal was tactically hopeless under those immediate political conditions, but the proposal lived to be implemented during the Renaissance.

Dante's design was centrally premised explicitly upon the importance of a literate form of popular language. This premise is demonstrated by his work reviving the ancient Italian language from its conquest by Rome.⁹⁷ His masterpiece, the *Commedia*, is a prime exhibit on this point⁹⁸; the work of Dante and his followers on poetry and on the relationship between poetry and musical composition, is also relevant background for reading his *De Monarchia*.

If a people is to participate in self-government, to the effect the interdependent notions of *imago Dei* and *capax Dei* require, they must participate in the ideas by which

society is self-governed. Ignorant, illiterate persons can not participate competently in self-government; they do not know what the issues of government are! Indeed, as for the African-American slaves of the Nineteenth-Century United States, literacy is the first condition of freedom. Thus, the issues of literate language and of corresponding levels of knowledge are crucial for instituting among men and women those forms of self-government which do indeed fulfill the requirements of Christian teachings. The degeneration of a people into a babble of competing, relatively brutish local dialects prevents stable self-government. The substitution of a system of covenants, conquests, and fealties for self-government, is thus to be judged an hubristic offense against Christ.

Dante's conceptions were kept alive over the course of the Fourteenth Century by intellectual heirs such as Petrarca. In Florence, literate Italian was brought to the people by such means as daily readings from the text of the *Commedia*. It is the ideas of Cusa's *Concordantia Catholica* and *De Docta Ignorantia*, situated in the setting of the Council of Florence, which established the new threefold institution of a modern nation-state republic, committed to scientific and related progress, and self-submitted to the principles of natural law known by means of that spark of creative reason which sets mankind absolutely apart from and above the beast.

It was not such an easy matter for Venice to crush this Renaissance and its new social institutions. The point is illustrated most dramatically by combining the two statistical curves covering ancient to present-day population-densities and demographic characteristics of populations. [SEE Figure 1] Prior to the Renaissance, the population of this planet never reached more than several hundred millions persons; the curves show that under the influence of the new form of nation-state and related institutions introduced by the Renaissance, the power of the household and person zoomed upward, both *per capita* and *per square kilometer* of the planet's surface. Also the attainable levels of normal life-expectancies and conditions of health improved together with the increase of population-density, *wherever Renaissance policies prevailed*.

This aspect of the matter is pointed up clearly by the effect of Louis XI's reforms in France, where the *per capita* income approximately doubled during his reign. The work of Leonardo da Vinci⁹⁹ and the military and

95. *Op. cit.*

96. The qualification "near to its zenith" reflects inclusively the fact that in 1261 Michael Paleologue had overthrown the Venetians' Latin empire.

97. The Humboldt brothers' project in Rome, at the beginning of the Nineteenth Century, demonstrated that Italian, while heavily doused with Latin loan-words over the more than two thousand years since the subjugation of the Italians by the Romans, was an independent language which had co-existed with Latin, rather than being a derivative of Latin. This announcement by the Humboldts and their circles of philologists was met by an explosion of rage from those whose concerns sprang from motives other than passion for truth. See footnote 223.

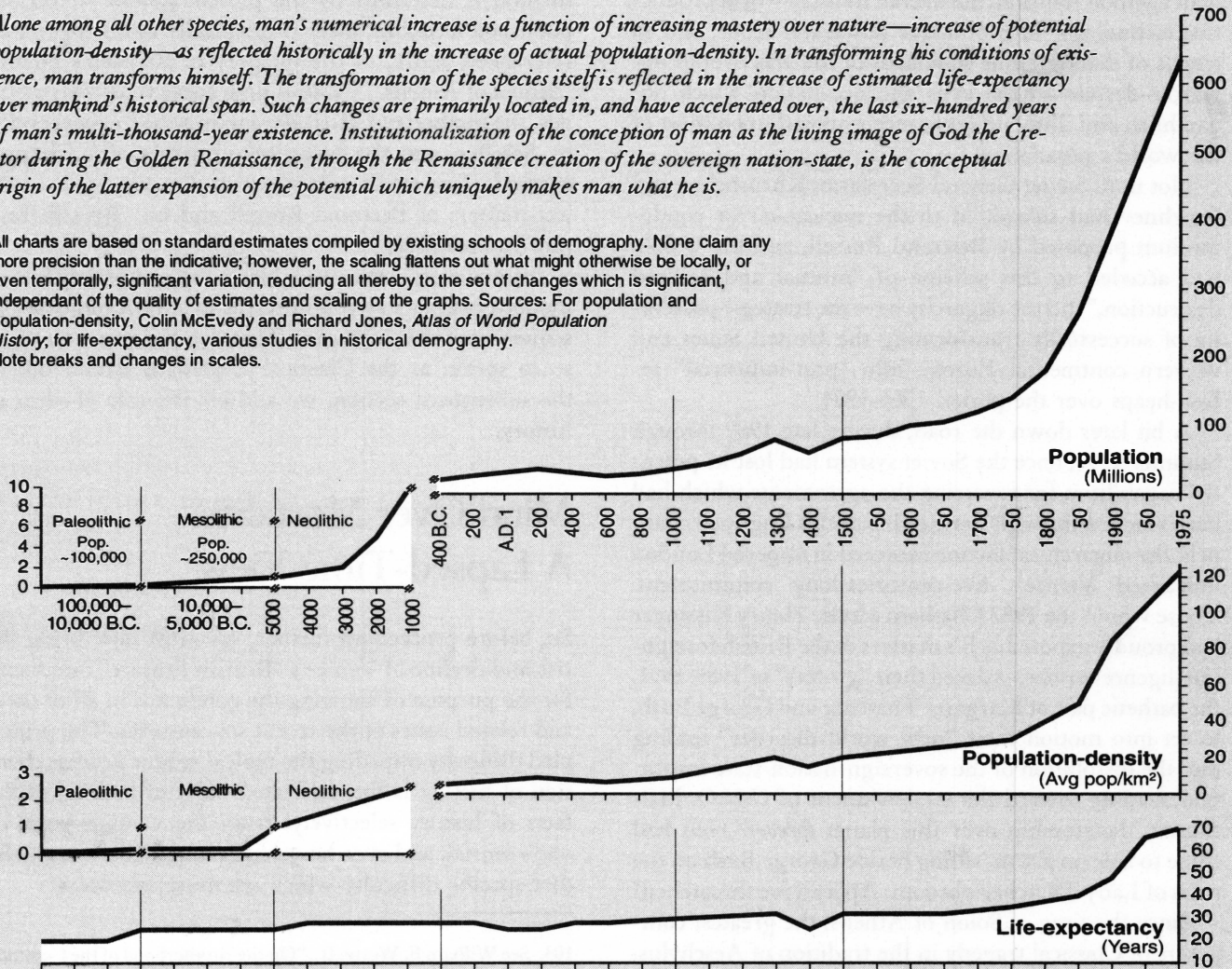
98. This author constructed a project, defining the conditions of speech required to represent known states of mind by language. A team of Italian scholars compared this table of requirements for a literate form of language with the *Commedia*; all of the conditions were satisfied.

99. Leonardo's contributions to military technology are summarized in *The Unknown Leonardo*, ed. by Ladislao Reti (New York: McGraw-Hill, 1974), esp. Ludwig H. Heydenreich, "The Military Architect," pp. 136-189, and Bern Dibner, "Machines and Weaponry," pp. 190-215. See also footnote 198.

FIGURE 1. Growth of European population, population-density, and life-expectancy at birth, estimated for 100,000 B.C.—A.D. 1975.

Alone among all other species, man's numerical increase is a function of increasing mastery over nature—*increase of potential population-density*—as reflected historically in the increase of actual population-density. In transforming his conditions of existence, man transforms himself. The transformation of the species itself is reflected in the increase of estimated life-expectancy over mankind's historical span. Such changes are primarily located in, and have accelerated over, the last six-hundred years of man's multi-thousand-year existence. Institutionalization of the conception of man as the living image of God the Creator during the Golden Renaissance, through the Renaissance creation of the sovereign nation-state, is the conceptual origin of the latter expansion of the potential which uniquely makes man what he is.

All charts are based on standard estimates compiled by existing schools of demography. None claim any more precision than the indicative; however, the scaling flattens out what might otherwise be locally, or even temporally, significant variation, reducing all thereby to the set of changes which is significant, independent of the quality of estimates and scaling of the graphs. Sources: For population and population-density, Colin McEvedy and Richard Jones, *Atlas of World Population History*; for life-expectancy, various studies in historical demography. Note breaks and changes in scales.



related writings of Niccolò Machiavelli¹⁰⁰ make the same point. By increasing the power of a society, *per capita* and *per square kilometer*, we increase not only its military potentials, but its general strength in depth in other relevant respects. The enemies of the Renaissance might attempt to eradicate the institution of nation-state and scientific progress, but until that suppression had actually occurred, the enemies of the Renaissance must adapt themselves to its impact or be crushed by failing to do so.

100. Machiavelli's analysis of the superiority of a "well-ordered militia" based on an educated republican citizenry can be found in his *Art of War, Book I* (New York: Macmillan, 1975), and in his *Discourses on the First Ten Books of Titus Livius, Book I* (New York: Viking Penguin, 1984), chap. 4. For an appreciation of these ideas, see Michael J. Minnicino, "The Need for Virtù in Today's Politics," *New Solidarity*, Vol. VIII, No. 40, July 19, 1977; and Lyndon H. LaRouche, Jr., "A Machiavellian Solution for Israel," *The Campaigner*, Vol. 11, No. 2, March 1978.

Since the dissolution of the League of Cambrai, until now, the enemies of the Renaissance have succeeded, on balance, in increasing their control over the financial and political institutions of the planet. Witness the rise of London as the "Venice of the North" since A.D. 1666-1688, to victories in repeated wars against France, then against the allies of the Vienna Congress, to the emergence of the global form of the British Empire during the Nineteenth Century, and, now, since the collapse of the Soviet system, the attempt to transform the United Nations into the instrument of London's global dictatorship: a "world federalist" form of world empire: a "Third Rome," or in the German of Fyodor Dostoyevsky's Moeller van den Bruck, a *Third Reich*.

To accomplish this, imperial London has been required to adapt to those very institutions it intended to destroy. Until the turn into a "post-industrial New Age," following the assassination of U.S. President John Ken-

nedy and the consequent awesome intimidation of President Lyndon Johnson, the overall trend in world productive technology, in productive powers of labor, and in trends of demographic standards of life was overall upward—despite all the evils and oppression which oligarchism and illiterate ignorance imposed upon most of the world's population.

Not until Soviet General Secretaries Khrushchev and Brezhnev had submitted to the nuclear-terror condominium proposed by Bertrand Russell, and the U.S.A. had acceded to this scheme of “mutual and assured destruction,” did the oligarchy have the strategic possibility of successfully transforming the United States and western continental Europe into “post-industrial” refuse-heaps over the period 1966-1994.

A bit later down the road, during late 1989 through Summer 1991, once the Soviet system had lost its potential capabilities for reversing the agreements which had been reached through Bertrand Russell's Pugwash channels, the oligarchical faction centered in imperial London unleashed Venice's five-centuries-long commitment. Those whom the 1982 Chatham House Henry Kissinger had proudly exposed as his masters in the British foreign-intelligence service, ordered their “go-fers” of 1989-1991, the pathetic pair of Margaret Thatcher and George Bush, to set into motion their “new world disorder” leading into the dissolution of the sovereign-nation-state institution, leading toward the establishment of U.N.O. Malthusian dictatorship over this planet *forever*. Hell had come to rule on Earth, riding beside George Bush on the train of Lady Thatcher's broom: Apocalypse threatened!

Since the time of Solon of Athens, the greatest composers of Classical tragedy in the tradition of Aeschylus, Cervantes, Marlowe,¹⁰¹ Shakespeare, and Friedrich Schiller have worked to develop the dramatic stage as a powerful vehicle for imparting a true sense of history to audiences.¹⁰² Hence, a reasonably competent study of history, or political science in general, includes obligatory study of the Classical tragedy of these five great masters and of others.

That method of thinking about real history is enriched by employment of the same principle of mastery of geometry and physical science used in the Classical Christian Humanist mode associated with Groote's and Thomas à Kempis' the Brotherhood of the Common Life, and by the Schiller-Humboldt Nineteenth-Century

101. The already referenced *Doctor Faustus* is one of the truly great tragedies, a composition whose prose parody by Goethe does not reach up morally or intellectually to the original.

102. Although Cervantes also composed for the stage, his great Classical tragedy, on the Classical Greek model of Aeschylus and others, is in prose form, as *Don Quixote*.

reforms of *Gymnasium* education in Germany.¹⁰³ This method is described by the present author in various published locations, most emphatically in his treatment, referenced above, of the imagery of Raphael's famous “School of Athens.”¹⁰⁴ Let us now apply those two methods, the method of Classical tragedy as best apprehended by Schiller, and the historical principle of a Classical method of scientific education, to the paradoxical subject-matters of Bertrand Russell and his “British Empire” utopianism.

Immediately, here, we address the comprehension of modern history's sweep in terms of interacting *types* of sequences of developments. That puts the issues on stage, so to speak, as the Classical tragedians would do. In the subsequent section, we address the role of ideas in history.

Mind Over Mortality: A Lapsed-Time View

So, before proceeding further, we must now bring the rise and decline of Venice's “British Empire” into focus, for the purpose of showing the coherence in all of these and related issues of the recent six centuries. The principled difficulty impeding the typical reader's comprehension of history is the cultivated habit of looking at the facts of history selectively, from the vantage-point of one's mortal, and ever-hesychastic umbilicus. It is chiefly that specific difficulty which we must overcome.

103. See William F. Wertz, Jr., “On the Brotherhood of the Common Life,” *Fidelio*, Vol. III, No. 2, Summer 1994. On the Schiller and Humboldt reforms in education, see Helga Zepp-LaRouche, “Die Modernität des Humboldtschen Bildungsideals,” *Ibykus*, Vol. I, No. 2, October 1981. See also Wilhelm von Humboldt, “Preliminary Thoughts on the Plan for the Establishment of the Municipal School System in Lithuania” and “School Plan for Königsberg,” which are summarized by Marianna Wertz, in “Wilhelm von Humboldt's Classical Education Curriculum,” *The New Federalist*, Vol. VII, No. 10, March 15, 1993, p. 8; see also *Wilhelm von Humboldt, Humanist Without Portfolio: An Anthology of the Writings of Wilhelm von Humboldt*, trans. by Marianne Cowan (Detroit: Wayne State University Press, 1963). Humboldt's reform program was directly influenced by his long association with Friedrich Schiller. See “On Schiller and the Course of His Spiritual Development,” by Wilhelm von Humboldt, and Schiller's “What Is, and To What End Do We Study, Universal History?” in *Friedrich Schiller, Poet of Freedom, Vol. II*, ed. by William F. Wertz, Jr. (Washington, D.C.: Schiller Institute, 1988). See footnote 223.

104. On this point, see the author's references to the implications of the most famous among Raphael's (Raffaello Sanzio's) murals of the *Stanze della Segnatura*, the *School of Athens*, in “The Truth About Temporal Eternity,” *Fidelio*, Vol. III, No. 2, Summer 1994. See “III. The Education of Creativity”; also, the treatment of history as history of ideas, pp. 13-15, 25-30.

To the purpose of supplying a practical remedy for that impediment, let us employ a ruse of modern biology; let us apply the technique of lapsed-time photography to the six-plus centuries under review. By means of this experimental ruse, let us bring all of this span of history into the focus of the contemporary mortal individual's powers of perception, employing for that purpose the solution-method embedded in Plato's *Parmenides*.¹⁰⁵ By reducing the facts of these centuries to that analog of a cinematographic representation, let us condense this history into the form of an experience by the mortal individual.

What the typical putatively educated individual believes about history is nonsense or worse, a kind of lie, in fact. It is nonsense according to the principle of *fallacy of composition*. It is a lie, because the individual's resort to such fallacy of composition is witting. He (or, she) is imposing a false philosophy upon the selection and interpretation of the evidence, and refuses, on the grounds of adhering to "our way of thinking," to entertain any criticism of the appropriateness of that philosophy itself.¹⁰⁶ In that mode, those deeply embedded habits of both the street and classroom have taken on the quality of axiomatic mental and social behavior within the victim of such conditioning. It is important to provide that victim with a pedagogical prosthetic device, by means of which history is made accessible to him in terms of even his own limited powers of comprehension. "Lapsed-time photography" has an appropriateness which is more or less self-evident.

To assemble such a lapsed-time portrait of the origins, rise, and fall of Venice's imperial London, the configuration of more than six centuries of events is required: according to two principal *types*, under the governance of a third *type*, which latter is the interaction of the other two.

Instead of arraying the events and related facts in the foolish way the Eleatics and Sophists did, statistically, apply the lesson of Plato's *Parmenides*; adduce as the crucial facts of the series, the characteristic quality of *change*¹⁰⁷ which defines the relationship among successive

sets of events in the historic sequence. So, *in the first series*, we have changes which are generated by the principles of the Renaissance; *in the second series*, changes generated by the oligarchical principle of Venice and its accomplices; *in the third series*, the generating principle is the interaction between the first two series, this under the governance of the interaction between the first two generating principles. Thus is the analysis of historical processes rendered comprehensible, by examining them as processes composed through the interaction of *types*.

Consider some highlights of such a lapsed-time portrait of the key events themselves. A few key cases are sufficient to situate the case of Conti and Ortes:

Mid-14th Century: A chain-reaction of reversed leverage collapses the Venice-dominated semi-global financial system, throwing Europe into virtual chaos, and shattering temporarily much of the oligarchical power of Venice and its accomplices.

Mid-15th Century: The temporary reunification of the Eastern and Western rites of the Christian churches at the A.D. 1439-1440 Council in Florence, sets into motion a revolution in political institutions, whose emergence threatens Venice's efforts to resume the levels of world-power it had enjoyed during the Thirteenth Century.

Late-15th Century: Venice launches a counter-offensive aimed at destroying the Renaissance. On the intellectual front, it mobilizes the Averroist Aristotle of the Twelfth-through-Fourteenth Centuries gnostic cults. Otherwise, Venice's espionage and diplomacy recruits the Greeks of Mount Athos to betray Greece to the Ottoman conquest, and establishes an alliance against the Renaissance with the rulers of Moscow.

Early-16th Century: The Papacy allies with France and other powers of Europe, the League of Cambrai, in an alliance committed to destroying this usurious enemy of civilization, Venice. By 1508-1509, when the forces of the League are at the verge of crushing the adversary, Venice strikes back with its "fifth column" forces of corruption, to divide the allies of the League against one another. Venice then goes on the offensive, where its faction remains to the present day.

Early-16th Century: Venice uses its oligarchical assets in northern Germany to incite the schism led by Martin Luther. This schism is orchestrated by Venice's funding of the publication of

105. See footnote 40.

106. Therein lies the intent, by him and also among today's typical mass-media personalities, to perpetrate sophistries, falsehoods euphemistically described as the mass-media's "fourth estate" right to "spin," which is "spin" for "to lie recklessly in the most outrageous extreme."

107. Plato, *Parmenides*, *op. cit.*, Steph. p. 156c-e. Plato's notion of "change" is that of Heraclitus before him. Georg Cantor's derivation of the notion of a "generating principle" of self-similar forms of change as defining a "type," is derived from Plato's conception of change. Cantor emphasizes this explicit connection in his comparisons of Plato's *Becoming* to his own *Transfinite*, and Plato's *Good* to his own *Absolute*.

Luther's works, by Venice's control over the finances of the Hapsburg Emperor Charles V, then also King of Spain, and by the "peacemaker" role of the anti-Renaissance Aristotelian, Venice's Gasparo Contarini.

1517-1582: Venice's intelligence services move in on a crucial ally of Spain and France, Tudor England. Venice assets in England, the Howards, deploy seductress Anne Boleyn to corrupt King Henry VIII.¹⁰⁸ Henry's induced lust for the temptress renders him an obsessed fool under the control of Venice's manipulations. Relations of England to both Spain and France are not repaired after that until the period of the Napoleonic wars and their aftermath: after 1814, when the post-Vienna Congress France of the Restoration and Napoleon III becomes a *de facto* political catamite under London's imperial domination.¹⁰⁹

1582 Onwards: Out of a factional affray within Venice's oligarchy, that faction, the so-called "giovanni," led by one Paolo Sarpi, takes the

leadership.¹¹⁰ Venice is committed to base its strategy upon developing the northern Protestant regions as its Nordic bastion against the anti-Venice forces of the regions, such as France and Spain, more closely tied to the Papacy. Actually, Venice is playing both sides in a "balance of power" game, as usual.

16th and Early-17th Centuries: Venice launches empiricism from among the followers of the Padua Aristotelian Pietro Pomponazzi, such as the notorious Francesco Zorzi ("Giorgi").¹¹¹ After the Sarpi factional victory of 1582, the effort of Venice to destroy the scientific method of Plato, Nicolaus of Cusa, Leonardo da Vinci, *et al.* becomes more energetic, adopting figures such as Galileo, Francis Bacon, Robert Fludd, *et al.* as part of the deployment of empiricism to destroy the vitality of science from the inside.¹¹²

Early-17th Century: Venice orchestrates the launching of the so-called "Thirty Years War" of 1618-1648, destroying Germany and much of the rest of Central and Northern Europe, while finishing off the already broken power of Spain.

Pope Deploys Vatican Diplomat Mazarin to Become Candidate Successor to Richelieu in France:¹¹³ It was Venice's orchestration of perpetual conflicts between France and the Hapsburg interests which was bleeding Europe into a threatened "New Dark Age." The result is a somewhat stable peace, organized largely by Mazarin during the 1648-1652 interval. Mazarin's protégé, the most capable Colbert, becomes temporarily the power behind Louis XIV's throne (1662-1683).¹¹⁴

108. On the Howards' role in the divorce of Henry VIII and Catherine of Aragon, see Betty Behrens, "A Note on Henry VIII's Divorce Project of 1514," *Bulletin of the Bolton Institute of Historical Research*, Vol. II, 1934, pp. 163-4; and David Cherry, "Venice and England's Break with Rome: A Cold Coup Shaping 500 Years of World Empire," unpublished, Leesburg, Virginia, 1992. For the Venetian role in Anne Boleyn's seduction of Henry VIII, see Christina Nelson Huth, "The Life and Death of Saint Thomas More," *The New Federalist*, Vol. 3, No. 14 & 15, March 24 & March 31, 1989.

109. The marker for the character of France's Restoration monarchy is the expulsion of Gaspard Monge and his educational program, to replace the leadership of the world's most advanced science, Monge and Lazare Carnot, with the neo-Newtonian scoundrels, Abbot Moigno's LaPlace and Cauchy. Thus, French science survived in Germany under the patronage of Alexander von Humboldt and his brother Wilhelm. From 1827, through the First World War, the world leadership in science was in the Humboldts' Germany. British agent Louis Napoleon Buonaparte ("Napoleon III") was a British foreign-intelligence service agent who was brought to power in France, first as President and then Emperor, by Britain's Lord Palmerston; Palmerston protégé "Napoleon the Little's" policy was always to maintain France as a junior partner of the British Empire, even to the point of establishing a junior French colonial empire as a junior partner of the big British colonial empire. Ironically, Palmerston lost his position as Prime Minister, and was downgraded to Foreign Minister, as a result of bringing Napoleon III to power. Queen Victoria, who did not always understand the devious methods required to bring her to the British imperial throne, was upset that her minister would replace a monarch, even a French one, with a mere plebeian such as Napoleon Buonaparte's nephew.

110. See footnote 79.

111. Francesco Zorzi (Giorgi), *De Harmonia Mundi* (1525). Zorzi, a friar from a famous and powerful Venetian noble family, wrote this book, which was based largely on the Kabbala, as an explicit attack on the *De Docta Ignorantia* of Nicolaus of Cusa. Zorzi became influential in Henry VIII's court after writing a brief in support of poor-fish Henry's desire to divorce his aging Hapsburg wife and thus clear the way for bedding the Howards' bait, the temptress Anne. Zorzi remained in England from 1531 until his death in 1540. Zorzi's work is of particular significance for his introducing the pseudo-scientific dogma argued later as empiricism by Francis Bacon, and laying the doctrinal basis in the Kabbala for the Rosicrucian Freemasonic cults of Robert Fludd and Elias Ashmole, *et al.* See footnote 239.

112. See the following section.

113. On Mazarin, see Anne-Marie Cabrini, *Mazarin: Aventure et Politique* (Paris: Editeur A. Bonne, 1962).

114. On Colbert, see *Lettres, instructions et mémoires de Colbert*, 8

Beginning 1666, Venice organizes 130 years of almost continuous warfare and debilitating internal intrigues against its principal adversary, France,¹¹⁵ until the power of France is broken, and France goes virtually under British mandate in 1815.

Early-18th Century: London comes increasingly under the direction of Venice's intelligence controller Abbot Antonio Conti.

1763-1793: London organizes and then coordinates the French Revolution of 1789-1793. In 1763, Lord Shelburne employs Adam Smith to work on projects intended to bring about the destruction of France and the crushing of the aspirations for economic development and autonomy among the English colonies of North America.¹¹⁶ Shelburne, as Prime Minister of Britain, conducts secret peace-treaty negotiations with the U.S.A. and France; imposes Adam Smith's novel concoction, "free trade," as a condition of peace, intending thereby to bankrupt both the U.S. and France. In 1789, British intelligence assets such as the Duke of Orléans, Robespierre, Danton, and Marat, each and all directed by Shelburne's British foreign-intelligence service chief Jeremy Bentham, plunge France into the obscenities of the Jacobin coup d'état and rule.

Early-19th Century: After the defeat of and virtual British mandate over France, London prepares to destroy both the United States¹¹⁷ and its principal allies of the 1789-1815 wars against France. Against the U.S.A., it uses the opium-trading, treasonous "Hartford Convention" accomplices of Jeremy Bentham's British intelligence agent Aaron Burr. Against its former allies Spain, Russia, and Austro-Hungary, it deploys British

intelligence's agent Napoleon III and the neo-Jacobin radical networks of British intelligence agent Giuseppe Mazzini.¹¹⁸

Close of 19th Century: London organizes for a coming Europe-wide general war, whose purpose is to finish off all European resistance to a "world-federalist" empire. The principal targets for mutual destruction in this war are Russia, Austro-Hungary, Germany, and the Ottoman Empire. The principal so-called "geo-political" motive for London's plans for such a general war is the collaboration, centered in proposed Eurasian railway development programs, between Russia's Minister Count Sergei Witte and France's Minister Gabriel Hanotaux. *Should such projects mature, as Hanotaux and Witte intend, Britain's hopes of a world-empire were destroyed by the economic development of Eurasia which must result from carrying through Witte's policies.*

Close of World War I: The utopian world-federalists, the hard core of the Venetian faction around Bertrand Russell and World War I British foreign intelligence chief H.G. Wells, takes over. London views the ruinous effects of the recent war as clearing the way for efforts to establish one-world government along Venetian utopian lines.

Following 1953: The death of Soviet General Secretary Josef Stalin clears the way for Moscow's capitulation to Bertrand Russell's demands for a nuclear condominium between the superpower blocs as a basis for developing the U.N.O. into a one-world dictatorship. The Anglo-American utopians move to unleash, beginning 1964-1966, an end to scientific progress ("post-industrial" paradise), aided by unleashing of the mind-destroying "rock-drug-sex counterculture" upon—first—the university youth-strata of North America and Europe.

Following 1989: The "collapse of the wall" is viewed in Prime Minister Thatcher's London as the end of the super-power controversy,¹¹⁹

vols., ed. by Pierre Clément, (Paris: 1861-82) (Nandeln: Kraus Reprint, 1979).

115. England and the later "triple alliance," conducted war against France from 1666-1668; then the Dutch war of 1672-1678, in which England was a secret ally of Netherlands; the Palatine War of 1689-1697; the "War of the Spanish Succession" (1701-1714); etc. See H. Graham Lowry, *How The Nation Was Won: America's Untold Story, Vol. I* (Washington, D.C.: Executive Intelligence Review, 1987), pp. 59-233, on English events of 1701-1714 as seen from the English colonies in North America.

116. Edmund Fitzmaurice, *op. cit.* Shelburne assigned British East India Company employee Adam Smith to prepare the research outline for what became Edward Gibbon's *The Decline and Fall of the Roman Empire*.

117. *Ibid.*

118. Anton Chaitkin, *Treason in America: From Aaron Burr to Averell Harriman*, 2nd ed. (New York: New Benjamin Franklin Publishing House, 1985). See also footnote 30.

119. The quasi-official 1982-83 back-channel discussion, between this author and the Soviet government, of what became known as the Strategic Defense Initiative, already stirred up some ominous foretaste of the explosion which was to erupt from

clearing the way for the early transformation of the U.N.O. into a “one-world government” dictatorship, *eliminating both the institution of the modern nation-state republic and scientific progress.*

From the crucial decisions at the Council of Florence, until the present, is a span of 554 years. Since the bursting of the great Fourteenth-Century debt-bubble, which opened the way for the Renaissance to challenge Venice’s oligarchism, is nearly 650 years. Although the institutions of statecraft created by the Renaissance were new, the underlying issues were not.

The evil of oligarchism is older than Babylon. In European history,¹²⁰ the war between Venice and the Council of Florence is an echo of the war between the

Moscow and its friends in London and within the U.S. intelligence establishment from the time President Ronald Reagan delivered the March 23, 1983 announcement. During this entire period, but especially from about 1985 onwards, there were what appeared then as some very surprising sympathizers, from high-level Western intelligence quarters, of the Soviet system’s prolongation. Edgar Bronfman’s Anti-Defamation League and World Jewish Congress worked very closely with the Soviet KGB and East German agencies, for example, even beyond the last weeks of 1989. Prime Minister Thatcher and her Conor Cruise O’Brien and Nicholas Ridley expressed the policy of her government in denouncing *West Germany* as imminently a *Fourth Reich*, as part of her effort to prop up the Soviet system. The fear was geopolitical: that Germany might take the lead in integrating the East Bloc economies, more or less intact, into the West, thus strengthening, rather than destroying, the system of sovereign nation-states and technological progress. Thatcher and Bush were determined to have destruction of the economies of all of the former Soviet sector, using methods such as those of George Soros and protégés such as Harvard’s Professor Jeffrey Sachs, which is what they succeeded in doing. In this way, by destroying the agricultural and industrial economies of the East, the downhill slide of the economies of the West was accelerated.

120. European history dates from the emergence of the Greeks from the “dark age” of illiteracy, or, by rule of thumb, from the composition of the *Iliad* and *Odyssey*. In such a period of European history, the crucial issue is the menacing role of Babylon and Tyre (Canaan), as distinct from the friendlier relationship to the principal adversary of Babylon and Canaan, the Egypt known to Solon, or the Cyrenaica of the time of Plato and Alexander the Great. The pivotal events emerge at about 599 b.c., with the Babylonian suppression of the revolt of the Ionian city-states, and the coincidental constitutional reforms of Solon at Athens. On related premises, Friedrich Schiller’s famous lecture at Jena traces all modern European history from the conflict between the legal systems of Solon’s reforms at Athens, versus the oligarchical systems of Lycurgus’ Spartan slave-society. The war between the Council of Florence and the oligarchists of Venice is a modern re-enactment of the conflict between Plato’s Academy and Babylon, between the legal systems of Solon and Lycurgus, and between Plato and the oligarchist Aristotle.

followers of Plato and those of the oligarchist Aristotle, or the uncompromisable conflict between the constitution of Solon’s Athens and the oligarchic slave-system of Lycurgus’ Sparta: that represents for us today a span of between 2,350 and 2,600 years.

Our immediate subject here, is that of recognizing the significance of the influence of an Ortes, more than two hundred years dead, not only upon Bertrand Russell *et al.*, and on the relatively immediate fate of our world today, the United States included. Our subject is implicitly: How ought we to shape our practical response to current events? Our answer here, is that we must see current developments in light of roots which go back in a rather immediate way even hundreds of years, or even longer. To make that conception itself comprehensible in a practical way, we must leave the mechanistic fantasies of Cartesian space-time, and adopt instead a sense of real history, a sense of the “boundedness” of a period of time which stretches back thirty to a hundred and thirty generations.

The History of Chronology

Before resuming our examination of the 650-year process we have just illustrated with our series of highlights, let us attempt to define what a magnitude such as 650 to 2,600 years ought to signify to the way we may understand current events.

Roughly speaking, a glacial cycle is determined by astrophysical cycles at approximately 200,000 years, with intra-glacial warming periods of approximately 10,000 years.¹²¹ The existence of mankind on this planet is currently estimated, on the basis of evidence, to be not less than about two millions years. The most recent melting of the glaciation began less than 20,000 years ago, with the oceans levelling off at about their present levels during the middle of the Second Millennium b.c., about the time the ancestors of the Greeks were invading the Mediterranean region as “Peoples of the Sea” in their Viking-like craft, as described by then-contemporary Egyptian portraits.¹²² [SEE Box] The geography of most

121. Laurence Hecht, “The Coming (or Present) Ice Age,” *21st Century Science & Technology*, Vol. 6, No. 4, Winter 1993-1994.

122. Since we know, on physical-economic grounds, that the archaeologists’ so-called “riparian” urbanizing cultures could not have sprung autochthonously from “hunting and gathering” inland, the retreat of the glaciation of the Northern Hemisphere, from about 18,000 b.c., into the Second Millennium b.c. must have buried much of the record of pre-ancient history under very many fathoms of water and silt. On grounds of energy-throughput of nutrient at various levels of technology of cultures, the development of agriculture to the level represented



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The ‘Peoples of the Sea’

The “Peoples of the Sea” who overran the devastated eastern Mediterranean in the late-Thirteenth and early-Twelfth Centuries B.C., were the latest inheritors of a far older maritime tradition. Their Viking-like vessels are shown here from the famous frieze of Egyptian pharaoh Ramesses III, whose armies beat back their seaborne attack of 1191 B.C. The roughly contemporaneous setting of Homer’s *Odyssey* in the period following the Trojan war, highlights the culture of maritime intrepidity reflected by the “Peoples of the Sea” brigandage.

Open-water navigation goes back to at least c.7500 B.C., the time that definitive archaeological evidence shows us Aegean seafarers regularly sailing out

for the mineral resources of far-flung islands, and plying the deep-water tuna fishery; this was at the same time that so-called “neolithic” technologies of ceramics and agriculture were rapidly spread by a leap-frogging *maritime* route throughout the coastal Mediterranean, and through the Straits of Gibraltar to the European Atlantic littoral.

Thus, Julius Caesar would later describe the Gallic ships of the Biscayan coast as large, ocean-adapted, *oarless* vessels, dependent on wind alone. Since the sea-shunning Roman imperium had no need for Atlantic forays, however, the memory of the earlier maritime culture was lost, but for those few references falsely derided as myth.

of Northern Hemisphere, the courses of major and other rivers, and the levels of the oceans and seas have been altered radically during the most recent 200,000 or even 100,000 years of glaciation.¹²³

What a tiny fraction of human existence these recent 2,600 years of European history occupy—perhaps about 1%! Yet, the archaeological and other relevant objective demographic evidence is that the development of mankind’s power to exist has been greater during the recent

mere six centuries of post-Renaissance European history than during all human existence earlier—near to 0.2% of all human existence, at most. Thus, we know far more about man—respecting “human nature”—from the recent six centuries of the development and impact of European civilization than from all of the millions of years earlier. When we take into account the debt of European civilization’s development to the impact of Jesus Christ’s ministry upon the level of knowledge developed by Plato’s Academy at Athens, the relative weight of the recent 2,600 years of European culture is truly awesome.

The key to that science of history which one must master to understand fully subjects inclusive of the Venetian case of Russell and the “Brutish Empire,” is the distinction which sets mankind absolutely apart and above the beasts. Man is the only species which is manifestly capable of

by riparian cultures, such as Egypt, could not have occurred autochthonously except through the development of quasi-maritime coastal settlements based upon pursuit of the fish of the estuaries and seas. These would be precisely the types of archaeological sites presently buried under many fathoms of the accumulations which have occurred during the recent 20,000 years.

123. We are presently but a few thousand years from an astrophysically determined growth of glaciation. See Hecht, *op. cit.*



willfully increasing its power to exist—*per capita* and *per square kilometer*. This increase is premised upon discoveries, such as valid scientific discoveries of principles of nature, which, relative to any formal logical schema, have an axiomatic-revolutionary character.

The development of the human knowledge employed to this effect is the characteristic of human existence which does not exist within any animal species. Thus, the very existence of mankind, of particular societies, is never premised upon hedonistic traits such as those which characterize any animal species, or ordinary, simple interaction among the aggregate of lower life-forms within an environment. Human existence is characterized by the development of those ideas whose emergence, by the very nature of those ideas, impacts the power of

mankind to exist, *per capita* and *per square kilometer*.

Thus, history can not be described in an actually rational form, except as it is viewed as the practical history of the axiomatic-revolutionary emergence and subsequent development and interaction of such ideas. The long sweeps of history, such as the conflict which has shaped the recent six centuries of European history, represent the unfolding and interaction of such ideas in their practice, and impact upon the development of precisely such ideas.

The concept of the *punctum saliens*, as identified by Schiller in his presentation of the principles of composition of tragedy,¹²⁴ is also properly expressed as it has

124. See footnote 71.

just been described here.

To understand historical processes, one must first apprehend a sweep of history in the terms outlined immediately above. One must then permit the *types* of ideas represented in that history to play out within one's mind as their stage. One must recognize that interplay within the actual history unfolding, in the sense of comparing the interplay of those *types* of ideas within one's own mind with the actual interplay manifest upon the stage of history.

One thus becomes, as a member of that audience, a participant in the history on stage, rather than a typical audience of "reckless bystanders," spectators commenting inanely upon the catastrophe they are witnessing. Such a participant in the audience of a Classical tragedy thus emerges from the performance a wiser and better person than entered the theater earlier. That is the principle of composition of Classical tragedy applied to the business of comprehending real history. That is the principle we are referencing by means of Socratic exposition here.

The moment we situate our personal identities within the domain of that view of the history of ideas, each of us is lifted out of the momentary span of our individual mortal existence. The moment we participate in the practical history of ideas as ideas, the span of six centuries on the Classical stage of real-life history becomes a drama

in which we have a part, in which each of us has a relevant personal place. We assimilate, we act upon those ideas which are unfolding there. We are able to assimilate those ideas, and to understand them as *types*. We are able to act upon those ideas, those *types* of ideas. Thus, efficiently, we are lifted out of the tiny confines of our mortal existence's time and place, into global history of ideas on the scale of centuries and longer.

That change in viewpoint affords us a far higher and vastly better prospect for comprehending the sweep of events in which our brief mortal existence is caught. It is from this vantage point that the formerly obscure becomes transparent, that the influence of Bertrand Russell today is efficiently situated in the influence of Conti's salon upon Eighteenth-Century Britain, and that Britain is situated efficiently within its true origins within the recent six centuries of Venice's efforts to eradicate the new institutional developments of the Golden Renaissance.

That situates us to examine more closely the efficient relationship among Conti, Ortes, William Fitzmaurice Petty (Lord Shelburne), and Russell. We examine next the crucial features of those changes which mark the transition of Bertrand Russell's precious David Hume, from a follower of Locke, into a follower, like Russell himself, of the Venetian Conti salon's Giammaria Ortes.

2. Russell: 'The Devil in the Detail'

BIOLOGY REQUIRES THE INVESTIGATOR to rise above the methods of organic chemistry, and enter the higher domain of living processes. Similarly, to understand human behavior, one must leave behind "Brutish" methods of animal husbandry, to rise to the higher domain of that which sets all human behavior absolutely apart from and above all lower forms of life.

Were man a beast, the total number of persons living on this planet would never have exceeded a level approximately equal to that of the chimpanzees or baboons.¹²⁵ By medieval European times, the population of this planet had exceeded man's primitive population-potential by decimal orders of magnitude. Presently, we have surpassed that by more than an additional such order

of magnitude. [SEE Figure 1, p. 25] Had we employed adequately the levels of scientific knowledge developed by the time of the first manned landing on the moon, the potential population of this planet today would be about twenty-five billions persons, with a standard of living about that of the U.S.A. 1967-1969 or higher. Plus, we would have already begun, not only the exploration of, but colonization of space.

The distinguishing characteristic of all known human existence, and thus the characteristic feature of any species' standard for successful human behavior, is a continuing succession of increases in potential population-density, for which the only comparison among lower forms of life is successful biological evolution to a higher species of life-form.

This characteristic behavior of the human species is the generation of a specific *type* of ideas. These are those ideas which correspond paradigmatically to valid discoveries of more powerful principles of scientific

125. Were the radical "environmentalists" to have their way, the population of this planet would soon collapse to that level, or, more likely, the human species would become extinct in the holocaust of disease brought about by such a biological shock.

knowledge, whether in natural science or Classical art-forms.¹²⁶ The existence of the human species to date has depended absolutely upon such changes in man's relationship to mankind and to nature as have been generated by those *types* of ideas.¹²⁷ In that strict sense, and no differently, it is admissible to employ the shorthand expression: *the difference between man and lower forms of life is that the existence of the human species is determined by ideas.*

It is the governance of human practice by ideas, as we define that here, which is the ordering principle of history. This is the principle which orders each among the *types* of successive events in a well-constructed lapsed-time image of history over a span of decades, centuries, or millennia.

Let it be understood at the outset of this discussion, that valid discoveries of scientific principle are but a paradigmatic portion of what the term "mental-creative processes" must be understood to signify. With that restriction, it is admissible to focus upon the crucial epistemological features of mathematical physical thinking. That provisional inquiry provides the starting-point for a systematic comprehension of the curiously perverted mental processes of the late Bertrand Russell. This also addresses a much larger, more fundamental issue, the role of transmission of ideas over centuries in shaping the history of the recent six centuries of European and global civilization.

This is of special importance as a prerequisite for

understanding the British radical empiricism introduced to Adam Smith, Bentham, and Malthus by Ortes, and the bastard French offshoot of that radicalism, the positivism which emerged over the course of the recent two centuries from the post-Restoration circles of Abbot Moigno's followers. This is indispensable for understanding the systematic evil permeating all of Russell's known work in every field.

As indicated above, this author did not take Russell seriously until the middle-to-late 1950's. That re-examination occurred as an indirect result of the author's own discoveries of 1952.¹²⁸ Those discoveries made readily transparent the vicious incompetence of Russell's mathematics work, notably the sophistry upon which the entirety of the Russell-Whitehead *Principia Mathematica* is premised axiomatically.

For the benefit of those who might wish to argue that that examination proved no more than that Russell was a nasty sort of *idiot savant* in the natural sciences, let it be taken into account, that once the scope of Russell's mathematical and related philosophical writings is considered from the standpoint of Leibniz, Riemann, and Cantor, the systematic features of Russell's evil, and his connection to Ortes' "methods of Galileo and Newton" are clear beyond doubt.

To that end, situate Conti, Ortes, Russell, *et al.* within a six-centuries' history of science, a history which both parallels and intersects the lapsed-time portrait sampled in the preceding section.

'Principia Mathematica'

Perhaps Mephistopheles began his corruption of the damned soul routinely with a very tiny little sin. Without doubt, that is the way in which what might seem to many an almost undetectable sleight of hand, a so very tiny apparent blunder, unfolds to become the irredeemable evil of the

*notorious Principia Mathematica. For reasons to become clear, the author can hear Johannes Kepler laughing happily in the distance from where he dwells, somewhere above.*¹²⁹

Only a tiny error? Tiny, like a leak in a Netherlands dike, and, as we shall point out, approximately as devastating.

126. See the author's series of *Fidelio* articles on the principles of metaphor: "On the Subject of Metaphor," Vol. I, No. 2, Fall 1992; "Mozart's 1782-1786 Revolution in Music," Vol. I, No. 4, Winter 1992; "On the Subject of God," Vol. II, No. 1, Spring 1993; "History As Science," Vol. II, No. 3, Fall 1993; "The Truth About Temporal Eternity," Vol. III, No. 2, Summer 1994.

127. See "The Truth About Temporal Eternity," *ibid.*, for a treatment of the proof of this point. This definition of "idea" corresponds to Plato's "idea" (*eidos*). In formal terms, any such scientific discovery, or equivalent form of idea, overturns at least one among the set of axioms and postulates upon which a pre-existing mathematical physics is premised. Thus, every such discovery of principle has an axiomatic-revolutionary effect,

requiring an entirely new formal theorem-lattice to supersede the old. Thus, all of the actions subsumed by a new such discovery of principle are commonly members of a single *type*, as all placental mammals differ as a *type* from each and all marsupials. With apologies to biologists, it is admissible to understand Plato to signify by *eidos* "species," or, better mathematics, "type."

128. See "On LaRouche's Discovery," *Fidelio*, Vol. III, No. 1, Spring 1994.

129. Johannes Kepler, *De Nive Sexangula (On the Six-Cornered Snowflake)*, trans. by Colin Hardie (Oxford: Clarendon Press, 1966; reprinted by *21st Century Science & Technology*, 1991). The Latin title contains a relevant transliteral play upon the words "snowflake" and "nothing." Kepler, official court astronomer

In 1931, a very gentle, self-effacing young mathematical genius, an Austrian by the name of Kurt Gödel, submitted a paper which implicitly obliterated all of the mathematical work of Bertrand Russell, and also debunked some very pompous, related absurdities of hesychasts such as John Von Neumann. Considering the content of his remarkable paper, the degree of personal modesty with which Gödel presented his argument, both orally and in his now-famous paper, is fairly described as “awesome.”

That paper is entitled, in its English translation, as “On formally undecidable propositions of *Principia Mathematica* and related systems I.”¹³⁰ In principle, the kernel of Gödel’s point is an echo of the devastating proof against the Eleatic school supplied by Plato’s *Parmenides* approximately 2,400 years earlier; the conclusion presented was well known to Leibniz,¹³¹ and had been addressed by such Nineteenth-Century titans of science as Gauss, Dirichlet, Riemann (as we shall note), Weierstrass, and also Georg Cantor.¹³² In short, the mathematical-physical principles of the case were laid down fully more than a decade before Russell’s hoax, and three decades prior to Gödel’s 1931 paper. The historic significance of the Gödel of 1931 is not that he had refuted Russell’s sophistry, but that he had refuted Russell and the radical positivist school as a whole, on their own formalist terms. The resonating effect of his paper was therefore devastating at that time and later.

For our purposes here, we must address the same issue addressed by Gödel from a more fundamental, and traditional mathematical-epistemological standpoint, a

to the Emperor, is presenting one of the most important discoveries in science, illustrated by the case of the snowflake’s topology, as a “gift of nothing.” As we proceed with the examination of Russell’s fallacy, the reader should come to recognize why Kepler is laughing so merrily. We hope the reader, once he sees the point of the joke, will join the old master in the merriment.

130. Kurt Gödel, “Über formal Unentscheidbare Sätze der *Principia mathematica* und verwandter Systeme I” (“On formally undecidable propositions of *Principia mathematica* and related systems I,” (1931) in *Kurt Gödel: Collected Works, Vol. I: Publications 1929-1936*, ed. by Solomon Pfeferman et al. (New York: Oxford University Press, 1990), pp. 144-199.
131. See Gottfried Wilhelm Leibniz, *Monadology*, trans. by George Montgomery (LaSalle: Open Court Publishing Co., 1989).
132. To grasp the essentials of the relevant three works of Georg Cantor, these are to be examined from the standpoints of Plato, Leibniz, Dirichlet, Riemann, and Weierstrass. The most relevant Cantor works are: *Grundlagen: über unendliche lineare Punktmannigfaltigkeiten* (1882-1883); “Mitteilungen zur Lehre vom Transfiniten” (1886-1888); and *Beiträge zur Begründung der transfiniten Mengenlehre* (1897); all in *Georg Cantors Gesammelte Abhandlungen*, ed. by Ernst Zermelo (Hildesheim: Georg Olms Verlag, 1962). See footnote 149.

more elementary and direct approach, that of Plato, Cusa, Leibniz, and Riemann. In any case, as will be reported here below, the origin of all of Russell’s abortive attempts at gaining fame in mathematics is rooted in the attacks upon Gottfried Leibniz by Abbot Antonio Conti and his salon. It is by situating Russell’s hoaxes with respect to whom Conti, Ortes, and Russell after them, are attacking, Leibniz, that the motive underlying the issues posed becomes adequately clarified.

Russell’s putative contributions to *Principia Mathematica*¹³³ touch a most crucial area of Leibniz’s continued influence upon Nineteenth- and Twentieth-Century physical science. That topic is conveniently identified as the “continuum paradox.” The relevant succinct statement of that topic is highlighted by citing two relevant passages from the last section of Bernhard Riemann’s famous 1854 *Habilitationsschrift*.¹³⁴ Consider the issue as referenced by Riemann there: Russell’s methodological frauds in the name of mathematics in the *Principia* will be shown to embody the crucial implications of the entirety of radical empiricism.

From the referenced White translation of that Riemann work, consider the following:

... there subsists an essential difference between mere relations of extension and those of measurement: in the former, where the possible cases form a discrete manifold the declarations of experience are indeed never quite sure, but they are not lacking in exactness; while in the latter, where possible cases form a continuum, every determination based on experience remains always inexact, be the probability that it is nearly correct ever so great. *This antithesis becomes important when these empirical measurements are extended beyond the limits of observation into the immeasurably great and the immeasurably small. . . . [W]hile*

133. In speaking of “Russell’s contributions,” one must cast a wary glimpse out of the corner of one’s eye at the protesting figure of Russell’s senior in the Apostles, and ostensible co-author, Alfred North Whitehead. Without attempting to settle the dispute between the two of them here, it is necessary to state that to anyone who has studied Russell’s work, Whitehead’s accusations are plausible ones. Nonetheless, the point here is that we are considering those views for whose application Russell did assume responsibility in practice.
134. *Über die Hypothesen, welche der Geometrie zu Grunde liegen (On the Hypotheses Which Underlie Geometry)*, in *Collected Works of Bernhard Riemann*, ed. by Heinrich Weber (New York: Dover Publications, 1953), pp. 272-287. For a passable English translation of the text, see the Henry S. White translation, “On the Hypotheses Which Lie at the Foundations of Geometry,” in David Eugene Smith, *A Source Book in Mathematics* (New York: Dover Publications, 1959), pp. 411-425. Place the emphasis upon “III. Anwendung auf den Raum,” in the Weber (pp. 283-286) (“III. Application to Space,” pp. 422-425 of the Smith).

in a discrete manifold the principle of metric relations is implicit in the notion of this manifold, it must come from somewhere else in the case of a continuous manifold. Either then the actual things forming the groundwork of a space must constitute a discrete manifold, or else the basis of metric relations must be sought for outside that actuality, in colligating forces [darauf wirkenden bindenden Kraefte] that operate upon it [emphasis added—LHL]¹³⁵

A few lines later, appears Riemann's electrifying concluding sentence for the dissertation: "This leads into the territory of another science, into the domain of physics, which the nature of today's occasion [on the subject of mathematics] does not permit us to enter."¹³⁶

Kepler, reflecting on his 1611 "Snowflake" booklet, would be very much pleased by that work of Riemann. To the careless observer, everything which is of fundamental importance in mathematics is disregarded as trivial, because it seems to him to be nothing in scale. We shall find Riemann's "immeasurably small" playing a crucial role in the work of Plato's Academy, about 2,450 years ago, as also up to the most recent work in exploring the "virtually null-dimensional" realities of modern nuclear physics.

Russell, for example, was familiar with this work by Riemann, and its relevance as counter to his own opinions.¹³⁷ Yet, virtually no contemporary mathematician representing a positivist view like that of Russell, Von Neumann,¹³⁸ or information-theorist Norbert Wie-

ner¹³⁹ has proven himself capable of understanding the crucial point made by Riemann in that passage.

From the standpoint of formal mathematics, the "continuum paradox" signifies that every effort using formal logic to perfect the continuity of a line, a surface, solid "space," or "space-time" fails. The failure is small, but its smallness does not lessen the fact that the failure is an efficiently devastating one in its effects. How small? "Immeasurably small," virtually null-dimensional.

Kepler, be assured, is chuckling again.

Riemann's "immeasurably small"¹⁴⁰ is an ironical choice of descriptive term. These apparent lapses in the continuum, which no formal logic can bridge, are mathematically "virtually null-dimensional"; they have no lower limit to their measurable degree of smallness, yet the presence of their discontinuity can not be eliminated. They are what we must call "true singularities." Not only is formal logic unable to rid mathematics of their most abundant presence, but they have an extremely significant role in physics, as we shall identify one example of that at the appropriate place below.

Russell and his admirers have no defense against this. The continuum paradox was not dreamed up by Riemann. It is the central feature of Leibniz's *Monadology*.¹⁴¹ It involves a phenomenon central to the mathematics work of Plato's Academy. It was central to the work of Kepler before Leibniz, and was a central concern of such followers of Carl F. Gauss as Riemann's teacher Lejeune Dirichlet,¹⁴² and Karl Weierstrass, among nu-

135. Smith, *ibid.*, pp. 423-425. (Weber, pp. 284-286).

136. "Es führt dies hinüber in das Gebiet einer andern Wissenschaft, in das Gebiet der Physik, welches wohl die Natur der heutigen Veranlassung nicht zu betreten erlaubt." Weber, *op. cit.*, p. 286.

137. See Bertrand Russell, *An Essay on the Foundations of Geometry* (1897) (New York: Dover Publications, 1956); *A Critical Exposition of the Philosophy of Leibniz* (1900) (London: Allen and Unwin, 1967); "On Some Difficulties in the Theory of Transfinite Numbers and Order Types," *Proc. London Math. Soc.* 4, 29-53, 1907; and *Principia Mathematica*, *op. cit.* Russell's attacks on Riemann *et al.* are discussed in Carol White, *op. cit.*, chap. 6, esp. pp. 206-217.

138. John Von Neumann and Oscar Morgenstern, *The Theory of Games and Economic Behavior*, 3rd ed. (Princeton, N.J.: Princeton University Press, 1953). Also, see work referenced, p. 1, note 1: John Von Neumann, "Zur Theorie der Gesellschaftsspiele," *Math. Ann.* 100, 1928, pp. 295-320. Von Neumann made the public claim, prior to World War II, that economic processes could be reduced to solutions for systems of simultaneous linear inequalities. This led to his close collaboration with fellow-positivist and marginal utilitarian Oscar Morgenstern in producing the wartime first edition (1943) of this work. This work contributed a key part to the post-war emergence of ivory-tower "operations research" kookery of the sort associated with Tjalling Koopmans *et al.* of the Operations Research Society. The work of both contributing authors is pure Giammaria Ortes, and also pure Jeremy Bentham "hedonistic calculus." The mathematical absurdities of Von Neumann are another

illustration of the equivalence of these kinds of mathematical ideas and the teachings of radical empiricism in the areas of social sciences and social policy.

139. Norbert Wiener, *Cybernetics, or Control and Communication in the Animal and the Machine* (New York: John Wiley, 1948); 2nd ed. (Cambridge, Mass: MIT Press, 1961). On LaRouche's work to refute Wiener, see "On LaRouche's Discovery," *op. cit.*

140. *Unendlichkleinen*. Weber, *op. cit.*, p. 285.

141. Leibniz, *op. cit.*

142. P.G. Lejeune Dirichlet (1805-1859). A crucial figure in the Nineteenth-Century development of natural science. After the final overthrow and exile of Napoleon Buonaparte, Paris came under the domination of London and Metternich's Vienna. In this circumstance, the "Venetian Party" inside France, such as the circles of the neo-Newtonians LaPlace and Cauchy, advanced to power, taking over the Ecole Polytechnique from Gaspard Monge, and ripping out the educational program which had made the Ecole the leading scientific institution of Europe. In this circumstance, French science found much-needed friends in Prussia and in the Göttingen of Carl Friedrich Gauss. Similarly, Lazare Carnot, France's famous "author of victory" and leading technologist of Europe, found refuge in the Prussian military academy at Berlin, and Magdeburg. The geniuses of French science relied upon their collaborator Alexander von Humboldt to assist them in saving French science from destruction. The famous *Crelle's Journal* was representative of that new relationship. Thus, Dirichlet, while a most gifted

merous others. In the history of science, rigorous treatment of this problem is as old as the treatment of both “incommensurables” and the “Platonic Solids” by the mathematicians Plato, Eudoxus, and Theaetetus at the Academy of Athens. Modern science was founded on the basis of recognizing a crucial further implication of this problem.

While we conduct this necessary, and brief excursion, the reader should not lose sight of our purpose here. The issue is not a formal issue of mathematics and mathematical physics. This is being addressed here only in the degree this important detail of mathematical-physical principle is key to understanding the implications of Conti, Ortes, and Russell, and the historical implications of radical empiricism in general. The background for this is summarized now.

The Principle of Metaphor In Science

Although the roots of modern science are found in Plato’s Academy of Athens, modern science as such began with Nicolaus of Cusa’s *De Docta Ignorantia*,¹⁴³ published in the setting of the 1439-1440 Council of Florence. It was Plato’s Academy which first supplied a rigorous treatment of the problem of the “immeasurably small.” The central formal feature of Cusa’s breakthrough in mathematical science was his application of the solution-principle of Plato’s *Parmenides*¹⁴⁴ to effect a correction in Archimedes’ constructive efforts at quadrature of the circle. Cusa’s work bears directly on the issue of the same “immeasurably small.” This case bears directly upon the central fraud of Russell’s work in mathematics, a fraud which is also central to all radical empiricism and its positivist derivatives.

All of the issues to be addressed in exposing the implications of Russell’s mathematics are covered in the present author’s “Metaphor” series referenced above. Thus, taking into account the limited purpose of ad-

ressing this matter here, it should be found sufficient that we consider with minimal delay the several successive conceptions which are indispensable here, and refer the critic of our argument here to those earlier locations where the sundry aspects are treated at some length.¹⁴⁵

A. The Four Types of Mathematical Ordering

To bring the issues within the scope of the reader whose mathematical education is somewhat less than professional, the relevant features of Archimedes’ approach to quadrature and of Cusa’s correction of Archimedes’ error, are summarily as follows.

The term “quadrature of the circle” signifies an attempt to construct a practical estimate of the value of a number, π , which represents an estimated ratio of the length of the perimeter of a circle to that circle’s diameter.

Insofar as records exist, the more rigorous proof of the existence of a class of magnitudes not congruent with rational numbers was developed by Plato’s Academy, following the lines of prior work by Pythagoras *et al.* As the geometric proof of the famous Pythagorean theorem is exemplary of this conception, there exists a class of magnitudes in geometry which can not be rendered congruent with rational numbers: *incommensurable magnitudes*, such as the hypotenuse of a right triangle. However, by use of the principle of geometric proportions, we can place these incommensurables between two magnitudes which are congruent with rational number orderings, showing that the incommensurable is less than the one of this pair, but greater than the other.

This concept was embedded in a tactic employed by Plato’s student and collaborator Eudoxus, the “Eudoxian method of exhaustion,” which was used by him and other Greeks to perform an early form of integration, treating the incommensurable volume of a pyramid or cone, for example, as a subject.

Archimedes used this Classical Greek method of Plato’s Academy for his theorems on quadrature.

Choose a circle. Simultaneously inscribe and circumscribe regular polygons of an equal number of sides. [SEE Figure 2, p. 38] Increase the number of sides, at a constant rate of doubling, to a very large number. Since the radius (to the point of tangency of the circumscribed, or the apices of the inscribed polygon) remains constant, calculate the variable length of the relevant side and

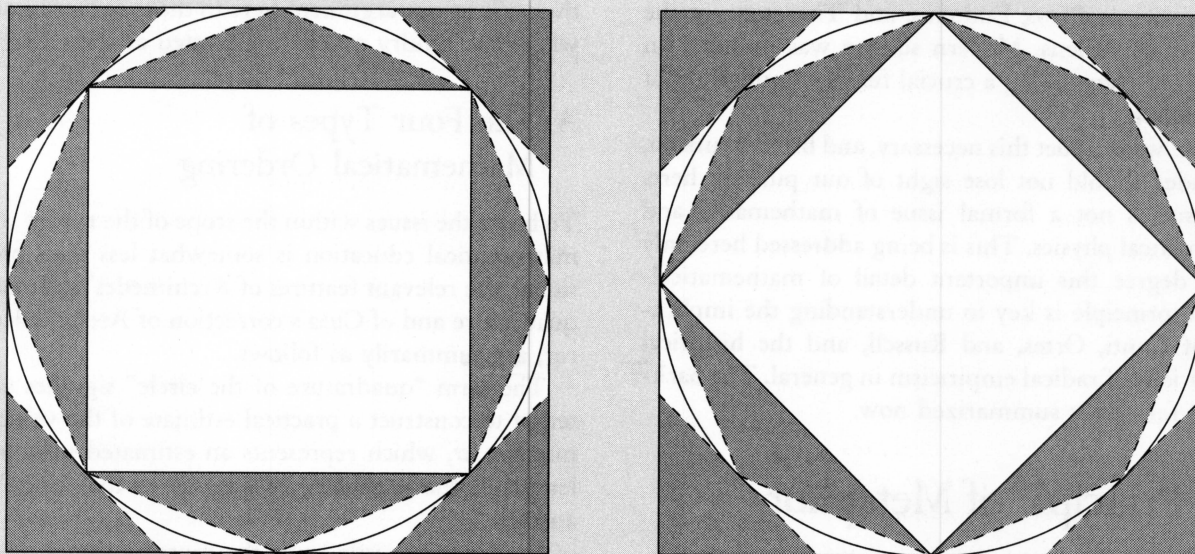
student of the number-theorist and geometer A.M. Legendre *et al.* at the Paris Ecole Polytechnique, came under the patronage of Alexander von Humboldt, and emerged as among a gathering of mid-Nineteenth-Century German scientific geniuses in the Golden Age of Berlin University. Riemann became his student there. Later, at the death of Gauss in Göttingen, Dirichlet was called to succeed him in that chair, and, upon his death in 1859 was succeeded by Riemann. One of the giants of number theory, famous for what Riemann described as “Dirichlet’s Principle”; a major player in the formal analysis of the continuum paradox.

143. Nicolaus of Cusa, *op. cit.*

144. Plato, *Parmenides*, *loc. cit.*

145. See footnote 126 above, for the titles and locations of the members of this series on the subject of metaphor.

FIGURE 2. *Two views of the construction.*



area of each of the triangles of which each polygon is composed. Determine thus, the perimeter and area of each of the respective pair of polygons. Average the perimeters and areas. By this method, without further improvement, the arithmetic value of π may be measured to any desired decimal precision for such purposes as carpentry, plumbing, or ordinary engineering tasks.¹⁴⁶

Can it be assumed, therefore, that the series of polygons 2^n converges upon identity with the circular perimeter? “No,” replied Cusa: the polygonal and circular perimeters are of different “species,” of which the circular species is higher.¹⁴⁷ If one chooses a length of side no greater than 10^{-33} centimeters, and a diameter of the circle greater than any specified estimate for the size of the universe, there will always be a gap between the polygons and the circle; on other grounds, too, there will be progressively less congruence between the polygonal and circular perimeters as the number of sides is increased.¹⁴⁸

At that point in the construction, Cusa made the discovery which set into motion the development of modern science. He stated that this construction proved that the circular perimeter is of a higher species of existence than

the polygonal. Earlier, Plato’s Academy had shown that measurable magnitudes were divided between two species, rationals and incommensurables. So Archimedes had viewed the matter; it had remained at that level until Cusa. Now, Cusa had shown that the incommensurables were divided into two mutually exclusive species; the first we term today the “algebraic” magnitudes; since the work of Leibniz and Johann Bernoulli during the 1690’s, the second, the higher species discovered by Cusa has been identified as either the “non-algebraic” or, more commonly today, the “transcendental” domain. Later, Georg Cantor added a fourth species of magnitudes, the higher “transfinites,” or “*Alephs*.”¹⁴⁹

So, we have, in succession, in order of rising cardinality (increasing “power”), four species of magnitudes: rational, algebraic, transcendental, and the higher transfinite species. Each of these four mutually distinct species of magnitudes is separated from its successor, of the higher species, by a gap, such that the higher can not

146. See “On the Subject of Metaphor,” *op. cit.*

147. Nicolaus of Cusa, “De circuli quadratura” (1450). For an English translation, see “On the Quadrature of the Circle,” trans. by W.F. Wertz, Jr., *Fidelio*, Vol. III, No. 1, Spring 1994.

148. See “Metaphor,” *loc. cit.*

149. Cantor, *Beiträge*, *op. cit.*, pp. 282-356. The available English-language reprint is Georg Cantor, *Contributions to the Founding of the Theory of Transfinite Numbers*, trans. by Philip E.B. Jourdain (New York: Dover Publications, 1955). A word of caution respecting the Introduction and end-notes in that translation, as supplied by Jourdain circa 1915. None of what Cauchy-apologist Jourdain represents as corrections of Cantor’s work, such as those allegedly by Russell, is to be considered competent comment upon Cantor today. See footnote 130: Gödel demolished Russell’s criticisms of Cantor.

be accessed formally from the predecessor, although the lower can be accessed from the standpoint of the higher. This gap in the upward succession is termed a *logical discontinuity*, or a *singularity*.

Cantor's *Alephs*, the domain of the higher transfinite, has the included physical significance of corresponding to what Riemann references in the cited location as "the immeasurably small" (*Unendlichkleinen*). We might term this the domain of "the virtually null-dimensional." This notion of such discrete and also efficient existences (e.g., objects) which have "virtually null-dimensional" magnitudes, has a very precise, central significance in the branch of physical science called *Physical Economy*.¹⁵⁰

It must be recognized as a principle of knowledge, that no student could ever come to know a previously developed axiomatic-revolutionary discovery of valid principle unless the student has, in effect, replicated the original mental act of discovery by reliving it. That principle is most aptly illustrated by applying the solution-principle which Plato embeds implicitly in his Parmenides to the study of the four successive levels (powers, cardinalities) of mathematics just listed here.

This must be understood to recognize the devilish effect of the radical empiricist method in destroying essential faculties of judgment in its credulous victim. The close examination of Cusa's discovery of what we term today the "transcendental" domain from the standpoint of Plato's Parmenides, is the most direct way of illustrating the principle of creative reason in mathematics discovery.

Cusa's treatment of Archimedes' attempted quadrature of the circle is among the best conceivable illustrations of Plato's *Parmenides*. We employ that connection pedagogically here.

One of the simplest ways to set up the increasingly precise estimation of the rational approximation of π , after Archimedes' theorems on quadrature, is the follow-

ing. Again: begin with squares, one inscribed in the circle, the other circumscribed. Then make finer approximations in a succession determined by halving the angle between the points of tangency of polygon to circular perimeter. This defines a general case for paired polygons: 2^n [$n \geq 2$] sides. For each value of $n \geq 2$, there is a corresponding estimate of a numerical approximation for π .

The resulting, indefinitely extendable series of estimates, $|\pi| : F(2^n)$, can be regarded in the light of the *Parmenides* as a "Many." What is the unity which subsumes all of these elements of the "Many" into a "One"? The answer, in modern language, is to treat the "Many" as a Cantor type. The answer is, thus, the change from $2^{(i)}$ to $2^{(i+1)}$. From the standpoint of geometric construction, the change is clear enough¹⁵¹; Cusa's recognition that circular action is a higher species of mathematical existence than algebraic magnitudes, flows directly from this.

The result is the recognition that the set of interdependent formal axioms and postulates of so-called "Euclidean" geometry must be superseded by adopting circular action as such in place of the so-called "Euclidean" axiomatic definitions of point and line, that we must abandon the notion of unbounded space-time,¹⁵² and that we must accept Nicolaus of Cusa's, Pacioli's, Leonardo da Vinci's, and Kepler's notion of a bounded physical space-time.¹⁵³

B. The Method of Mathematical Discovery

Once we have established ourselves in Cusa's domain of the transcendental, all of the arithmetic and algebraic realms, respectively, are accessible to us as a special,

150. The Science of Physical Economy is a branch of physical science founded by Gottfried Leibniz, and developed chiefly by him over the interval 1672-1716. This was the original form of an economic science. Leibniz's economic science exerted great influence during the Eighteenth Century and first two-thirds of the Nineteenth Century. For example, it appeared as a central feature within Alexander Hamilton's "American System of political-economy," was the basis for the economics of France's Ecole Polytechnique during 1794-1814 under Gaspard Monge, and was the policy of the Nineteenth-Century U.S. Whig Party and the Lincoln Republicans, in addition to the founder of the modern German economy, Friedrich List. However, under the influence of the Versailles Treaty and post-World War II financial system, knowledge of economic science vanished from the university campus, government, and industrial management. This branch of science was revived by the present author, based on new 1952 discoveries in this field.

151. I.e., circular construction is the method required; one can reach circular action only by way of circular action. The problem arises the instant we commit the blunder of abandoning constructive (e.g., "synthetic") geometry for formalist algebra. In the latter case, there is no true solution for this problem possible. See the discussion of Felix Klein's "Famous Problems" hoax, below.

152. E.g., what is later adopted as the "Cartesian" space-time of Galileo, Descartes, Newton, *et al.*

153. E.g., the principle of *universal least action* of Gottfried Leibniz and Johann Bernoulli. The root of the notion of a bounded space-time is the case of the Platonic Solids, a track which leads through the work of the followers of Cusa, Pacioli, and Leonardo da Vinci, into explorations into the hypergeometric realm from such starting-points as C.F. Gauss' study of Kepler's work on the *Pentagramma Mirificum*. See Lyndon H. LaRouche, Jr., "An Economist's View of Gauss' *Pentagramma Mirificum*," *21st Century Science & Technology*, Vol. 7, No. 2, Summer 1994. See also C.F. *Gauss Werke* (Hildesheim: Georg Olms Verlag, 1986), vol. III, pp. 481-490; vol. VIII, pp. 106-117.

subsumed case of the transcendental. One can always reach the lower, the more primitive from the higher; the problem is, one can not reach the higher by a deductive analysis of the lower. How, then, does one reach the higher *for the first time*?

That question is the focus for all of the culminating work of Immanuel Kant's life, his famous *Critiques*.¹⁵⁴ From the standpoint of a thoroughly Aristotelian formalist such as Kant, Plato's proposal that one discover a single unifying principle for the "Many" addressed in the *Parmenides* would be to go outside the deductive-inductive mode of formal logic, and to arrive at the answer by means of a "leap." That is the formal basis for Kant's obsessive vendetta against the work of Leibniz. That locates the crucial point at issue between Mosaic and Christian tradition, on the one side, and the Aristotelians, such as Pomponazzi and Kant, on the opposite side. This is otherwise known in the Classical literature as the issue of *hypothesis*; we shall come to that below.

Before addressing this matter of the apparent "leap," let us grant, since it is demonstrated to have occurred so often in history, that the "leap of discovery" bringing mankind to use of valid new principles does occur, and that successful students do relive many such leaps as an integral part of their educational experience. Acknowledging for the moment, the fact that this does occur, how do we represent the fact of this occurrence in physical science? Use the mathematical examples just referenced to show the answer to that question.

Pause for a moment to consider the following thought. Permit us to introduce at this point of the discussion

what might appear to some an arbitrary definition. Let the reader understand, that from this point on in this text, we are using the terms "power" and "cardinality" interchangeably. On the one side, we are introducing this ascribed equivalence in the sense Georg Cantor, for example, employs the "sieve" of Eratosthenes to provide the student an intelligible notion of the equivalence of "power" and "cardinality" in number theory.¹⁵⁵ As will be indicated below, the present author's discoveries in physical economy show that this notion of "power" has a most important physical significance, in addition to a number-theoretical one.¹⁵⁶ With that in view, this special emphasis upon the use of Cantor's notion of "power" is underscored at this present instant.

In ascending "power" (cardinality), today we know four species (types) of mathematical functions: A = rational numbers; B = algebraic functions; C = non-algebraic, or transcendental functions; D = higher transfinite functions, beyond the transcendental. Access to the higher, successor species of function from a relatively lower is blocked by a formally impassable gap, a discontinuity, a singularity—although there is no difficulty in passing from higher to lower. This gap is "immeasurably small,"¹⁵⁷ yet formally impassable. Consider: what knowledge can be extracted from these several facts of the history of mathematics?

At the implied insistence of Kepler, perhaps it is indispensable pedagogically that the crucial mathematical feature of Cusa's discovery of the transcendental domain, the ontological reality of the existence of the immeasurably small, be stressed again at this immediate juncture.

The commonplace fallacy of such persons as Isaac

154. The author's teen-age wrestling with Kant began with his *Critique of Pure Reason*, trans. by Norman Kemp Smith (New York: St. Martin's Press, 1965). The remainder of the series is *Prolegomena to a Future Metaphysic*, trans. by Paul Carus (Indianapolis: Hackett Publishing Company, 1977); *Critique of Practical Reason*, trans. by Lewis White Beck (Indianapolis: Bobbs-Merrill Company, 1956); and *Critique of Judgment*, trans. by J.H. Bernard (New York: Hafner Press, 1951). This series as a whole has two principal features: (1) The denial of the possibility of intelligible knowledge of a principle of creative reason ("synthetic judgment *a priori*"), the attack upon Leibniz's *Monadology*, *Theodicy*, *Leibniz-Clarke Correspondence*, etc.; and, (2) a defense of custom against the extremism introduced in England through the British radical empiricists, including Kant's former mentor, David Hume. Formally, Kant appears to have been the founder of the Romantic school in art (Liszt, Berlioz, Richard Wagner, *et al.*), science, and statecraft generally (e.g., F.K. Savigny and the "intuitionist" school in mathematical physics). The essence of Kant is that he was a Venetian work-product of the Conti brand, and implicitly the evil existentialist which Schiller suspected, and Heine (*Religion and Philosophy in Germany*) knew him to be.

155. Eratosthenes, an Athenian geometrician, grammarian, and historian of Cyrenaic extraction (b. during the 126th Olympiad, d. 195 B.C.: c.80 years), famous for, among other achievements, estimating both the size of the Earth's sphere, and the distance of the moon and sun from the Earth: estimated the circumference of the Earth passing through Alexandria and Rome at approximately 24,662 miles. Moved to Alexandria, where he became Chief Librarian of the famous library there. He is otherwise most famous in geometry for his work on the so-called "Delian" problem of doubling the cube, and in number-theory, for devising a "sieve" used to locate the succession of prime numbers. The work on this problem later by (most notably) Euler, Legendre, Gauss, Dirichlet, Riemann ["Über die Anzahl der Primzahlen unter einer gegebenen Grösse," (1859), in Weber, *op. cit.*, pp. 145-153]. Cantor used this work, notably Eratosthenes' "sieve," as a tool for defining the number-theoretical equivalence of "power" and "cardinality."

156. In fact, it was the author's prior discovery of the physical significance of this notion of "power" which led him to his 1952 studies in the work of Cantor and of Riemann. See text, this section, below.

157. As White translates Riemann's *Unendlichkleinen*.

Newton, Samuel Clarke, Felix Klein, and Russell's besotted admirers among mathematicians, is to abandon the standpoint of Classical constructive-geometric rigor in thinking, in favor of a flight into the domain of arithmetic-algebraic fantasies: to assume that the apparent convergence of infinite series upon a boundary value signifies ultimate congruence with that boundary. In short, that there are no true discontinuities, no true singularities.

As we have illustrated the conception, by using a side of a regular circumscribed polygon no larger than 10^{-33} centimeters for a circle larger than any assigned size of the universe, it is impossible to conceive any point at which the persisting existence of an unbridgeable gap between polygonal and circular perimeters might dissolve from definiteness into fuzziness. The existence of the gap is not merely persistent, but absolute.

By constructive-geometrical rigor, we are emphasizing at this moment the notion that equivalence is dependent upon congruence by virtue of "hereditary" implications of a method of construction. That equivalence and congruence so defined must be shown in that way. Something is a part of the series of events of which it is *generated* as a part. For example, by this definition, the value of the hypotenuse of a 3,4,5 triangle is not the rational number "5," but the irrational (algebraic) number "5.000. . .000. . ."; a number is the way in which it is generated, by the function which it performs, rather than what it appears to be as viewed in isolation from the context in which it occurs.¹⁵⁸

158. Take the relatively commonplace misuse of the notion of applicability of the Golden Section to living processes. The estimated value of the Golden Section, as an algebraic root of the calculated ratio of two skew lines, is, obviously an algebraic number. What then of the disgusting spectacle of attempts to project harmonic orderings of living processes as if the Golden Section were a simple Galileo coefficient of mechanical action, a limit of a Fibonacci Series? Why do so relatively many foolish people fall into what should be such an obvious folly? The folly is the failure to ask oneself the question: *Whence (i.e., "generating principle") did Luca Pacioli (De Divina Proportione, 1497), Leonardo da Vinci, and Kepler derive their notion of the ontological significance of the Golden Section?* From the attempted partition of the interior of a spherical shell, leading to the proof that only five regular solids can be constructed so. That construction is illustrated by the Kepler-Gauss treatments of the *Pentagramma Mirificum* (see Lyndon H. LaRouche, Jr., "An Economist's View of Gauss' *Pentagramma Mirificum*," (*loc. cit.*); this leads into the domain of hypergeometric functions as elaborated by Gauss and Riemann. See, *C.F. Gauss Werke, loc. cit.* This is a line of investigation which begins with our friend Kepler, and leads into the most fundamental questions of the mathematics of a generalized quantum field theory today. The significance which Plato, Pacioli, Leonardo, and Kepler find in the Platonic Solids harmonics is by no means a matter of an algebraic ratio.

Cusa's discovery of the transcendental domain, not later than A.D. 1440,¹⁵⁹ was prompted by recognizing that this ineradicable gap between the perimeter of the "infinite" polygonal series and the circle is a difference in (what we term here) "power," or cardinality, placing the circular action in a higher species, unreachable by the polygonal series of algebraic numbers.

Each of the three higher species of magnitudes—*incommensurables* generally, transcendental, and *Alephs*—were discovered by a mental act comparable to the implicit solution-principle for the ontological paradox which Plato poses by his *Parmenides*. The apparent "leap of discovery" in each such case corresponds to the "gap" of singularity which separates the lower species from formal access to the higher.

Let us apply to that ordered series of species (of mathematical function) the same *Parmenides* solution-principle which Cusa applied to Archimedes' quadrature theorem. Let the succession *A, B, C, D* be the "Many." What is the "One"?

In Plato's theory of knowledge, each of the "leaps" corresponding to a singularity is a phenomenon of mental life designated as an *hypothesis*. Thus, for this case, we have hypothesis *AB* (the leap from *A* to *B*), hypothesis *BC*, and hypothesis *CD*. The question implicitly posed by comparing this situation to that of the *Parmenides* is whether or not there is a common principle of *change* which generates *B* from *A*, *C* from *B*, and *D* from *C*? If so, then that intelligible form of a principle of change represents what we know as an *higher hypothesis*. If, in science and Classical art-forms, there are several valid choices of higher hypothesis, the question, whether these are commonly subject to some higher, subsuming principle connotes *hypothesizing the higher hypothesis*.¹⁶⁰

*That quality of knowledge which corresponds to the solution for such a gap, i.e., hypothesis, is the proper definition of the term "metaphor."*¹⁶¹

Kant, the least irrational of the historically prominent Seventeenth- and Eighteenth-Century opponents of Leibniz, professes to see something intrinsically unintelligible in the very idea of human creativity. On the premise of that false assumption, Kant rejects the Platonic principle of discovery (*hypothesis*) used by Leibniz. It is against the background of that Kantian formulation

159. Not Felix Klein's fraudulent 1882! See below on Klein *et al.* Although Cusa's formal proof of this was presented in his A.D. 1450-53 "De Circuli Quadratura," *loc. cit.*, the discovery is already reflected in the 1440 *De Docta Ignorantia*.

160. The discussion of these principles of hypothesis is found in the referenced "The Truth About Temporal Eternity," *op. cit.*

161. See "Metaphor" series, *loc. cit.*

of the issue that Russell's mathematical follies—and those of all the modern positivists, such as such Russell followers Karl Korsch, Rudolf Carnap, and Von Neumann, as well as Norbert Wiener—are strictly identified and understood for what they are.

Essentially, these radical empiricists deny that human creativity actually exists. One might wonder, whence apostles of such an irrational dogma fetch the temerity¹⁶² to describe themselves as scientists?

C. The Demographic Evidence

This creativity, which the empiricists, and the Aristotelians generally insist does not exist, is expressed most plainly in its essential function as the characteristic of the continued successful existence of society. It is, thus, nothing less than the successful existence of the society itself, which these misguided fellows overlook.

The British empiricists, and Aristotelians generally, place great emphasis upon sense-perception, but slyly evade those relevant sense-perceptions which would shatter their foolish philosophical prejudices. For an inhabitant of modern history, the evidence of the recent six centuries' changes in the population-density, productivity, and consumption of society is overwhelming evidence against most of what is either explicitly taught or implicitly assumed as philosophy and scientific method in universities today.

The "hard factual basis" for examining the effects of creativity, or its absence, upon the possibility of society's successfully continued existence,¹⁶³ is called the science of physical economy.

It is shocking, and unfortunately commonplace, to encounter a professional scientist who blunders ahead in life, in blind ignorance of the existence of the physical-economic process which exists more despite today's financial markets, than by aid of them. If scientific ideas are sound, must they not imply a potential for increase of man's power, *per capita* and *per square kilometer*, over the universe? Is that relationship not a measurable one?

Those considerations are introduced at this point of the report, as precondition for locating the physical significance of the "immeasurably small" in a matter of no less importance than the successfully continued existence of mankind.

For any reasonably intelligent person who has a working experience with the management of modern manufacturing or modern agriculture, including skilled industrial operatives, no further special training is needed to guide one's hand in marking out a set of linear inequalities which fairly describe the prerequisites and effects of improvement, in terms of *per capita*, *per household*, and *per square kilometer*, in the productive powers of labor.¹⁶⁴ Once that had been done, one would do two obvious things: (1) Examine the changes in productivity and composition of the social division of labor since the founding of our Federal republic in 1789, and (2) Examine this economic history of changes from the standpoint of the forecast of such changes supplied by U.S. Treasury Secretary Alexander Hamilton in his December 1791 Report to the U.S. Congress "On the Subject of Manufactures."

Mankind exists by producing. Our households consume to exist, to be productive, and to develop the institution of the household and of the persons within it; our farms, factories, and essential infrastructure consume to continue to exist, to develop, and to be productive or otherwise useful.

If we wish to compare the two processes, consumption and production (or other necessary forms of output), we must define the labor-force as a common parameter of the households and of the sundry forms of both the productive and other necessary sorts of analogous enterprises. We treat the household as a whole as a culturally determined function of the reproduction of the members of the labor-force. We measure these functions of consumption and production in the place where they occur (principally), by relevant kind of land-use classifications for each such activity.

We have thus defined the general requirements for allotting statistics, according to total land area, and land-use portions, and in terms of values stated *per capita*, *per household*, and *per square kilometer*. We must incorporate "market baskets" as a way of expressing the relationship between the supply of necessities and their consumption.

To shorten the account, in keeping with the purpose for which these matters must be mentioned at this juncture, our next step is the labor of refining the notion of "necessary consumption." Consumption for production by agriculture and manufacturing, for example, is readily understood by anyone familiar with the industrial-engi-

162. Or, should one say, in the strictest sense, "temerity"?

163. See Lyndon H. LaRouche, Jr., *In Defense of Common Sense* (Washington, D.C.: Schiller Institute, 1989); also in LaRouche, *The Science of Christian Economy and Other Prison Writings* (Washington, D.C.: Schiller Institute, 1991).

164. For example, for an introduction to outlining such a set of inequalities, see Lyndon H. LaRouche, Jr., *So, You Wish To Learn All About Economics?* (New York: New Benjamin Franklin House, 1984).

neering preparation and use of bills of materials and process sheets. Since objective requirements of production processes are readily approximated, at least as a matter of principle, the problem area of that ongoing inquiry is soon narrowed to the matter of *functionally necessary* consumption of physical goods by households.¹⁶⁵

In this direction of inquiry, the variable area on which attention must be focussed is soon narrowed to consumption of physical goods plus necessary levels of certain categories which are best identified as "infrastructure." We employ "infrastructure" to signify something which is not directly consumed by households or goods-producing enterprises in separable units, but whose presence or absence, diminution or increase, affects the productive powers of labor in a variable way. These include what we may term "hard infrastructure," such as water management, general land-improvement and sanitation, general transportation, general supply of power, general urban and related infrastructure. These also include certain rather well-defined areas of "soft infrastructure," such as general requirements of education, health-care, scientific development by both households and productive and related enterprises. This combination of physical goods and infrastructure embodies the variable determinants of potential levels of net productivity of society as a whole.

Thus, for example, the quality of constructive leisure, education, health, technological advancement, and general physical consumption by the household, has a functional bearing upon the relative potential productivity of average members of households with those consumption and related characteristics.

Successfully continued survival may be expressed as a functional conception: *potential relative population-density*. This notion combines, statistically, notions of *per capita*, *per household*, *per square kilometer*, for land-use, for consumption of physical goods, for hard and soft infrastructure. This bears upon life-expectancies, health-expectancies, school-leaving age, adequate public libraries, and so on. This is packed together thus as what is usefully termed "general demography."

Sitting up, after a spate of working through such historical studies of the recent two centuries of the U.S. economy, one has a sense of something very special about the recent six centuries of western European civilization. *Look at the changes in the social division of labor!* It is as Alexander Hamilton described it in his "On the Subject of Manufactures"!

As recently as the first decennial U.S. Census of 1790, the U.S. population was more than 90% rural; yet, relative to medieval Europe, this represented already a very advanced degree of urbanization. Relative to medieval Europe, most of human existence, then and earlier, had been truly wretched. For countless millennia, prior to the Golden Renaissance, much more than ninety percent of the population toiled with the soil, to provide itself a precarious hold upon a meager existence.

If we assume today, that over 60% of our total labor-force should be employed in either manufacturing or infrastructure, with less than 2% rural component required by modern technology, the majority of the employment in manufacturing should be in the capital goods sector, and a growing portion of that in the machine-tool sector, with between 5% and 10% of the total labor-force employed in either scientific development or related pursuits—the latter in order to keep the rate of flow of new technologies adequate to human needs generally.

These changes in the social division of labor are functionally related to the increases in potential population-density. That is to emphasize the rapid reduction of the average amount of land-area which is required to sustain the average person in a demographic well-being better than his or her parents and grandparents.

How has this occurred? Through the mutually reinforcing relationship between pure scientific progress and the investment of that scientific progress, as improved technology, employed in a capital-intensive, energy-intensive mode in increase of the productive powers of labor *per household*, *per capita*, and *per square kilometer*.

How did this function prior to the mid-1960's shift to a "post-industrial," "countercultural" cultural paradigm? How was it that one U.S. penny invested in President John F. Kennedy's aerospace "crash program" of the 1960's returned a fairly estimated fourteen cents to the U.S. economy? One would think every scientific thinker with a conscience would have posed and answered such a question.

The cycle begins in "pure science." To demonstrate a discovery, a proof-of-principle experiment is required. This latter is expressed in the construction of some sort of apparatus. Once a satisfactory experiment has been conducted and suitably refined, the refined form of the experimental design becomes the basis for adding a new, improved machine-tool principle to the repertoire of capital-goods designs available, and of product and process designs, too. The flow of improved machine-tools and related benefits, as investment, into production, combined with the flow of newly developed knowledge, results in a spreading increase in productivity of labor

165. See G.W. Leibniz, "Society and Economy" (1671), *Fidelio*, Vol. I, No. 3, Fall 1992.

per capita, per square kilometer.

Put that type of scientific discovery, from which this benefit is ultimately derived, under an appropriate kind of microscope of the imagination.

The possibility of a formal mathematical physics rests, in first approximation (at least), upon achieving an approximate deductive consistency in the mathematical representation of the perceived physical relations which are chosen to be abstracted from the real process considered. In that degree, such a formal physics describes a consistent, open-ended theorem-lattice, such that all possible theorems which might exist within that lattice (within the bounds of consistency) are mutually consistent with one another and, above all, with each and all of the relevant set of underlying, axiomatic assumptions—stated, or implied.

To the degree we signify such a mathematical physics, we are implicitly obliged to recognize a qualitative distinction between the one kind of discovery, which is the generation of an added theorem to be incorporated in that lattice, and a discovery which forces the replacement of that entire lattice by a new one. Looking at the second type of case from the standpoint of the formalist, the new theorem is of a type which implicitly overturns one or more of the axiomatic assumptions underlying the previously accepted theorem-lattice. In other words, the discovery has an “axiomatic-revolutionary” character.

The following crucial observations on discoveries of the second type are now to be identified and then examined.

1. The discovery of each of the three higher species of mathematics is exemplary of a discovery of the second, or “axiomatic-revolutionary” type.
2. All such discoveries are of the type represented by the solution-principle of Plato’s *Parmenides*.
3. Each axiomatic-revolutionary discovery, just because it is axiomatic, is unreachable deductively from the relevant theorem-lattice which it overturns. It is thus defined by an absolute discontinuity of this formal type. This discontinuity, or singularity, is effectively virtually null-dimensional.
4. All valid such axiomatic-revolutionary discoveries therefore form a series of a type or types.¹⁶⁶
5. The axiomatic-revolutionary character of the discovery has the dimensionality of axiomatic change.

166. On differing types of hypothesis, compare the discussion of this matter in “The Truth About Temporal Eternity,” *loc. cit.*, sec. IV, pp. 15-19.

6. The nature of the axiomatic transformation effected is reducible to a type of such change.
7. Thus, the discontinuity marking such discoveries of the second type is virtually null-dimensional, but not empty. It has the qualities of *change* and *power*; it has the quality of *causality*.

What is the size and weight, the mass and velocity, of the thought which represents such a second type of discovery? Is the result not that which we associate with the impact of an increase in *power*? Is there some connection between the *type* of thought which prompts us to equate “power” and “cardinality,” and “power” of the *type* we associate with man’s increased power over nature *per capita* and *per square kilometer*?

Before suggesting the answers to those questions, consider the same demographic facts just outlined from a slightly different vantage-point.

D. What Should ‘Negentropy’ Signify, If Anything?

Once it is discerned which produced elements of consumption are necessarily variables or simply preconditions for a certain level of productivity with a certain level of technology, express this as required input to the demographic process. Term this the relative “energy of the system.” Compare this with the rate of output of those same types of components. The difference in magnitude between the two (*per capita, per household, and per square kilometer*) may be viewed as the relative “free energy” of the process. The ratio of the two, “free energy” to “energy of the system” yields a “free-energy” ratio.

In any healthy economy, that “free-energy” ratio is rising, *per capita, per household, and per square kilometer*. However, as inspection of physical-economic history over the recent six centuries shows, the maintenance of this needed “free-energy” ratio depends upon increase of the relative “energy of the system” *per capita* and *per square kilometer*¹⁶⁷: without an increase in the capital-

167. Note that the relevant ideas within Hamilton’s “Manufactures” respecting “increase of the productive powers of labor” are derived from Leibniz’s design for the Industrial Revolution, done at the French Académie des Sciences and elsewhere before and shortly after the beginning of the Eighteenth Century. This includes, notably here, work on the principles governing the relationship between development of heat-powered machines and rise of *per-capita* productivity. These were mediated into the American colonies from various channels, most emphatically Franklin’s direct intersection, especially between 1763 and 1787, with active continuations of the Europe-wide scientific and political networks formerly established by Leibniz. As a comparison of the John Locke draft of the constitution of the

and energy-intensity of the economic process as a whole, as well as at technologically advanced points of production, the net physical productivity of labor can not be improved, or even sustained.¹⁶⁸

This is not only an ostensibly anomalous picture of any healthy state of a modern economy; it is crucially paradoxical. No ordinary thermodynamic representation of this is possible.

The cause of this anomalous correlative of successful economic growth is clearly defined, by isolation. Speaking paradigmatically, this cause is investment in scientific-technological progress.¹⁶⁹

In making the statistical estimates which correspond to this case, we must discount the fact that the economies of so-called metropolitan countries have been heavily subsidized, during recent decades, by relatively very large net flows of capital out of the developing nations economy into London, etc. Without those subsidies of the “formerly industrialized nations” by the so-called “Third World” nations, the industrialized nations of the northern tier would have collapsed more than a decade ago.

The spectacle of post-1963 Britain collapsing into a “post-industrial rubbish-heap,” while the London financial center ostensibly prospers from those profits of pure swindle called “invisible earnings” from foreign sources, typifies the need for discounting the statistics to reflect the net physical-economic growth generated through improvements in the national economy’s own performance at home, and also net contributions to improvements in the global economy taken as a whole.

To resume the discussion of the thermodynamically

anomalous picture of sustained growth: in brief, any economy which collapses into a state of “zero technological growth” will collapse from cumulative technological attrition (unless it postpones this collapse by looting other economies). It is infusions of what Hamilton named “artificial labor,”¹⁷⁰ which are the source of the apparent “not-entropic” character of any successful physical-economic process, that is the source of the increased “power” over nature, *per capita* and *per square kilometer*.

There is only one place in mathematics in which this kind of power-function is found. Consider, for example, Cantor’s series, *Aleph-1*, *Aleph-2*, *Aleph-3*, . . . Each term is of higher power than its predecessor, yet the entire series is of a strict *type*. Indeed, strictly speaking, the successive *Alephs*, from *Aleph-1* upwards, should not be treated as simply successively higher types (species), but rather as the domain in which cardinality supersedes ordinary notions of denumerability in the function of ordering-principle. They form a series (a *type*) whose characteristic change is increase of power.

What ought we to signify by such observations? *We must move beyond the territory of mathematics, into the domain of physics.*¹⁷¹ To recognize that there is interdependency of the thermodynamically anomalous phenomena of sustained growth of modern economies with the “causal factor” of scientific discovery measured as a virtually null-dimensional singularity, is the key to economic science, and also the key to the history of physical science in general.

Look first at the biogeochemistry¹⁷² of the economic process. The planet Earth is a bounded system. The entire universe is a bounded system, too. Therefore, throw away, as useless for any practical application, the Cartesian manifold as employed by Galileo and Newton, *et al.* Look at the bounded processes whose development and character are essentially internal to the planet Earth; see this through the eyes of the Kepler-Gauss use of the subject of *Pentagramma Mirificum* as a way of furthering what Plato began with his understanding of the implications of the so-called Platonic Solids. Begin with our

Carolinas, and the Preamble of the Constitution of the Confederate States of America, with the Preamble to the U.S. Federal Constitution of 1787-1789 shows, the American Revolution and founding of the U.S. Federal Republic were outgrowths of the victory of the ideas of natural law promulgated by Leibniz over the empiricism of John Locke. These political influences from Europe were intermeshed with those ideas of science, technology, and political-economy which figures such as Franklin conveyed from Leibniz’s heritage in Europe into North America.

168. The use of the term “productivity” here should not be confused with the monetarist’s use of the term “productivity” as synonymous with “rate of usury”: i.e., the ratio of monetary profit to money wages. Statistically, “productivity” is defined as follows. As measured in physical units of market-basket consumption, the consumption-level must rise *per capita*, *per household*, and *per square kilometer*. (Compare Leibniz on the subject of real wages and productivity, in “Society and Economy,” *op. cit.*) In these terms, that consumption must increase in correlation with an increase of the “free-energy ratio” as we have described that immediately above. The satisfaction of that constraint reflects an increase of physical productivity.

169. This was the “model,” applied circa 1950-1951, which impelled the author to plunge into Cantor’s 1897 contributions.

170. I.e., investments in improved technology in a capital-intensive, energy-intensive mode. See U.S. Treasury Secretary Alexander Hamilton, “Report to the U.S. Congress on the Subject of Manufactures” (1791), in Nancy B. Spannaus and Christopher White, *The Political Economy of the American Revolution* (New York: Campaigner Publications, 1977), pp. 375-442, *passim*.

171. Thus, the present writer was electrified to re-read Riemann’s *Hypotheses* paper, following an intensive study of Cantor’s *Beiträge*, in 1952.

172. I.e., the work of Academician Vladimir I. Vernadsky should be seen as an integral part of the further development of the science of physical economy today.

planet, and see our planetary civilization's changing relationship to the universe at large, in terms of the interaction of those two layers of bounded processes.

Look at the Earth, as if from nearby space. Look at what Vernadsky defined as the *noosphere*, which, today, is the relatively shallow covering of this planet inhabited by regular human activity. This stratum extends downward from the planet's land and water surface through mining; the balloon, the dirigible, and the application of Leonardo da Vinci's and Bernhard Riemann's anti-Helmholtz hydrodynamics to powered flight¹⁷³ have extended man's reach upward. We have moved from the heights of balloons to the geostationary orbit around Earth which is our future base for an interplanetary travel freight and passenger terminal. Technology in sight will permit us to bring mankind's personal reach into space to within the limits of the asteroid belt, to limited Mars colonization by a "science city" base for astrophysical and related researches.

Already, the boundedness of the universe was shown not only by Plato's recognition of the implications of a delimited possibility for partitioning the interior surface of a spherical shell, but by Leonardo da Vinci's recognition that the radiation of light was bounded by limits

173. Bernhard Riemann "Über die Fortpflanzung ebener Luftwellen von endlicher Schwingungsweite" (1860), in Weber, *op. cit.*, pp. 157-175. For an English translation, see "On the Propagation of Plane Air Waves of Finite Amplitude," trans. by Uwe Parpart and Steven Bardwell, *International Journal of Fusion Energy*, Vol. 2, No. 3, pp. 1-23. The publication of that translation was an outgrowth of conflicts (over geometric versus algebraic methods) with some leading physicists, which arose as by-products of those of the author's 1952 discoveries in physical economy reflected here. In the midst of a quarrel with Lawrence Livermore Laboratories, and others, over matters including inertial-confinement fusion, in 1978, this writer asked two collaborators to secure from open Soviet scientific literature proof that Soviet H-bomb designs had depended upon Riemannian notions of isentropic compression. The search was a success; the translation of this Riemann paper, and certain designs tested by the Osaka Laser Engineering Laboratory, were included results of those controversy-ridden researches. This is noted here, because it is relevant to a major point to be made on Russell's role in science below. See also, related work-products of such relevant followers of the Riemann hydrodynamics tradition as Ludwig Prandtl and Adolf Busemann. Note also, as of prime relevance for related matters of the internal history of science, that the pre-1945 German accomplishments of world-leadership in aerospace depended significantly on the leading role of Italy's hydrodynamicists working in the field. Into the 1930's, for example, Italy's scientific and related engineering prowess in airframe design was the best in the world. The key to this was the fact that the leading tradition of Italian physics from the mid-Nineteenth Century on, was located in the Italian collaborators of Riemann, around Enrico Betti. The first supersonic wind-tunnel in the world, for example, was built by these Italian scientists during the mid-1930's.

upon a potential rate of retarded propagation, as this was measured by Christiaan Huyghens' student Ole Rømer in 1677, and used successively by Huyghens, Johann Bernoulli, and Leibniz to establish the foundations for a modern physics of a complex variable.¹⁷⁴ *I am certain I hear Kepler acknowledging that this is consistent with his standpoint. As he would agree, most emphatically, there is a reciprocity between the boundedness of the universe in the large and the continuum paradox encountered in the "immeasurably small."* If one wishes to master economic science, these matters must be mastered; if we wish the human species to survive the sundry looming threats variously nearly or distantly visible before us today, we must master that quality of economic science.¹⁷⁵

Accordingly, the statistical application of economic science begins with the examination of the historical development of this relatively thin spherical shell, which Vernadsky locates as the noosphere. To help to overcome the fear and confusion which modern education fosters respecting anything to do with scientific work and conceptions, we must seek to bring home to the reader a sense of the reality of the subject-matter within which this unavoidable anomaly appears.

To afford the reader a sense of the concreteness, the reality of the work of applied physical economy, some of the features of statistical applications are now described briefly.

The core of the special problem in this case, is that economic processes are, on the one side, readily measurable, but, on the other side, those measurements themselves pro-

174. To "bound" the characteristic of this discussion in progress here, one should call attention to the implications of another major work establishing the young Riemann's habilitation in German science, his 1854 "Über die Darstellbarkeit einer Function durch eine trigonometrische Reihe," in Weber, *op. cit.*, pp. 227-265. This can be read usefully as a mathematical survey of the development since the crucial 1697 work on the light-based principle of universal action by Bernoulli and Leibniz. It is admittedly specialist's work, but no one addressing the internal history of science should overlook Riemann's account in this paper.

175. Gauss' successful demonstration that the asteroid orbits conformed to Kepler's astrophysical case for the necessary former existence of a since-exploded planet in this specific orbit, between those of Mars and Jupiter, demonstrated crucially that all of the proposed alternatives to Kepler's method, such as those of Galileo and Newton, had been shown to be erroneous by this evidence. See *Gauss Werke*, vols. VI-VII, *passim*. Kepler's uniquely vindicated method for astrophysics, as reflected in the 1611 *Snowflake* booklet, is the relevant platform from which to launch a comprehension of this problem of reciprocity between a bounded universe, on the one side, and the matters of harmonic ordering (quantum field theory) and the continuum paradox on the other.

duce results which are not consistent with today's generally accepted notions of statistical or other mathematical functions. That is the anomaly. That is the source of the feeling of eeriness which the typical science graduate suffers when confronted with the simple showing of this anomaly.

Therefore, it should be most helpful to such readers, emotionally and otherwise, to situate the anomalous phenomena in their concrete setting. Then, the characteristics of economic science lose much of their strangeness, and the special problem of "negentropy" is more readily comprehended.

Review summarily the policy for applied physical economy specified by the Executive Intelligence Review News Service, Inc.¹⁷⁶ Presume that the reader had a modern personal computer of relatively large capacity and power. Presume also, that, given this facility, and some talent in using such devices, that reader were to wish to set himself or herself up "doing applied physical economy."

Start with the graphics; it is crucial that the work begin with the graphics.

Start with an animatable Earth-ball, whose average surface of reference is the relevant, very thin ellipsoid shell situated slightly above sea-level. This should permit one to view Earth's physical geography as it appeared

circa not later than 18,000 B.C., with projections of likely geography up to, at a minimum, A.D. 2200. It would be useful to have also one of the relatively low-cost and reasonably accurate animatable astronomical maps, to enable one to look at the night sky on any assigned date from any part of the planet back some eight-thousand years, or something approximating that.¹⁷⁷ In addition to astronomy, correlate weather and other global phenomena with this Earth-ball model.

Correlate this Earth-ball with a collection of two sets of regional and local electronic maps. Use the positions of latitude and longitude on the Earth-ball to make this correlation. Two master sets of regional and local maps are required: physical geography, and political geography. These must be correlated with a cell-grid system, common to the physical and geographical maps, whose grid correlates geodetically with latitude and longitude. On the mapping of physical geography, the customary features of physical geography are located functionally. Man and his activities otherwise are located on the political mapping. The two mappings are overlapped in terms of land-use parameters.

The political mappings are, from the top down, continents, regions, nations, regions within nations, states (analogous to U.S. Federal states), U.S. counties, or analogous, and urban areas. The economic mappings are superimposed upon the correlation of physical and political geography.

Consider urban areas, for example. An urban area's land-use is apportioned among residential, industrial, commercial, parklands, and other municipal functions. One requires a grid which is sufficiently fine-grained to apply relevant statistics which are land-use-type related to the topical analysis of the land-area of this municipality. It would be convenient, as much as possible, to be able to assign entire cells to one of these land-use categories, or to such manageable approximations as "50% residential, 15% commercial, . . ."

People and persons and households, appear in this mapping in principally two ways: in residence, as members of households (chiefly), or as place of employment. When those persons are in neither of the two principal types of land-use location, but "in between," they are in transportation, visiting parks, city hall, or perhaps

176. Executive Intelligence Review News Service, Inc. (EIRNS), 333½ Pennsylvania Ave., S.E., Washington, D.C. 20003. The newsweekly *Executive Intelligence Review* was founded in 1974. It was developed in conjunction with an international news service, which converted into a commercial vehicle those specialized news-intelligence functions which produced the work-product featured in *EIR* and other publications using this service. The publication's authority was derived initially from this writer's exceptional success in forecasting, during the 1960's, the virtual inevitability and probable policy-sequelae of the 1967-1972 succession of crises leading into the breakdown of the original Bretton Woods monetary system. During December 1978, this present writer designed a computer-based quarterly forecasting system, using chiefly U.S. Value-Added data, which began publishing its regular quarterly forecasts in *EIR* magazine during the interval January 1980-October 1983; those latter forecasts were the only reliable forecasts issued publicly by any agency during that time. At the end of 1983, this writer advised *EIR* to discontinue the forecast, because of the wildly erratic fraud which the U.S. government and Federal Reserve System were employing for what might be termed charitably "cosmetic purposes." He recommended that a new forecasting base be constructed on the basis of physical data, rather than Value-Added ones. The publication of the 1986 textbook, *So, You Wish to Learn All About Economics?*, was a by-product of elaborating the specifications for constructing the data-base for the new forecasting system to supersede use of official (increasingly fraudulent and arbitrarily cooked) Value-Added data. What is described summarily here, are part of the current specifications for implementation of that EDP application.

177. Astronomical charts for various localities of the planet at various times past are extremely handy for the routine kitchen-work of the economic historian. (It is the quickest way to be certain that Claudius Ptolemy was essentially a hoaxster.) Who does not work with ancient and medieval economic history will overlook some of the most important differences which distinguish the present from the past.

strolling about the city's sidewalks. It is sufficient, at first pass, to think of a percentile of the month's total hours spent in the residential area of the households, so many of those total hours in land-use area of employment, leaving a residual percentile for the "in-betweens."

Also, we must take into account the fact that people may reside in one locality, outside a city, while being employed regularly in that city.

Also, remaining for the moment with the urban case, we must superimpose basic economic infrastructure upon the whole complex of various land-uses. We should provide for noting capacity and utilization of water, sanitation services, power, educational services, medical services, scientific services, and so on by land-use types.

Land-use types are composed generally of "waste land," "reserve land," land utilized by transportation and closely related warehousing, land used for generation and distribution of power, "rural productive, other" "urban productive, other," and residential, etc. portions of the "rural productive" and "urban productive" areas. "Land-use types" overlap "land types" which themselves often overlap one another mutually: desert, tundra, mountain, forest, pasture, riparian, coastal, and marsh and swamp subsidiaries.

All of these and related structures of the economic study are in the form of graphics, with no demographic data yet "plugged in." We are thus prepared, conditionally, to situate such data in its appropriate time and place. The condition is, that for each decade of economic history of the planet or of the region being considered, the land and land-use types assignable to grid-locations vary, as the star-map varies by place and time.¹⁷⁸ For U.S. statistics, the decennial census is a useful choice of periodicity for shifting from one land-use model to the next, treating interim developments as applications to modification of the land-use model established for the beginning of the decade.

Now, assign the data, learning from C.F. Gauss the principles for allotting observations to assigned places and times in physical reality.¹⁷⁹

178. "If one wished to be fancy," as the saying goes, one would use the astronomical model included among the graphics as the calendar and clock for all other studies included in the work. As we shift toward more and more space-exploration and colonization, even in the advanced-planning phases, we should begin to think in such sidereal terms.

179. No secondary pupil in any part of the world should graduate without knowing the highlights of Gauss' scientific biography, including his development of statistical methods for observations in the successive domains of astronomy, geodesy, and Earth-magnetism. By comparing Gauss' standard for this work with the previous highest standard, that of France's Ecole Militaire and of the Ecole Polytechnique under Monge, Legendre,

Above all: *Any effort to generate a statistical forecasting model of the sort in commonplace professional practice today, is to be strictly prohibited. Insofar as the consequence of an action is mediated through a human agency's response to that action, all assumptions of behaviorist sociological and other dogmas recently or currently in vogue are incompetence per se, even absurdity per se.*

The function of economic-statistical observation is not to assume how people will behave, but to show the effects of the way in which they did behave. Plug in the data-arrays accordingly.

Since health-care policy is among the leading topics of policy-discussion in the U.S.A. today, examine briefly now some of the applications of that to the kind of "modelling" just described.

The former post-war Federal standard for health-care was provided by the wonderfully neat, pungent and forceful Hill-Burton legislation, which the United States ought not to have abandoned, as it did under the influence of such mid-1970's follies as Felix Rohatyn's disastrous financial-looting operation for New York City, "Big MAC."¹⁸⁰ The point is, if Joe Doaks or his wife falls down in the street, or is taken sick at home, or

et al., the student acquires a sense of the difference between reality and observation which he or she will carry to great benefit throughout life, in whatever occupation, or simple functions of a citizen they are subsequently situated. In no place, does this challenge present itself more plainly than in the effort to allot available statistical data-arrays to the grid-cells of a scheme of the sort being outlined here.

180. On August 13, 1946, Public Law 725 went into effect, titled, "Hospital Survey and Construction Act," otherwise known as the "Hill-Burton Act" after its two chief sponsors, Senators Lister Hill (D-Al) and Harold Burton (R-Ohio). Hill-Burton authorized grants to the states for surveying the adequacy of their hospitals and public health centers, and for planning construction of additional facilities. The law, which was extended many times over through the early 1960's through Congressional amendments, can be found in the public laws volume for the 79th Congress, 2nd session, Chapter 958. Lengthy excerpts appear in the *Executive Intelligence Review* article, "Why U.S. health care must return to the Hill-Burton standard," by Donald MacNay, Marcia Merry, and the *EIR* Economics staff, *Executive Intelligence Review*, Vol. 21, No. 30, July 29, 1994, pp. 6-13.

The 1970's marked the end of Hill-Burton-standard health-care facilities throughout the U.S., and the beginning of the marked decline in facilities, staff, and treatment programs *per* thousands of population. In 1974 in New York City, for example, under the austerity measures adopted by the Municipal Assistance Corporation ("Big MAC") run by Lazard Frères banker Felix Rohatyn, community hospitals were penalized by New York State, which withheld reimbursement for indigent cases, if the hospitals' bed-use level fell below a new government-mandated level of 75-85%. This drove many hospitals into bankruptcy. In addition, "Big MAC"-style decrees eliminated thousands of specialty-care beds for the mentally ill; the patients were turned out into the streets.

their son is stricken in the schoolyard, that person shall be treated promptly and adequately, and the financial implications of the events attended to after adequate care has begun and its continuation assured. During the post-war 1940's and 1950's, in the days of the post-war U.S. National (Economic) Security doctrine, when the U.S. population was still moral, as under the Administration of President John F. Kennedy and President Johnson's Civil Rights legislation, the right to life and health of every person was implicitly the standard of political behavior.¹⁸¹

Situate the impact of Hill-Burton goals in the graphics scheme of economic-data mapping described. To the extent Hill-Burton is representable in terms of the infrastructural logistics of delivery of health care reasonably proximate to when and where it is needed, what is the distribution of capacity for care?¹⁸² This typifies the logistical aspect of the "soft infrastructure" concept for health, education, and science services to households and productive functions alike.

Those kinds of studies, today technologically within the reach of small research organizations, represent an elaboration of the approach employed by this writer back during 1948-1951, in connection with his ongoing commitment to refuting Norbert Wiener's radically positivist *Golem*, the attempted application of statistical "information theory" to human behavior. The conceptual problem which the author addressed then, is the commonplace problem to be confronted in the course of any competent sort of economic analysis today. *The issue today, as during the 1948-1952 period of the author's original discoveries in this field, is to put aside for the moment any prejudices respecting mathematical physics learned from the classroom, and simply to measure the comparison of successful and failed economic policies of practice as those distinctions occur in nature, whether taught thermodynamics likes that result, or not.*

181. Before the effects of the later 1960's "paradigm-shift" to a "post-industrial" matrix.

182. Physicians, nurses, other specialists, etc., hospital beds, outpatient facilities, public health services, etc., with respect to efficient access to and by population served per 100,000 persons. Compare this combined capacity of the governmental and "voluntary" elements of personnel and facilities with the forecast of relevant disease, trauma, etc. and derived estimates of care requirements for the coming short-term (one year), medium-term (five years), and long-term (ten to twenty-five years). Return to the physician-patient relationship of past medical-ethics fame, instead of the recent trend of malpractice by government and insurance companies, which ignores the needs of the patient, and substitutes the assignment of the physician to deliver aliquot services on schedule to the type of legalized disease prescribed for authorized ministrations.

Entropy, as this is defined by Clausius, Kelvin, Boltzmann, *et al.*, has a well-defined ontological character, an essentially mechanical character. Wiener *et al.* perpetrated the kind of fraud which implicitly justifies David Hilbert's expulsion of Wiener, as incompetent, from a Göttingen seminar. Wiener *et al.* employ a low-probability factor within Boltzmann's mechanical derivation of his H-theorem, the low probability that, *in that case*, apparent entropy might be reversed temporarily and locally.¹⁸³ Wiener *et al.*, make the wildly extravagant ontological assumption, that because neither living processes nor intelligent human behavior are characteristically "entropic," their characteristic "not-entropy" is to be neatly explained statistically as a temporary and local reversal of universal mechanical entropy, Wiener's abusive reading of his neologism, "negentropy!" Wild positivist John Von Neumann, fleeing from the avenging furies of Gödel's 1931 proof,¹⁸⁴ performed an even cruder, but otherwise Wiener-like hoax in the name of economics.¹⁸⁵

Through the influence of radical positivists such as Russell, Wiener, Von Neumann, and many others, the world of democracy has come under the ideological reign of madmen. In place of rule by old forms of flesh-and-blood individual despots and Babylonian, or Roman or Mongol or British military forces, we have entered into the Dantean Hell in which Walter Lippmann's utopia of induced *public opinion* reigns, induced by mass media, induced by *democratic* guises for Nazi *gleichschaltung*,¹⁸⁶ a more lunatic tyrant than a Nero, Dracula, Henry VIII, or Ivan "The Terrible" in the flesh.

In that spirit, in place of economic policies premised upon successful forms of economy, policy-shaping is ruled by the Von Neumanns, the von Hayeks, the Milton Friedmans, the "Chaos theorists," and even the Phil Gramms, who measure success not by the old-fashioned, objective performance of economies, but what is called the more "conservative" modernist standards of conformity with some recent radical-empiricist lunacy which has been awarded academic or Nobel Prize credentials.¹⁸⁷ These dogmas, if put into practice, show a common, perverse quality of self-fulfilling prophecy.

It is fair to say of Thatcherism, one of this recent

183. Cf. Morris Levitt, "Linearity and Entropy: Ludwig Boltzmann and the Second Law of Thermodynamics," *Fusion Energy Foundation Newsletter*, September 1976, pp. 3-18.

184. Gödel, *loc. cit.*

185. Wiener, *loc. cit.*

186. The Nazi *Gleichschaltung* is fairly translated as equivalent to today's "political correctness."

187. Even the language which these ideologues apply to themselves is unabashedly Orwellian Doublespeak.

rash of extremist “isms,” that she promised to purify the British economy of any economic practice not consistent with her dogma. In that particular aspiration, she succeeded; the British economy obediently died. Seeing the followers of Smith, von Hayek, Von Neumann, Friedman, and Sachs, one might think of an auto-mechanic who assures his client, “I am going to bring your automobile up to my standards, even if it kills you.” Such is the way in which the U.S.A. and world economy is viewed by the “free traders” in London, Washington, or the *Wall Street Journal*; such is the way in which the economies of the “Third World” nations, sub-Saharan Africa most notably, are viewed by the followers of Bertrand Russell, the Malthusian fanatics currently controlling the policies of the U.N.O.¹⁸⁸

Apart from such fanatics as those, their cases but illustrate more luridly the vicious incompetence of the reigning liberal¹⁸⁹ theoretical economists before them. All efforts to impose a linear model of performance upon economy must tend to have the practical impact of a self-fulfilling prophecy. Any economic process which is subjected to a form of policy-making which is itself based upon a “linear model” will be “linearized” by efficient enforcement of those policies; in that case, the economy will, in the relatively milder cases, undergo cycles of entropic collapse, or a more devastating collapse

188. All of these modernist varieties of economist are intrinsically fascists. *Fascism* is no more than an attempted throw-back to Caesarism under modern circumstances. The model Roman economist is thus Illyria resident Diocletian, the man who split the Roman Empire into two parts and passed the remains to his heir Constantine. It was the “Malthusian,” or often so-called “socialist” decrees of Diocletian, which are the specific precedent for all Twentieth-Century fascism. Notably, the effect of these decrees was to accelerate the rate of collapse of the Empire as a whole, leaving the more civilized, less depopulated sector, the Greek-speaking region, to rot away over the ensuing centuries, in an overall constantly descending spiral of decadence and attrition. There are many precedents for fascism in modern European history, notably the British system of colonial rule, and all the other petty and more virulent tyrannies which esteemed the Roman Empire as their model. The comparison to the characteristic, regressive economic features of Diocletian’s decree is the reference to be made in examining liberal and post-liberal varieties of economic dogma today.

189. “Liberal” is employed here in its proper sense, connoting a commitment, like that of John Locke and Thomas Hobbes before him, to making no moral distinction between right and wrong, or good and evil. One signifies by “liberal,” thus, all of the apostles of the East India Company’s Haileybury school, from the original, Stuart Restoration’s William Petty, through the Keynes of Mrs. Joan Robinson’s and Lord Kaldor’s Cambridge Systems Analysis group. (For the more extreme, neo-conservative cases, such as Professor Jeffrey Sachs, the classification is no longer philosophical, but rather psychiatric, even bordering upon the zoological.)

like that gripping the entire world presently.

Academics who fail to grasp this connection, will insist on babbling a post-mortem diagnosis on the state of a collapsed economy of this sort, “You see, the economy’s behavior is linear, and also demonstrates once again a principle of universal entropy.”

Both Von Neumann’s and Wiener’s dogmas are characteristically linear; therefore, the effect of adopting their dogmas as policy can be nothing but disastrous. This illuminates the fact, that Wiener’s definition of “negentropy” is simply reversed “entropy,” and is strictly linear in consequence of this. In contrast, the “not-entropic” processes of living beings and of human intelligence are not linear. Either one uses “negentropy” to signify the latter, non-linear characteristic, in which case “negentropy” has nothing to do with “information theory,” or “negentropy” has the dictionary meaning supplied by Wiener, in which latter case it is a nonsense-word.

During the interval he progressed into making his original discoveries in economic science, this writer was confronted with the choice: accept the evidence of measurement, or accept the established dogma of present-day physics-teaching. The author chose to stand by the evidence of measurement, and leave the dogma to those ivory towers where dwell those hesychasts who seek refuge for their fantasies in a dwelling-place as far removed as possible from cruel reality. After all, everything we have come to discover as truth was gained for mankind by adhering to that same principle; a well-defined anomaly, based on good measurement, has always been the signpost leading the way to scientific progress.

E. Educating For Creativity

Before describing the influence of Conti upon modern science and political philosophy, it is essential to focus attention directly upon the issue of formal intelligibility of that creativity which Kant abhorred and which the radical empiricists savagely deny to exist. Plato’s Socratic method, the only known standpoint from which creative processes were ever rendered intelligible, is made comprehensible through focussing attention upon what ought to be the obvious implications of a Classical Christian humanist form of education, such as that of the Brotherhood of the Common Life and the Schiller-Humboldt reforms of education in Nineteenth-Century Germany.

From a study of the history of science against the points of reference touched upon in the preceding portions of this section, those approximately two-hundred years of Classical Greek culture, which span approximately the time from the trial of Socrates through the

time of the deaths of Eratosthenes and Archimedes, are among the most excitingly productive intellectually in all history of science.¹⁹⁰ It is against the influence of that Classical background that we must view the Christian Renaissance of the Fifteenth Century.

The other notable feature of the Renaissance, is that it was led by geniuses. The source of that supply of geniuses is typified by the teaching methods and influence of Groote's and Thomas à Kempis' Brotherhood of the Common Life, establishing a tradition which persisted beyond the middle of the Sixteenth Century through such offshoots of the Brotherhood's influence as the Oratorians around Erasmus of Rotterdam and the School of Raphael.¹⁹¹

The characteristic of this Christian humanist method of education is emphasis upon studying the most important discoveries in all human knowledge by aid of emphasis upon primary sources, preferably the account of the discovery written by the discoverer. The centerpiece of that program is the study of Classical Greek geometry, from Pythagoras through Archimedes and Eratosthenes, from this standpoint, with heaviest emphasis on the writings of Plato and the work of his Academy.

The characteristic feature of this method of education, is that the student must relive the experience of the original mental act of discovery, rather than learn to recite and apply a formula from the banalities of, for example, today's typical sort of textbook. The mastery of a Classical constructive approach to geometry by this means is the foundation of all successful such education; this approach to the study of geometry provides the student with a sense of scientific rigor, an attainment which can not be duplicated by any alternative means.¹⁹²

190. The Roman killing of Archimedes in 212 B.C., and the more rapid encroachments of decadence within the eastern Hellenic culture during the following century, set off the referenced, preceding two centuries of rise of Hellenism (to gain and hold its power in the region) as exceptional in quality.

191. Gaspard Monge, founder of the Ecole Polytechnique of 1794-1814, and his one-time student and collaborator Lazare Carnot, were products of the pre-Revolution Oratorian Order in France, a teaching institution which intersected the Colbert-founded Académie des Sciences (where Huyghens and Leibniz once collaborated) and the military school. Thus, although Aristotelian fanatics (e.g., Venetian factions) more or less effectively destroyed the Brotherhood of the Common Life during the course of the Sixteenth Century, its influence persisted in other ways. See W.F. Wertz, "On The Brotherhood of the Common Life," *op. cit.*

192. The introduction of the mind-destroying "new math," at the close of the 1950's and early 1960's, brings into a more extreme form a longer-term tendency toward crippling talented minds during their adolescence by means of placing priority upon algebraic methods in establishing the mental habits of mathematical thinking, and also of scientific thinking generally.

Placing a constructive view of geometry at the center of such an educational program, introduces the pupil to the intelligibility of history as shown in terms of the history of ideas. The more readily accessible intelligibility of the internal history of geometric ideas serves as the cornerstone for conceptualizing the historicity of ideas generally. The mathematician may represent this by comparing Euclid's *Elements*¹⁹³ with Legendre's *Eléments de Géométrie* (1794),¹⁹⁴ and Legendre's and Monge's work with that of Jacob Steiner thereafter.¹⁹⁵

The first conception to be adduced from such a scrutiny of geometry is the notion of ordering: "necessary predecessor," "necessary successor." Such a scrutiny should begin with the simpler case, the discovery of new theorems within the same theorem-lattice; this is the case in which no change in axioms or postulates occurs in the passage from one theorem to another. The case of Euclidean plane geometry is the appropriate choice of first step. After completing Euclidean geometry, examine the second class of discoveries, beginning with examination of the transition to the so-called non-Euclidean geometries, such as the Nineteenth-Century changes introduced by Gauss, Bolyai, Lobachevski,¹⁹⁶ and Riemann¹⁹⁷; but, before drawing conclusions on this

193. *The Thirteen Books of Euclid's Elements*, trans. by Thomas L. Heath (1925) (New York: Dover Publications, 1956).

194. Adrien Marie Legendre, *Eléments de géométrie* (1794) (Paris: Firmin Didot frères, 1857); trans. by David Brewster as *Elements of Geometry and Trigonometry* (New York: Gallagher and White, 1830). This was the work written by Legendre to define the program of education in geometry used by the newly founded Ecole Polytechnique of Monge.

195. *Jacob Steiner's Gesammelte Werke*, 2 vols., ed. by Karl Weierstrass (1882) (Bronx, New York: Chelsea, 1971). Steiner is the "father" of a refined form of constructive geometry known as "synthetic geometry." Bernhard Riemann, who studied Steiner's program in systematic constructive (i.e., "synthetic") geometry under Steiner himself, emphasized to Enrico Betti that education in science should be premised upon a mastery of Steiner's work.

196. The cases of Gauss, Bolyai, and Lobachevski are adequately represented in either Gauss' writings, or references to this connection. For a general guide to the *C.F. Gauss Werke*, *op. cit.*, see W.H. Buehler, *Gauss, A Biographical Study* (New York: Springer, 1981). On Gauss' relations to Bolyai and his work on Lobachevski, see also *Carl Friedrich Gauss, Der 'Fürst der Mathematiker' in Briefen und Gesprächen*, ed. by Kurt-R. Biermann (Munich: Verlag C.H. Beck, 1990 [(©) Urania Verlag, Leipzig]), with Introduction (*Einfuehrung*) by Professor Biermann. On Bolyai, see *Einfuehrung* (Introduction), p. 12 (Wolfgang, father) and p. 27 (John, son), and Nicolai I. Lobachevski; see also Letters to Christian L. Gerling #96, #137, and to Wolfgang (Farkas) #99. On Lobachevski, see also Letter #137. On both Bolyai and Lobachevski, see also *C.F. Gauss Werke*, *op. cit.* "Briefwechsel mit Gerling," Letters #337, #338, pp. 666-668.

197. *Op. cit.*

basis of this, examine Leonardo da Vinci's introduction of the notion of geometries of bounded systems,¹⁹⁸ and Kepler's thorough reliance upon this principle.¹⁹⁹

In the discovery of the simpler type, the proof of one theorem of the lattice is a (more or less) necessary formal antecedent to the proof of the second.²⁰⁰ In the discovery of the second type, the relative cardinality of the theorem-lattice defined by their differences in axiomatics is the ordering principle: e.g., rational, algebraic, transcendental, *Alephs*. In the second class of discovery, this relative difference applies not only to the issues of ontology and form of mathematics as such, but to the axiomatics of physics. In the second case, as in the instance of the author's 1952 discoveries, it is the mathematical-physical anomalies which are the point of reference to cardinality.

In both classes, the notion of cardinality is preserved under the ordering of "necessary predecessor," "necessary successor." This is a crucial feature of the formal representation of the intelligibility of discoveries in general.

To begin, compile a partial listing of a fairly narrowly defined set of types of discovery in mathematics and physics, limiting the physics to those cases in which the physical anomaly forces directly an axiomatic issue of mathematics, such as Bernoulli's and Leibniz's 1697 use of the general case of refraction of light to prove the necessity of nothing less than the transcendental domain in mathematics for physics.²⁰¹ Consider then the most relevant expression of the general case, as follows.

198. See, e.g., *The Notebooks of Leonardo da Vinci*, 2 vols., ed. by Jean Paul Richter (1883) (New York: Dover Publications, 1970). Vol. I contains all of Leonardo's entries on the principles of perspective, light and mathematics, light and shade, and all topic areas related to drawing and painting proper. Vol. II contains all applications of these principles to nature and the sciences (astronomy, anatomy, geography, etc.) and the constructive arts (architecture, design, mechanical and military appliances, music, etc.).

199. E.g., *The Six-Cornered Snowflake*, *op. cit.*

200. The apparent exceptions to the rule, on closer examination, merely prove the rule as cited.

201. This cited example is one of the most crucial to be presented to the student in a mandatory introduction to mathematical physics on the secondary level. The student would begin from the Cusa proof of the transcendental character of π , and proceed through Roberval's and Huyghens' treatment of the cycloid. Convenient references are: (Roberval) Evelyn Walker, *A Study of the "Traite des indivisibles,"* (New York: Teachers College, 1932) (available in libraries), with relevant excerpts provided by D.J. Struik, ed., in *A Source Book in Mathematics, 1200-1800* (Princeton, N.J.: Princeton University Press, 1986). (Huyghens) Christiaan Huyghens, *The Pendulum Clock, or Geometrical Demonstrations Concerning the Motion of Pendula as Applied to Clocks*, trans. by Richard J. Blackwell (Ames: Iowa State University Press, 1986); *Treatise on Light* (1690), trans. by Sylvanus P. Thompson (New York: Dover Publications, 1962). Also in

Under the implied rule for Classical Christian humanist forms of secondary education, the student is presented with the personalized historical identity of a discoverer, preferably accompanied by a sculpted, drawn, or photographed image, and a visual insight into some circumstances in which one or more of the crucial discoveries which that historical person effected. The student is induced to relive the experience of discovery; the teacher's function is, most essentially, to situate fairly the elements arrayed at the onset of the discovery. The teacher says: "X solved the following problem, in place P, in the year T; you have the prerequisites to repeat the mental experience of that act of discovery." The source materials, preferably primary ones, are set before the student. The experience begins.

Once the pupil has relived that experience, in that way, the imagined face and setting of that original discovery will remain with the successful student through the remainder of his life. The student has made, thus, the transition from observant layman into the world of science.

Through such repeated experiences, the pupil's mind becomes populated with an assembly of such images of discoverers, the student's private *School of Athens*.²⁰² The content of each such image is a reconstructable memory of the experience of reliving the discovery, or discoveries which the student associates with that image, or set of images. The discoveries so represented by the inhabitants of the student's private "School of Athens" constitute a "Many," in the sense of Plato's *Parmenides*. What is the "One" which corresponds to this "Many"?

*This is the point, beyond which, Venice, and a modern positivist such as Russell, forbids you to tread! There is the source of that prohibition, whose terror crushes the intellects of promising young scientists into an algebraicized state of Newtonian "political correctness."*²⁰³ *This is a process which should be seen as like the use of threat of a colonial power's musketry, for the dumbing-down of wild herds of captive human beings, over several successive generations, into a breed like dumb cows.*

Struik is a translated excerpt from Johann Bernoulli's announcement of his solution to the brachistochrone problem, under the obvious Latin title of "Curvatura radii in diaphanis nonuniformibus," *Acta Eruditorum*, May 1697. The implication is, that the crucial functional appearance of the cycloid in the two cases—the pendulum clock and the refraction of light under conditions of retarded potential for propagation, as shown by Ole Rømer and assessed by Huyghens—requires a change from the space-time of Galileo and Descartes to that of Cusa, Fermat, *et al.*, the non-algebraic or transcendental domain.

202. Cf. LaRouche, "The Truth About Temporal Eternity," *loc. cit.*

203. The reader is reminded, that the German translation for this form of "political correctness" is *Gleichschaltung*.

The establishment of such an *isochronic* relationship with a discoverer's original discovery, spanning a distance in calendar time of decades, centuries, and sometimes millennia, is the means for *transforming the mental act of reliving such a discovery into an intelligible object of conscious reflection*. There is thus the sharing of this experience, not only between the individual student and the original discoverer, but among all those who, from all centuries, have shared such reliving of that same original experience in this isochronic way.

This is what Francesco Zorzi prohibited,²⁰⁴ what Paolo Sarpi's asset Francis Bacon forbade,²⁰⁵ what Newton implicitly banned with his "*hypotheses non fingo*,"²⁰⁶ and what Immanuel Kant abhorred in Leibniz's *Monadology*.²⁰⁷ That prohibition and abhorrence are directed explicitly against the practice of apprehending as intelligible objects of conscious reflection the provably creative processes of mentation.

All these Aristotelians, whether as materialists, empiricists, or modernist logical positivists, demand that the subjects of conscious reflection be delimited to two classes of experience: sense-perceptions and the emotions which are more or less mysteriously attached to those sense-perceptions.²⁰⁸ From this is derived the empiricism of Zorzi, Bacon, Hobbes, Locke, and the radical empiricism of Ortes, Adam Smith, Jeremy Bentham, Thomas Malthus, James Mill, John Stuart Mill, and Bertrand Russell, the "information theory" of Norbert Wiener, and the pseudo-scientific economics of John Von Neumann.

204. Zorzi (Giorgi), *loc. cit.*

205. Bacon asserts in the *New Organon*: "There are and can be only two ways of searching into and discovering truth. The one flies from the senses and particulars to the most general axioms . . . [T]his is now in fashion. The other derives axioms from the senses and particulars, rising by a gradual and unbroken ascent, so that it arrives at the most general axioms last of all. This is the true way, but as yet untried." Aphorism XIX, in *The New Organon and Related Writings*, ed. by Fulton H. Anderson (Indianapolis: Bobbs-Merrill Company, 1960), p. 43.

206. See *Sir Isaac Newton's Mathematical Principles of Natural Philosophy and His System of the World*, revised trans. by Florian Cajori (Berkeley: University of California Press, 1960), General Scholium, p. 547.

207. Kant, *loc. cit.*, *passim*.

208. Among "New Age" varieties of psychologists and sociologists, Sigmund Freud popularized the term "cathexis" for this. The U.N.O.'s mind-destroying "educational reform" sometimes promoted under the rubric of "Outcome-Based Education," is based upon virtually banning all cognitive thought. Out of racists such as the Harvard University circles of Jensen and Shockley comes the dogma that certain "races" are not naturally inclined to cognitive thought, but only to conditioning of their associative-emotional behavior. The New Ager cult-lunacy of "right brain, left brain" originates in the same pseudo-scientific gobbledygook as these referenced U.N.O. and Harvard developments.

In defiance of such Venetian and kindred prohibitions, continue with our subject of this moment, the indicated humanist method of education. Continue to focus upon a constructive geometry as the model topic for such a method. Through the method indicated, the secondary school pupil is becoming acquainted personally with the experience of two types of discovery indicated: those which extend a theorem-lattice, and those which are true Platonic hypotheses, which overturn a lattice of reference.

Most of today's relatively better formal education²⁰⁹ functions somewhat well on the lower level: extending the lattice. This is good, of course. The pupil is taking the historical examples as a model of a method for elaborating propositions which are hewed, if possible, into consistency with a recognized set of underlying axiomatic assumptions. As long as the propositions are rooted in the notion of actual or anticipated measurement of actually occurring processes, this is an indispensable part of the educational process.²¹⁰

Henceforth, the reader should continue to read what is written here, on this subject of humanist methods of education, with the presumption that we are referencing as "humanist" an emphasis upon the use of primary sources as a guide to reliving the original experience of a specific discovery. The essential connection between the two classes of discovery in all uses of this method, is that the pupil is *rendering the quality of those mental processes which generate (and regenerate) that discovery an intelligible subject of conscious reflection*. The difference, is between the species of mental activity which are taken as the subject of conscious reflection. This is the kernel of Nicolaus of Cusa's method of *learned ignorance* (*De Docta Ignorantia*), upon which the emergence of modern science was founded.²¹¹

209. If itself tending increasingly to the exceptional.

210. It is sufficient to note, as a word of caution, that without that mooring in an orientation toward measurement, examining formal theorem-lattices merely from the standpoint of Aristotelian logic can lead into insanity. This is a notorious problem among specialists in mathematics from a logical positivist or related standpoint: they do not go mad despite being "good mathematicians"; they go mad because they are all too devoutly trained in that variety of "mathematical thinking"; the more academic honors they accrete, the greater the danger, the rarer the survivor of that lately increasing mental disorder: "Kronecker's Disease."

211. This is perhaps the place to note, specifically, that the same method is key to Classical fine arts. The failure of many otherwise gifted and learned musicians to grasp the rudiments of Beethoven's method of composition, as employed in most exemplary fashion in his late quartets, can be represented as the same *form* of mental disorder which impedes comprehension of Georg Cantor's work on the transfinite, or Riemann's famous *Hypo-*

In both cases, the result of successive acts of reliving original discoveries is the implied establishment of a proposition in the form of Plato's argument in his *Parmenides*. Let us represent the mental events upon the first level of discovery by L_1, L_2, L_3, \dots , and on the second by A_1, A_2, A_3, \dots . In each case, what is the recognizable (intelligible!) common difference the change between them?

In all scientific work passably worthy of that name, the intelligibility of the first quality of discovery is indispensable to comprehension in exchanges among the collaborators, or disputants. However, in differentiating among the different types of theorem-lattices within which changes of the first order of discovery occur, we are compelled to distinguish among these types according to the second order of change, A_1, A_2, A_3, \dots , the discontinuities (singularities) which are the recognizable mental acts through which the transition from one species (type) from one theorem-lattice to another is effected.

Let us supply the appropriate glossary for what has been just so described. The conceptions are those taken from Plato's works:

Hypothesis: Any term of the series A_1, A_2, A_3, \dots

Higher Hypothesis: The recognizable principle of change which is implicitly defined by any series of axiomatic-revolutionary discoveries, the which is, in turn, commonly generated by the same quality of mental activity.

thesen dissertation. The ontological key to the connection can be discovered only from the humanist standpoint addressed here: *the principle of change represented by the intervals*.

One must think always of tones in their place in the $C = 256$ musical continuum, but we must also be conscious, thereafter, that it is the interval "lying between the notes" which is the ontologically primary event (change) upon which heard music is premised. For example, after Haydn's revolutionary Opus 33, No. 3 quartet, the subsequent event with the greatest impact upon music—up to and into Beethoven's compositions from Opus 102 onward—is Mozart's discovery, through van Swieten's regular Sunday salon, of the six-part *Ricercare* from J.S. Bach's *Musical Offering*. The proliferation of Mozart's compositions, and then of Beethoven and other successors, based directly upon Mozart's combining of Haydn's discovery with Bach's, is the central event of all Classical forms of musical composition from 1783 through Brahms' "Four Serious Songs."

From Mozart's discovery, and Beethoven's own, frequent, pre-Opus 102 elaboration of it, into such works as his Opus 111 treatment of this, his usually misapprehended *Missa Solennis*, and his last quartets, everything depends upon the freshly acquired comprehension of "composing and performing 'between the notes'" as primary, which first emerges clearly in Bach, and in a more advanced way in post-1781 Mozart. From this vantage-point, musical and mathematical creativity are reflections of a common mental substance.

Hypothesizing the Higher Hypothesis: There are different qualities of higher hypothesis, each series distinguished as a type from all others twofoldly: (1) It corresponds to a different generating-principle, a different quality of recognizable act of generation common to all members of that species; (2) It has a relative cardinality ("power") relative to other recognizable such generating principles. Conceptualizing those twofold differentia among different qualities of higher hypothesis, is "hypothesizing the higher hypothesis."

The same method of (Platonic) Socratic hypothesizing obliges us to recognize a correspondingly higher quality of mental existence: the *Good* (Plato) or the *Absolute* (Cantor).²¹² *Change* is knowable (recognizable, intelligible) for the mind of mortal man in the form of *Becoming*. The generalization of man's knowledge of *change* is therefore *hypothesizing the higher hypothesis*. However, the same principle of knowledge obliges us to recognize the efficient existence of an ontologically higher state than *Becoming*. In this latter higher state of existence, all possible *hypothesizing the higher hypothesis* is subject to the defining of a *One* corresponding to a *Many*. This is Plato's *The Good*.

This *Good* has necessarily two knowable (intelligible) qualities. First, all *Becoming* is condensed into a *One*: *all time and all place are condensed into a One*. Since this is comprehended only through that quality of creative mental power by means of which *hypothesizing the higher hypothesis* is intelligibly knowable for mankind, by the quality of *imago Dei/capax Dei*, this *One* has the universal quality of *creative intelligence*.²¹³

212. See *Georg Cantors Gesammelte Abhandlungen, op. cit.*, pp. 204-209 ("Anmerkungen des verfassers zu Nr. 5," of *Über unendliche lineare Punktmannigfaltigkeiten*). Cantor's view on this matter is to be judged by the information that he equates his use of "Transfinite" to Plato's "Becoming."

213. Some Aristotelian, or quasi-Aristotelian hard-heads will insist that "This sounds like Deism to me." So, Pietro Pomponazzi professed that he had no soul, and so atheist Paolo Sarpi, a sponsor of Galileo's method and the sponsor of Francis Bacon's "Zorzian" British empiricism, professed the non-existence of God. Since the idea of the existence of God is not possible within a consistent Aristotelian argument, the Aristotelian can provide a place for the existence of God only outside all logic. This was a crucial, included feature of Philo's valid argument against the folly of Aristotelianism. The Aristotelian's "God" is not the God of Moses and Christ, but, rather of the Delphic pagan apotheosis of Jekyll-Hyde, *Apollo-Dionysus*. (Since Aristotle was an agent of the Cult of Apollo, this connection might not surprise us.) Thus, Dionysus Nietzsche deriding Apollo (Aristotelian formalist) Kant for being a "mandarin from Königsberg," is Mr. Hyde ridiculing Dr. Jekyll. The satanic Nazi, Martin Heidegger of the ultra-leftist school of Horkheimer,

Through submitting to the development principle which is implicit in perfection of and obedience to knowledge in this way, we, as each individual mortal persons, rise above the bounds of time and place to participate efficiently in all history, the history of those ideas which set mankind, as *imago Dei*, apart from and above, with dominion over, all other forms of life. This has been known since before the time of Plato, when the powerful Egyptian Moses²¹⁴ wrote the first chapter of *Genesis*.²¹⁵

What some might deprecate as but Plato's (or, this author's own) "speculation" upon the Good, is readily shown to be a crucial factor in defining knowledge. The following synopsis of that proposition should be sufficient here.

Once the form of intelligibility of Plato's principle of *hypothesis* is shown, as we have indicated the case for that, we have shown how a result may be reached, but without yet supplying the motive for the occurrence of that possible result: *Why should one seek to reach that result? Is the fact that it is attainable, a sufficient motive, in and of itself, for such an effort?*

What is being stated here implicitly, is that, in some sense, individual action is motivated essentially by an effort to affirm one's identity as something more than that of just another individual member of a species of beast.²¹⁶ Plato's notion of the Good puts that motive into not only an intelligible form, but provides us an intelligibly truthful conception of our individual identity

as mediated through that principle of an efficient, intelligent Good, as *capax Dei*, if you will.

Every serious scientist, every serious Classical artist will concede this to be the nature of his or her motivation, if that proposition is represented to them in the way which corresponds to their inner experience.

As reference to Classical humanist education in geometry already illustrates the general case for scientific education, becoming a scientist can occur only through first establishing a very intimately personal, isochronic relationship with discoverers, a relationship which often spans centuries or even millennia. It is a relationship which, by its nature, transcends the mortal bounds of space and time. It not merely transcends such bounds, but transcends them essentially. It is a relationship to nature through these isochronic social relations, in terms of ideas of discovery. It is a commitment to truthfulness, and implicitly a commitment to participate in Plato's Good.

In music, it is the same, but more intimately so. How does one learn music, but through replicating Bach, Haydn, Mozart, Beethoven, Schubert, Schumann, Brahms?²¹⁷ The attempt to replicate the mental experience of discovery of the composer is the essential basis for one's relationship to music as an historical process of development.²¹⁸

The motive is expressed by the happy child's "Why?"
The ability to address mental acts of valid axiomatic

Adorno, and Arendt, is therefore a consistent Tübingen University Aristotelian when he makes room for the release of his infantile, Dionysiac *inneren Schweinhunds* from between the cracks of the Aristotelian formalist's latticework of logicism.

214. Get the picture! Visualize the situation. This high priest, Moses, walks freely into Pharaoh's presence (Exodus 7). On the first visit, Aaron throws a snake into the presence of mighty Pharaoh. The next day, they return to Pharaoh's presence, retrieve the snake, and threaten to turn the waters of Egypt into blood. Next visit (Exodus 8), a pestilence of frogs. Next visit lice ... flies ... boils ... more pestilence ... thunder, hail, and fire ... locusts ... Imagine some priest had prophesied one-one-hundredth as much as any one of these (say a couple of days of acne) to the recently self-proclaimed U.S. Pharaoh George Bush: does one not know what would have happened suddenly to every parishioner of that church! Pharaoh could have told you: Moses was *powerful*.

215. Cf. "The Truth About Temporal Eternity," *loc. cit.*, *passim*.

216. It is sometimes argued, not without grounds, that the motivation is supplied by a sense of one's mortality. The author would object to that as of no more significance than a predicate of the actual motive, the latter a motive which is visibly embedded in the response, a response which reveals an active axiom permeating what it means to have distinctively human powers of consciousness. It is not the questioner who defines the answer, but the character of he who responds.

217. The principle of the Good applies only to the case of Classical composition and its historical antecedents. "Romanticism," like the philosophical empiricism from which it sprang, is based on a rejection of this principle of truthfulness in composition and performance. Modernism is radically empiricist on this account.

218. Some highlights of the author's own musical experience may be helpful in fostering recognition of the more general point being illustrated. During the post-war 1940's, the author took the factional position, on purely musical-content grounds, rather than other documentation, that Mozart's K. 475 Fantasy had been intended to be prefixed to Mozart's K. 457 piano sonata. This led immediately to recognition of the many compositions by Mozart and Beethoven based upon the same "germ" as the combined K. 475/457. Why was the author so excited by this, so driven to discover some higher principle involved? Later, he recognized that Beethoven's method of thorough composition had something to do with the same principle developed by Georg Cantor in mathematics. One of the most exciting moments in his life came more recently, when a friend pointed out the significance of the first movement of Haydn's Opus 33, No. 3. This information put the roots of Beethoven's method of composition in his last quartets into focus. (See "Mozart's 1782-1786 Revolution in Music," *op. cit.*) What is the driving force behind such researches, whence the motive? In these matters it is in the very nature of Classical musical composition, the relationship between the performance of the music today and the composing of that work a century or more ago.

revolutionary and other valid discovery as objects of conscious reflection, is the means by which the higher features of human mental life are made intelligible to us. This can be done only in a social way, and must include a replication of the living experience of discovery by the “dead white European males” who are, for historical reasons, responsible for at least a proverbial ninety percent of the storehouse of scientific knowledge indispensable for continued human survival today.

Yet, as we view the sum-total of human knowledge, we are able to look at the matter more broadly, outside those areas of scientific and musical developments in which the standard of knowledge today was built up chiefly either by Europeans or by others in reaction to European civilization’s contributions to universal culture. Take ancient Indo-European language, for example.

The solar-sidereal calendars embedded within the system of ancient Vedic hymns afford us a sense of the antiquity of a highly developed Indo-European language. This connection was actively under study as early as Kepler’s attention to those calendars.²¹⁹ That content of the hymns, and related information concerning astronomical fragments in the *Zend Avesta* from an earlier time,²²⁰ dates the kernel of those hymns surviving into literary times. The dating is within the period the Vernal Equinox was in the constellation of Orion; as Tilak argues from his sources, this would be between 6,000 and 4,000 B.C.²²¹ Similarly, in the case of pre-historic China, the standing analysis on the antiquity of China’s solar-sidereal astronomical calendars is that given by Edouard Biot and Gustav Schlegel, which places those at about the beginning of the melting of the glaciation (c.17,000-18,000 B.C.).²²²

219. The analysis of the astronomical picture to be adduced from these Vedic sources was virtually completed during the lifetime of Gauss. These were the sources referenced by Bal Gangadhar Tilak in his *The Orion; Or, Researches into the Antiquity of the Vedas* (1893), 5th ed. (Poona: Shri J.S. Tilak, Tilak Bros., 1972). See also, his *The Arctic Home in the Vedas, Being Also a New Key to the Interpretation of Many Vedic Texts and Legends* (1903) (Poona: Tilak Bros., 1956).

220. *Ibid.*

221. *Ibid.*

222. The French scientist Edouard Biot and the Dutch philologist Gustav Schlegel, proved from evidence in the Confucian classics that astronomical science was already highly developed in the Third Millennium B.C.; and Schlegel’s research led him to hypothesize that significant mapping of the heavens existed at the extremely early date of the Seventeenth Millennium B.C. Joseph Needham’s attack on these datings [*Science and Civilization in China* (London: Cambridge University Press, 1954), Vol. III] is transparently scurrilously incompetent in method, and therefore not to be considered seriously; see Michael Billington, “The

A literate form of spoken language, as the school of August Boeckh, the von Humboldts, *et al.*,²²³ elaborated the Indo-European case, is already a highly sophisticated development, more advanced in design than any formal mathematics yet developed. The point can be made clear, on the condition this matter is examined from the vantage-point of what we have stated here, using mathematical formalism as an example.

The use of a name or phrase to signify a mental object (as distinct from a mere sense-perception) is the essential quality of *metaphor*.²²⁴ In the case of mathematical ideas, as treated above, all ideas are of this quality of metaphor: a mathematical representation of a discovery is a metaphor for the mental object which is the original (or replicated original) act of discovery. Nothing shows the applicability of this to language in general better than Classical forms of poetry.²²⁵ The function of the so-called “non-plastic” Classical art-forms, which are premised entirely upon this principle of metaphor in language,²²⁶ in successful types of cultures illustrates the point: the role of these in both the education of leaders, and in the broader social life in general.

Taoist Perversion of Twentieth Century Science,” *Fidelio*, this issue, p. 79.

223. For a convenient English text on Wilhelm von Humboldt and the orbit into which Boeckh’s work fitted, see Paul R. Sweet, *Wilhelm von Humboldt, A Biography*, 2 vols. (Columbus: Ohio State University Press, 1980).

224. The use of the literal name of one object to name a different object, is but a special case of this, the exception which reveals the rule. For one object to bear the name for another, if this substitution is meaningful, rather than only arbitrary playfulness, signifies an effort to show that the two different objects are predicates of a common mental object, as distinct from a sensual one.

225. During the author’s recent visit to Weimar, a copy of Goethe’s *Mailed* was seen affixed by the curators to a wall of the museum which had been the poet’s residence there. Nothing illustrates the principle of metaphor in poetry more simply, more intelligibly than the role of the concluding couplet of the most popular and typical short Goethe poem. The present author adopted this use of “metaphor” for all representations of mental objects (as distinct from mere sense-perceptions) circa 1947, as his own interpretation of the argument put forth in William Empson, *Seven Types of Ambiguity* (New York: New Directions, 1947).

226. Music is an integral aspect of all language. Music is derived from the singing of Classical poetry according to the natural principles of vocalization. The existence of five ordinary, and, in the extreme, six distinct, natural species of singing/speaking voice, each defined by its own distinct, characteristic array of *bel canto* mode register-shifts, defines natural polyphony, and the well-tempered system as discovered by J.S. Bach, through his work on contrapuntal ensembles’ singing voices of people and their artificial instruments. Music is derived from the singing of Classical epic and other poetry, using the vocalization of the spoken terms as the implicit musical scoring.

The relevant argument may be summarized briefly as follows.

We have noted above: the characteristic of human existence, the conclusive proof setting mankind absolutely apart from and above the beasts, is the role of a certain quality of *ideas* through which our species is uniquely enabled to generate increases of potential relative population-density.²²⁷ These ideas belong, in each particular instance, to classes which may be symbolized by formal theorem-lattices or analogous forms. The passage from one such class to another class of higher relative "power," is known as cultural progress. These classes are otherwise describable as "cultures." That supplies the significance of "cultural progress."

The phenomenon of "cultural progress" is not a side-wise movement from right to wrong. Any change which increases the potential relative population-density of a people can not be entirely "wrong." Rather, that which supersedes is derived from superseding its predecessor, which latter is the launching-pad from which the creative leap is effected. "Wrongness" is an idea which must be associated with stubborn "backwardness," or even with Thoreauvian, Spenglerian, or other variety of existentialist regression to a "Walden," or analogous sort of cultural cesspool.

Among "ideas," we must distinguish between conditioned habits for intellectual interpretation of sense-perceptions, as distinct from ideas which correspond entirely to mental objects. It is the mental objects which reflect immediately the set of axiomatic assumptions defining that class of ideas as a whole, that culture, which are of primary interest to us. It is this higher class of ideas which must be placed at the center of our investigation of any specific culture, such as our own.

Consider one of the author's long-standing classroom favorites: the cultural transformation of the perception of a rock from a mere "rock," to "ore."²²⁸ The object of perception remains the same; the perception changes. Culturally determined judgment is integral to perception. Nonetheless, despite such changes, something of the old is passed to the new. Since all of this aspect of culture appears in knowledge solely as metaphor, all human knowledge must be viewed as an accumulation of metaphor. It is metaphor which shapes language, although the degree of literacy in form of language

delimits the quality of ideas which can be identified by means of language. It is this accumulation of "*Alephs*," metaphors, which is the increase of power of a language achieved through increased literacy.

The point to be stressed here, for purposes of limiting the body of the text, as much as possible, to the object in view, is the notion of the intellectual potentialities of a literate form of modern language, such as the Indo-European group: the "power set" thus represented by the accepted use of that language *per se*. This, a literate language, the author wishes to stress, is a heritage of awesome import, which embodies within it the included handiwork of long-lost generations from the very beginnings of human existence.

As we must presume Dante Alighieri would have concurred, a literate form of such a language, expressed as true Classical poetry, is already the highest form of mathematics the human species has ever possessed. All ideas are metaphors, and language is the mathematics of metaphor. The greatest calculus is that of the tragic dramas of Aeschylus, Marlowe, Shakespeare, and Schiller.

F. Antonio Conti and His Salon*

Our attention here is focussed primarily upon approximately a century of British history, beginning Abbot Antonio Conti's rise to great influence over England's destiny, at the beginning of the Eighteenth Century, and concluding a decade after the 1790 death of Giammaria Ortes. The conclusion of that Eighteenth-Century interval is marked chiefly by three relevant events: (1) the 1798 publication of Thomas Malthus plagiarism of Ortes' 1790 *Riflessioni*²²⁹; (2) Napoleon Buonaparte's dissolving the existence of Venice as a state; (3) the emergence of post-Italian-campaign Napoleon to power, in search of his Caesarian dynasty in a new Roman world-empire.²³⁰ It is a period which begins with the maturity of Conti, and which ends more than a decade prior to the key role of Venice's plenipotentiary agent, Count John Ca-

* See END NOTE, p. 75.

229. Ortes, *Riflessioni*, *op. cit.*

230. Napoleon came out of his campaigning in Italy like Caesar returned from Gaul. In Julius Caesar's footsteps, he went to Egypt, and then sought to become Caesar. However, meanwhile, according to the suggestions of Ortes, Shelburne's Gibbon had been assigned already to write a handbook of guidance to those engaged in establishing London as the capital of the Third-Rome empire. As to the interesting scientific role of the Ecole Polytechnique in Napoleon's Egypt campaign, that is another topic, another heritage, for which one must turn to study of the global strategic policies of Gottfried Leibniz.

227. LaRouche, *So, You Wish to Learn*, *op. cit.*, pp. 23-39.

228. Those who passed through the author's one-semester course of the 1966-1973 interval will perhaps smirk at this reminiscence. Certain pedagogical ruses, when apparently successful in one semester's course, tend to be carried over to the next, and to the next, and . . .

podistria, at the Congress of Vienna. This is the century during which British government replaced English self-rule, the century during which the ideological and political institutions of an emerging world-empire were set into place. This is the pivotal century of modern history to date, approximately two centuries after the League of Cambrai and about two centuries prior to the looming collapse of today's global, Venetian-style financial system.²³¹

It is upon these connections, of this period, on which attention must be focussed, to define the origin and influence of those radical-empiricist conceptions which have defined the British Empire, its founding, and its aftermath, from the accession of George I as the first British monarch, to the present date. Therefore, first, briefly, situate that British century, 1700-1800, within the six centuries' span as described earlier.

The history of modern England and its successor, Britain, begins with the defeat of England, Burgundy, and Spanish opponents by the King Louis XI who established modern France as the first nation-state. Louis XI's victories, and his stunning successes in economic development, inspired imitation of his successful venture among crucial circles in Spain and England, notably the circles around King Henry VII. This established a common interest and collaboration among France, England, and Spain, which was later broken, during the interval 1517-1527, by Venice's intrigues inside the court of Henry VII's successor, King Henry VIII.

That process, which begins with the presentation of the Howards' bait to the susceptible King, marks a discontinuity within the history of England, and of Europe as well.

In shorthand, the setting for the study of the Eighteenth Century, the five centuries' history of European civilization since the collapse of the League of Cambrai, can be conceptualized in terms of the following highlights.

From circa 1517-1527, until the 1815 sessions of the Congress of Vienna, all of European history is dominated by a Venice-orchestrated circumstance of general warfare, both civil warfare, such as that within England over the period from Henry VIII's Venice-sponsored marriage to Anne Boleyn through the Essex affair and political assassination of Christopher Marlowe, and international wars, such as the Hapsburg looting of Rome,

the Venice-orchestrated "Peasant War" in Germany, and the wars among Hapsburg Spain, France, and England, and the Netherlands.

The reflection of this process into England itself defines five *relatively distinct* periods, to the present date, in the history of England-Britain since A.D. 1517. The first, from c.1517-1527, Venice's takeover of Henry VIII, through approximately the time of the 1589-1603 coups orchestrated by Paolo Sarpi's circles, to secure the succession of James VI of Scotland to the English throne. The second, from the accession of James I (and Francis Bacon's mob) through the interval 1666-1689, culminating in the "Glorious Revolution" and accession of William of Orange. The third, the transition from the accession of William of Orange through the victory of the British Empire (in fact) at the 1815 Congress of Vienna. The fourth, the rise of London's world-empire, 1815-1914. The fifth, to the present, London's post-1914-1918 drive to dissolve the British Empire into the safe haven of a larger, global world-federalist dictatorship controlled by Venetian-British radical ideology: a utopian goal first sought through the abortive League of Nations, and, later, the United Nations Organization.

Conti emerges as a figure prominently involved in the shaping of future history approximately at the outbreak of the Venice-orchestrated "Marlborough Wars" of the "Spanish Succession." Here, we are focussed upon the historical significance of those radical-empiricist conceptions which Ortes' influence established as the reigning doctrine of British global policy, from the last quarter of the Eighteenth Century down through the present-day proposal for the adoption of Ortes' 1790 population dogma as the enforceable law of a worldwide imperial tyranny known as the U.N.O..

The kernel of this inquiry is: how did the radicalism of Conti's Eighteenth-Century circles differ, and to what effect, from the earlier forms of Venetian empiricism, such as the Aristotelianism of Pomponazzi, the Kabbalistic empiricism of Francesco Zorzi, the empiricism of such Rosicrucian cultists as Francis Bacon, Robert Fludd, Thomas Hobbes, Elias Ashmole, John Locke, and Isaac Newton, or the early-Eighteenth-Century empiricism of David Hume?

The topics addressed in the preceding five sections have prepared us to attack now those kernel-questions which we have just posed.

The common trait of the Canaanites of Tyre, of the Roman Empire and its Byzantine successor, of medieval Venice, and of such Venice-controlled corporations as the Portuguese, Dutch, and English trading companies, is traffic in slaves. This was the pedigree and heritage

231. Lyndon H. LaRouche, Jr., "The coming disintegration of financial markets," *Executive Intelligence Review*, Vol. 21, No. 26, June 24, 1994.

of England's Levant Company and of its successors, the Bank of England, the Eighteenth-Century British East India Company, and the Barings bank of the evil William F. Petty, the Second Earl of Shelburne. This is the heritage of the author of Aristotle's overt apology for evil, his *Ethics* and his *Politics*. The practice of, and apology for, the practice of slavery or kindred forms of usury, is the common attribute of a form of society which is truly evil, a form of society common to ancient Tyre, Lycurgus' Sparta, the Roman Empire, Venice, and the thoroughly Venetian Anglo-Dutch "India" companies.

The essence of the methods of "dumbing down" slaves, of subject nations, and of U.N.O.-designed "Outcome-Based Education" applied to would-be victims of a U.N.O. world-dictatorship,²³² is the vicious suppression of the creative powers of reason, those distinctively human mental capabilities which are expressed typically in the form of valid axiomatic-revolutionary discoveries in physical science.

That has been the role of Delphic Aristotelianism since the time of Plato's Academy, and the role of Parmenides' Eleatic and the Sophists' schools of anti-Pythagorean formalism earlier.²³³ That is the significance of the Venetians' creation of the fame of Galileo and his English parody, the Kabbalist Isaac Newton²³⁴; that is the significance of the *Critiques* of Kant. That is the precise significance of Newton's *hypotheses non fingo*.²³⁵ That is the method of Norbert Wiener, John Von Neu-

mann, and other founders of the pseudo-scientific "artificial intelligence."²³⁶ That is the significance of the Conti circles' radical use of the algebraic methods associated factionally with Galileo and Newton as the basis for delimiting all forms of allowed human behavior.

An insight into the crucial sociological features of the slave-trade is key to understanding the philosophy of the United Nations Organization's utopian efforts at world government today, and is key to understanding the motivating world-outlook of Conti, Ortes, Adam Smith, Jeremy Bentham, Bertrand Russell, and their like.

Remember! How does one transform a corral filled with yesterday's raw crop of captured slaves into a relatively docile collection of tamed human cattle? Societies based upon the practice of slavery employ the same methods required for breeding down wild herds into domesticated dumb beasts prized for their milk, meat, and docility. Colonialism, such as that of the Eighteenth- and Nineteenth-Centuries' British Empire, applies these methods of slave-breeding to the taming, the dumbing-down of entire subjugated nations. The same colonialist methods were applied to the defeated, as both occupation and post-occupation policies, by the victors at the 1815 Congress of Vienna, and of the two World Wars of this century. This was the method applied to Argentina in 1982, by Britain's Prime Minister Margaret Thatcher (and her Lord Carrington), the same method applied to Iraq, by her and her familiar George Bush, in 1990-1991.²³⁷

232. The United Nations aided the design of Outcome-Based Education (O.B.E.) via the work of Robert Muller, a former deputy secretary who is now Chancellor of the University of Peace, an institution related to both the U.N.O. and the U.N.O.-connected Lucis Trust (formerly Lucifer Trust). For this and an overview of O.B.E., see "Will You Allow Your Child To Be Spiritually Molested?" *op. cit.*

233. Aristotle was trained at the center of the teaching of sophistry in Athens at that time, the School of Rhetoric of Isocrates. This School was a leading philosophical and political adversary of the Academy of Athens. Aristotle was deployed from the School of Rhetoric to infiltrate Plato's Academy. Aristotle's writings, not only his infamously oligarchical *Ethics* and *Politics*, but also his so-called scientific works, are a thoroughly anti-Socratic expression of the same sophistry promoted by the Delphi agents of that time, such as the School of Rhetoric.

234. As noted in the author's "History As Science," *op. cit.*, the monetary theorist John Maynard Keynes was entrusted with the assessment of a chest of Isaac Newton's private scientific papers. Keynes, opening the chest, was shocked to find the scribbles of a superstitious lunatic, a Newton whom he described, in his report, as "the last of the magicians, the last of the Babylonians and Sumerians . . . wholly devoid of scientific value"; see "Newton the Man," in *Newton Tercentenary Celebrations* (Cambridge: Cambridge University Press, 1947), pp. 27-34.

235. Newton, *op. cit.*

236. See Norbert Wiener, *Cybernetics, op. cit.*; John Von Neumann, *The Computer and the Brain (Stillmann Lectures)* (New Haven: Yale University Press, 1958); Alan Turing, *Mechanical Intelligence*, (New York: Elsevier North-Holland, 1992); Marvin Minsky, *Artificial Intelligence* (Eugene: University of Oregon, 1973); Noam Chomsky, *Cartesian Linguistics: A Chapter in the History of Rationalist Thought* (New York: Harper and Row, 1966); and Kenneth Colby, *Artificial Paranoia: A Computer Simulation of Paranoid Processes* (New York: Pergamon Press, 1975). See footnote 248.

237. The issue behind the British orchestration of the Malvinas War against Argentina, in 1982, was London's effort to push through a new NATO doctrine called "out-of-area deployment," signifying the use of NATO military forces outside the delimited areas of operations designated by existing NATO treaty-agreements. London, eyeing the oil-rich regions of Argentina's Atlantic shelf, chose Argentina as the target for a precedent-setting operation. The "bait and switch" was set up through Lord Peter Carrington, one of Mrs. Thatcher's highest-ranking controllers of that time, and her Foreign Minister "Palmerston" of the moment. Secretary of State Alexander Haig, a former protégé of London's Henry Kissinger, was used to assist this operation. London "let it be known" to the ruling Argentina junta, that London might turn a blind eye to Buenos Aires simply taking the contested Malvinas islands; both direct British channels and Haig were used to foster this. Once Argentina took the British

The Eighteenth-Century radical empiricists' use of "the methods of Galileo and Newton" to retard creativity in all fields, not only physical science, is the central feature of British imperialism's Venetian strategy for "dumbing down" the human species globally to a level of readiness for world-government. Once the implications of this detail of the radical-empiricist method is made clear, the rest of British imperialist and related policy is readily understood, including the methods of "dumbing down" slaves and for British brainwashing of other subject populations, such as that of the Twentieth-Century United States.

Consider in this light the principal successive changes, from the mid-Fifteenth-Century attack on Nicolaus of Cusa by John Wenck,²³⁸ into Ortes' injection of radical empiricism into London. Here lies the key to Bertrand Russell; here is the detail in the devil.

Pomponazzian Francesco Zorzi's 1525 *Harmonia Mundi*, a Kabbalistic attack upon Cusa's *De Docta Ignorantia*, is the first known point of origin of empiricism *per se* inside England.²³⁹ From this point on, from Zorzi through Bacon, Locke, Francesco Algarotti,²⁴⁰

bait, Britain was able to secure full support of the U.S. government for a colonial war of subjugation, and the subsequent "taming" process, against the Republic of Argentina. Thatcher and Bush repeated the exact-same "sandbagging" technique to set up the 1990-1991 "out-of-area deployment" against, and prolonged colonial occupation of, Iraq.

238. See Jasper Hopkins, *Nicholas of Cusa's Debate With John Wenck, A Translation and an Appraisal of De Ignota Literatura and Apologia Doctae Ignorantiae*, 2nd ed. (Minneapolis: Arthur J. Banning Press, 1984). Hopkins' work is invaluable as a scholarly treatment of this topical area, but the reader should be cautioned that this is by no means a blanket endorsement of Hopkins' commentary here: the skater must be alert for some not entirely surprising philosophical thin ice here and there on crucial conceptions of Cusa's Platonic method.
239. Zorzi, *op. cit.* As translated by Frances Yates: "Those who retreat from the direct knowledge of the universe will retreat into the *Docta Ignorantia*" [Frances A. Yates, *The Occult Philosophy in the Elizabethan Age* (London: Routledge and Kegan Paul, 1979)]. This statement foreshadows the same argument in Francis Bacon, who denounces the deviation from sense-perceptions into consideration of mental phenomena, such as metaphor, as objects: How could anyone seek to sustain insistence upon the myth that Bacon actually wrote Shakespeare's works after comparing Shakespeare's work with Bacon's attacks on metaphor! It should not be imagined that Kabbalism originates in Judaism; it does not. Moreover, the English Kabbalists of the Sixteenth and Seventeenth Centuries were a stoutly anti-semitic crew centered, from no later than mid-century, at Cambridge and Oxford universities, and also, in Elizabethan times, in Walsingham's intelligence service.
240. A significant player in the circles of Conti and Ortes. Born in Venice 1712, died in Pisa, 1764. In 1726, he began studies in Bologna under the circles of Ortes' patron, the leading apologist for Galileo, Abbot Guido Grandi. Achieved fame in 1729, with his adulation of Conti's protégé, Isaac Newton: "Saggio sopra

Ortes,²⁴¹ Adam Smith, and British foreign-intelligence chief Jeremy Bentham, James Mill, the British and Vienna utilitarians, the French positivist followers of Abbot Moigno, and Bertrand Russell, all empiricism and its existentialist derivatives is based upon this argument set forth by Zorzi.²⁴²

It was not until Paolo Sarpi that we see a consistent effort by Venetians to erect a systematic empiricism as an anti-science against the modern science established by Cusa, Pacioli, Leonardo, and Kepler. Briefly, summing up the case: Toward the end of the Sixteenth Century, Venice moved in against the Classical current in Renaissance music, co-opting the son of the musician Galilei in the same general time-frame that the talented Claudio Monteverdi was transformed into a pre-Wagnerian pagan.²⁴³ In this batch, Venice picked up and "turned" a former student of Johannes Kepler's work, Galileo Galilei, whom Kepler had come to know through Kepler's own earlier studies in music under Galileo's father. Sarpi protégé Galileo reworked information he had received from Kepler, perverting it to remove all traces of the Platonic method which Kepler had employed to make these discoveries.²⁴⁴ Thus, under

la durata dei reighi dei re di Roma." Appears in Paris in 1735 as an acquaintance of Voltaire and of the Maupertuis from whom Ortes adopted features of his own hedonistic calculus. Visits England, meeting with Conti's network of Newton-fad-dists there.

241. Giammaria Ortes, born in Venice, 1713, entering the Camaldolensian monastery of Murano as a novice in 1727. Died 1790. During 1734-1738, a student, at Pisa, of Camaldolesian professor of physics Abbot Guido Grandi. Praised as an economist in Karl Marx's *Capital*, Vol. I, chap. XXV, sec. 4; Marx lays emphasis upon Ortes' second general work on economics, the 1777 *Della economia nazionale libri sei*, published after the 1776 *Wealth of Nations* of Ortes' student Adam Smith. Author of the 1790 *Riflessioni* (*op. cit.*) upon which the currently proposed U.N.O. Cairo Population Conference draft is based (as distinct from Thomas Malthus' more famous 1798 parody of Ortes' work).
242. The reader should be reminded, that, also with the existentialists of Nietzsche's Vienna following, the gentle Delphic art of Aristotelian formalism corresponds to the Apollonian side of the pagan Jekyll-Hyde cult of Apollo-Dionysus, Apollo-Osiris, Apollo-Python, Apollo-Satan. Even the late Bruno Walter, whom one might have taken for a genial and honest man, effused the babbling nonsense of this crew of Nietzscheans and Wagnerians, publicly, on a New York City radio broadcast, stating the unmusical proposition, that whereas Brahms "was an Apollonian," Beethoven "was a Dionysian." There have been, unfortunately, those conductors who have contrived to perform Beethoven as if his works had been composed by either Nietzsche's *Silenus*, or, worse, Stockhausen! Beethoven was, in his own way, a devoutly Christian adversary of the pagan deities, a *Promethean* bringing the fire of creative genius to mankind in defiance of all of the pagan gods of Olympus.
243. E.g., "The Coronation of Poppea."
244. Galileo Galilei, *Dialogues Concerning Two New Sciences* (1638),

Sarpi's patronage and direction, was born the mechanistic or empiricist school in algebraic physics.

The open assault upon science by Sarpi's protégés is centered most prominently in three published writings of the early-Seventeenth Century: Francis Bacon's *New Organon (Novum Organum)*,²⁴⁵ Robert Fludd's Rosicrucian parody of Zorzi's Kabbalistic *Harmonia Mundi*,²⁴⁶ and Galileo's *Dialogues. . .*²⁴⁷ All of these have in common two features: (1) They reaffirm the Aristotelian standpoint of empiricism, that of Wenck, Pomponazzi, and Zorzi, insisting that only "induction" from sense-perceptions is permissible; that mental objects must be excluded from consideration. (2) They insist that arithmetic and algebraic methods of Aristotelian deduction (and induction) are the exclusive basis for measurement of the cause-effect relations inferred from simple sense-perception.²⁴⁸

Out of this Jacobite crew of Rosicrucians, Bacon, Fludd, Thomas Hobbes, and Elias Ashmole, the original Ashmolean cult of British speculative Freemasonry was spawned during the 1640's.²⁴⁹ Out of the same British branch of the Stuart Rosicrucian cult²⁵⁰ came the London

trans. by Henry Crew and Alfonso de Salvio (New York: Dover Publications, n.d.). Exemplary of the empiricist method of Sarpi's protégés, is the case of Galileo's and Newton's shared fraudulent claims to have discovered universal gravitation. For a demonstration of the way in which this Galileo-Newton hoax was constructed, see Lyndon H. LaRouche, Jr., *The Science of Christian Economy*, chap. VII, notes 7-9, in *The Science of Christian Economy and Other Prison Writings*, *op. cit.*, pp. 471-473.

245. Bacon, *op. cit.*

246. Robert Fludd, *Harmonia Mundi* (1527). See Johannes Kepler, *Harmonice Mundi*, Book VI, for the reply to Fludd's attack; Johannes Kepler, *Harmonice Mundi* (1619) German trans. by Max Caspar as *Weltharmonik* (Munich/Vienna: R. Oldenbourg Verlag, 1982).

247. Galileo, *op. cit.*

248. This ruse later served as the assumption employed for defense of the idea of a mechanical "artificial intelligence (AI)," beginning the 1930's work of formalists such as Alan Turing (e.g., "Turing machines"). Since, as Gödel (1931) showed the implicit impossibility of simulating the human mind mechanically, the defenders of AI retorted with a proposal to ignore all aspects of human mentation which could not be reduced to "algorithms" of which they approved. Thus, out of the combined work of AI zealot Marvin Minsky and Russell follower Noam Chomsky at M.I.T., came researcher Kenneth Colby's computer model, which neatly simulates cognition-free, associative-emotional types of psychotic behavior! See footnote 236.

249. For which the Ashmolean Museum is named, of course.

250. The putative origins of the cult are in the early-Seventeenth-Century Palatinate, where, ostensibly, the myth of "Christian Rosenkreuz" was either spawned, or first found notable support. It is a medley of gnostic cults, all relying upon the methods of symbolic magic, and heavily saturated with heirlooms of the Bogomil and other cults proliferating in the Burgundian and Pyrenees regions. Adolf Hitler, like others associated with the Nordic Vrli society, was a patron of this cult.

Royal Society of John Locke, Kabbalist Isaac Newton, *et al.* The Society was established by these British Rosicrucian heirs of Bacon and Fludd, to combat the forces of "continental science," the latter a catch-all term for the work of Cusa, Leonardo da Vinci, Kepler, and, later, Desargues, Fermat, Pascal, Huyghens, Leibniz, Johann Bernoulli, Legendre, Monge, Gauss, Riemann, Weber, *et al.* Newton's *hypotheses non fingo* is the tell-tale symptom; the method of discovery is banned. Wherever that tell-tale symptom is presented, the methods of the slave-master are at work: the dumbing-down of scientists is in process.

That is the general development of empiricism up to the appearance of Conti's circles. First, it appears as the corrosive Aristotelianism of Wenck, Pomponazzi, and Zorzi: an anti-science attack upon the Renaissance's philosophical flank and theological flank in general. Then, following Zorzi's influence in Henry VIII's England, toward the end of the century, under Paolo Sarpi, there is the attempted political takeover of existing science, using the empiricist methods of Bacon, Fludd, and, later, Newton. Then, enter Conti *et al.*

Conti comes on stage²⁵¹ during the last gasp of Venice's military power under such notorious houses as the Mocenigo and Morosini. There is no apparent reason to quarrel with the commonplace view that the 1699 Peace of Karlowitz was the high-water mark for Venice on this account. In the wake of these wars of conquest in the Peloponessus, although Venice stagnated in its own decadence at home, its intelligence apparatus abroad is estimated to have increased in power and influence into the middle of the Eighteenth Century. In this circumstance, Venetian nobleman Antonio Conti emerges as a growing power in the internal life and foreign affairs of France, England, and Germany.

It is Conti, eventually a member of the London Royal Society, who organizes the attempts to defame Leibniz, and, in that connection controls the British side of the famous debate-by-correspondence among Leibniz, Samuel Clarke, and Newton. It is Conti's circle which deploys the famous Venetian boudoir agent Giacomo Casanova against the court and person of France's Louis XV. It is Conti who coordinates the Venetian agent Abbot Giuseppe Riva in operations against Leibniz inside the circles of Hanover's Venetian dupe, George Ludwig, that Venetian dupe who became the first British monarch, George I. It is Conti who controls agents such as Francesco Algarotti and Giammaria Ortes; it is Conti's network, continuing after his death, which deploys the

251. b. 1677, d. 1749.

notorious Count Alessandro Cagliostro against the monarchy of France's Louis XVI and the King's wife, Marie Antoinette.

As noted earlier, Conti and his salon had two primary adversarial targets, the nation of France, and the person of Gottfried Leibniz. Otherwise, Conti and his mob of agents had one principal undertaking, revolutionary transformation of already existing empiricism into a truly radical form of counterculture, basing the form of this transformation upon general application of the algebraic mechanistic methods of Galileo and Newton.

This was the circle of Venetian agent-controllers which produced the French Physiocrats and the networks of Voltaire. These were the coordinators of the Orléans faction of Jacobin leader Philippe Egalité. Conti's circle were the necromancers who took the deceased Galileo from his cozily warm repose in Hell,²⁵² and apotheosized a Newton out of that gentleman's richly deserved obscurity. These were, in fact, the creators of Jacobinism itself, as Karl Marx would have been most pleased to learn—if Marx's British-intelligence controller Urquhart did not indeed confide this somewhat delicate information to him.²⁵³ Apart from these details, the primary historical significance of Conti's circles today, is their successful hoax, their fraudulent apotheosis of Galileo and Newton, as a central figure of their initiation of Shelburne's apparatus into the mysteries of radical empiricism: the hedonistic calculus.

We have indicated the nature of the distinction between the overtly anti-science philosophical and theological bias of the early-Sixteenth-Century Venetian Aristotelians, and the use of the same empiricist method to take over political control of institutions of science, under Paolo Sarpi *et al.* at the beginning of the Seventeenth Century. The emergence of radical empiricism represents a similarly well-defined change from the form of empiricism characteristic of the preceding Seventeenth and early-Eighteenth Centuries. One aspect of this difference, the radicals' break with cautious deference to custom, has been addressed earlier here; the second, the

Conti circle's growing emphasis upon the mechanistic algebra of Galileo, Descartes, and Newton has been identified, but wants to be stressed a bit more for purposes of clarity now.

The simplest way in which to demonstrate the practical implication of the difference, is to examine the modern history of "Malthusianism."

It should be conceded that the history of population control is very ancient, and very pagan. Typical, is the method of the Canaanites of Tyre, the worshippers of Moloch and kindred images of self-degradation. There is the Tyre-like conduct of Herod, as summarized in the *Gospel According to St. Matthew*, Chap. 2. During the recent two thousand years of European history, the first "Malthusian" law similar to what is proposed for the U.N.O. Cairo Population Conference, was the "socialist" decrees of the Roman Emperor Diocletian.²⁵⁴ In modern European history, the center of population-control policies of this sort has been consistently Venice. The beginning of Malthusianism in Britain was imported from Sixteenth-Century Venice, in the form of the 1606 English translation of Venetian Giovanni Botero's "*Delle cause della grandezza e magnificenze della città*" (1588).²⁵⁵

As Schumpeter notes, Botero's population policy was adopted by the most influential, Venice-linked grandfather of Jeremy Bentham's and Thomas Malthus' Shelburne, William Petty, in his 1682 "Essay Concerning the Multiplication of Mankind."²⁵⁶ Through the influence of this Petty and such radiations of that as through Adam Ferguson,²⁵⁷ this form of the Malthusian dogma was already in circulation in Britain prior to the arrival of the writings of Ortes.

That Thomas Malthus parodied Ortes' *Riflessioni* is beyond doubt. More significantly, Charles Darwin's work in biology was premised explicitly upon Malthus' *An Essay on Population*. The social and political philosophy of the eugenicist movement, including the political philosophy of the Harriman and appended Bush families

252. The sub-circle around Abbot Guido Grandi negotiated the rehabilitation of Galileo, which occurred in 1757.

253. See footnote 30, "Lord Palmerston's human zoo." In any case, Karl Marx had been warned of the fact that his organization, the Mazzinians, were controlled by Lord Palmerston's Bentham-founded British former intelligence service, through Heinrich Heine's famous exposure of the case of Ludwig Börne ["Ludwig Börne, Eine Denkschrift" (1840), in *Heinrich Heine, Sämtlich Schriften in Zwölf Bänden*, ed. by Klaus Briegleb (Munich: Carl Hanser Verlag, 1976), vol. 4]. Marx refused to accept the evidence, of course, since it would have obliged him to face the somewhat disconcerting fact that he, too, was nothing more than an agent of Britain's Lord Palmerston!

254. See footnote 49.

255. Giovanni Botero (1544-1617). Although he studied Aristotelianism with the notorious follower of Pomponazzi, Bellarmino, the Jesuit order showed an aversion to Botero, and refused to accept him as one of their own. Although a Venetian agent closely tied to Paolo Sarpi, he was officially an agent of the House of Savoy throughout his adult life. The significance of Botero in introducing Malthusianism into Seventeenth-Century England is emphasized in Joseph A. Schumpeter's *A History of Economic Analysis* (New York: Oxford University Press, 1955).

256. Karl Marx, *Theories of Surplus Value, I: Addenda*, [3.] Petty, Sir Dudley North, Locke (Moscow: Foreign Language Publishing House, n.d.). See also Schumpeter, *ibid.*

257. Adam Ferguson, *An Essay on the History of Civil Society* (1767) (Edinburgh: Edinburgh University Press, 1966).

in their 1930's support of Adolf Hitler, and in U.S. political and juridical life generally,²⁵⁸ is premised upon blind adulation of Darwin as a "Malthusian." Malthus-adulator Darwin has been superimposed arbitrarily, officially, and widely upon the theory and teaching of biology. Yet, the elaborated conception of "carrying capacity" embedded in the Hitler-like pro-genocidal U.N.O. proposals for the 1994 Cairo Population Conference is adduced not from Malthus' text, but rather that of Ortes. What is specially significant about Ortes on this latter and related accounts?

Schumpeter typifies the lack of elementary scientific literacy among those who imagine that Petty's suggestion of a "law of geometric progression" shows that this notion was implicit in the work of Botero.²⁵⁹ The notion of geometric progression was established by Leonardo of Pisa's *Liber Abaci* (1202). With the work of Luca Pacioli and his student Leonardo da Vinci,²⁶⁰ the importance of work such as Leonardo of Pisa's "Fibonacci Series" was fully superseded. The special significance of Ortes' role in modern Malthusianism came about as a continuation of the war against Leibniz by Conti and Venice's agent Voltaire. Ortes' "Malthusian" work developed out of the following sequence of events.

A follower of Leibniz, Süssmilch, in 1740, produced a work promoting population growth, which provoked one among the "Encyclopedist" confederates of Conti and Voltaire, Pierre Maupertuis, then working at the Berlin Academy.²⁶¹ This produced a work which Ortes reported as being influential for his own work on population theories. Among the notable retorts against Maupertuis' dogma is one produced by Benjamin Franklin, a North American associate of the international Leibniz networks.²⁶² Maupertuis' reaction against Süssmilch is the key to the specifics of Ortes' *Riflessioni* and its influence.

From a great statistical distance, the most conspicuous correlative of the post-A.D. 1400 increase of population is urbanization. On closer inspection, the process is as described, somewhat prophetically, by U.S. Treasury

Secretary Alexander Hamilton's 1791 Report to the U.S. Congress "On the Subject of Manufactures".²⁶³ The productivity of agricultural labor, *per capita, per* household, and *per* square kilometer, is increased by the development of infrastructural public works, and by the benefits of urban manufactures for the technology and productivity of agriculture. Globally, the urban-rural relationship within the nations of Western European civilization is replicated to a significant degree in the relationship between the relatively more, and relatively less industrialized regions of the planet.

This urban-centered global development required nurture of the cultural potentials of the average person, and also required an accelerating emphasis upon the division of labor, especially in the urban regions. In military terms, this combined economic and social development increased not only the *per-capita* productivity of labor, but also the superior military potential of the technologically more advanced states. Thus, all in all, without the kinds of intervention which Venice launched in the attempt to slow down the rates of economic and scientific progress, especially economic progress, the states based upon commitment to scientific and technological progress would become dominant in life throughout the planet.

That would signify the death of oligarchism. Nations which foster the creative-mental development of their populations produce a people which will not tolerate oligarchical forms of rule indefinitely. Illiterate, technologically backward populations will; indeed, illiteracy and technological backwardness are contributing causes for the emergence of oligarchical rule. The very existence of the young U.S.A. as a Federal Republic is a demonstration of this point. The average American was culturally and economically superior to the average Briton of the Eighteenth Century: over ninety percent of the U.S. citizens were literate, as contrasted with a poor forty percent of the Britons. Moreover, since nations which did not compete technologically would be strategically inferior, even the states committed to oligarchism, such as Eighteenth-Century Britain, were compelled to adopt from Colbert's France and Leibniz that same technological progress which they hated to see in French hands.

Consider the case of population policies within Seventeenth- and Eighteenth-Century Venice itself. As a measure to prevent the parcelling of family wealth into relatively smaller units, the leading Venetian families had imposed strict measures of birth control upon their own ranks. This, not an excess of religious fervor, ac-

258. Tarpley and Chaitkin, *op. cit.*, *passim*.

259. Schumpeter, *op. cit.*

260. Luca Pacioli, *De Divina Proportione* (1497) (Vienna: 1896; Milano: Silvana Editoriale, 1982, facsimile of 1497). Leonardo's work on the application of Plato's Solids, and the derivation of Kepler's work (*op. cit.*) from this established the general principles of biological growth as general knowledge throughout literate circles of post-Renaissance Europe.

261. See footnote 47.

262. Benjamin Franklin, "Observations Concerning The Increase of Mankind, Peopling of Countries &c" (1751). See H. Graham Lowry, *op. cit.*, p. 460, 463.

263. Spannaus and White, *loc. cit.*

counts for the proliferation of monks and nuns, as well as powerful abbots (with practice of vows in abeyance) among these noble Venetian households. This did not originate in Venice; the collapse of the Eastern Roman Empire was a result of the same policy, under the “Malthusian” decrees of Diocletian.

For the Venetian nobility and their oligarchical clones throughout Europe, the interdependent advance in science, culture, technology, the division of labor, and population generally was a great catastrophe: for them, a virtually apocalyptic catastrophe. From their standpoint, one could not choose not to take that route; the nation which chose abstinence from progress, while other nations advanced, was choosing its own political oblivion. In the oligarchy’s view, therefore, no nation must be permitted to continue these practices; these practices must be banned from the planet.

By the middle of the Eighteenth Century, the Venetian oligarchy throughout Europe had become alerted to what Leibniz’s circles understood: that there is an interdependency between levels of technological progress and potential population-density. The work of Süßmilch, which excited Maupertuis’ frenzy, illustrates that connection explicitly. Without scientific and technological progress, the level of population could not be sustained; however, with technological progress, oligarchism would not be tolerated much longer anywhere. So, “the Venetian Party’s” commitment to a Malthusian utopia, an oligarchical “one-world” imperial government developed around Venice’s British option, became an hysterical commitment during the course of the Eighteenth Century.

By this time, Europe’s Venetian oligarchy²⁶⁴ had had its “racial memory refreshed” on the subject of Plato’s principle of knowledge, the principle of Socratic hypothesis. It “remembered” collectively why the Apollo cult’s oligarchy had hated Socrates and Plato so bitterly, why

264. It is admissible, and convenient to speak of a Europe-wide “Venetian oligarchy.” Over the centuries since the Council of Florence, especially since the collapse of the League of Cambrai, Venice’s nobility had assimilated more and more of Europe’s aristocratic and other oligarchical forces into its faction. By the time Venice fell from the status of a government, most of the royal and aristocratic houses of Europe, and the financial nobilities, were being assimilated into a Europe-wide social stratum basing itself everywhere on the Venetian model, and ruled more and more by Venetian ideas. Insofar as exceptions existed to this process of assimilation, the result was a division, across national boundaries, between a hardened Venetian oligarchical faction, and its opposition. The League of Armed Neutrality, which brought Britain to its knees on the issue of U.S. independence, is typical of this sort of division, as well as Czar Alexander II’s similar action to defend the 1862-1863 United States against a planned intervention by joint British and French imperial forces.

the Rome branch of the Apollo cult had hated Jesus Christ so bitterly.²⁶⁵ When men and women come to base their social relations upon taking creativity (hypothesis) as the object of conscious reflection, and placing that above bare sensuality in rank, society knows in that way the meaning of Genesis 1:26-28. Then, man cannot be as a beast to man, leaving no room for the continued existence of societies degraded by submission to oligarchical forms of the family.

It was not so much science as such that the Venetian oligarchy feared, as the reciprocal relationship between Christianity and the forms of scientific and artistic progress typified by axiomatic-revolutionary acts of scientific discovery. To express this Venetian enmity, the apotheosized methods of Galileo and Newton served a double purpose: these methods virtually outlawed creative thinking, and were also useful for administering a society according to what came to be recognizable as Malthusian principles. Thus, the hatred of Nicolaus of Cusa, of Leonardo da Vinci,²⁶⁶ of Kepler, of Pascal, of Colbert, and of Leibniz.

In this fashion, the form of Aristotelianism known as the empiricism of Galileo and Newton became a religion for these haters of Plato and Leibniz. That religion of Voltaire, of the Encyclopedists, of Ortes, of Adam Smith, of Bentham, of Thomas R. Malthus, and of Bentham agents Robespierre, Danton, and Marat, was the late-Eighteenth-Century “Enlightenment.”

In this same fashion, under the leadership of Venice’s Abbot Antonio Conti, the otherwise obscure Galileo and Isaac Newton were elevated to virtual sainthood in Venice’s hagiolatry. The strict imposition and enforcement of the mechanistic world-outlook and algebraic methods of these two, and their like, became articles of

265. Admittedly, it was the Cult of Mithra with which Octavian had struck the deal leading to the defeat of Antony and Cleopatra, and thus to imperial power, on the Isle of Capri. It was Tiberius’ Cult of Mithra which murdered Christ (with help of a “Quisling” jury), and which committed mass-murder of Christians under Roman emperors from Nero through Diocletian. Nonetheless, the forces which murdered Christ and the Christians in this way were the same forces behind that Democratic Party of Athens which murdered Socrates, ostensibly in a “neo-conservative” fit of “political correctness.” Key is the fact that the controlling force behind the rise of Rome was the same Cult of Apollo which had orchestrated the affairs of Classical Greece and Hellenism afterward.

266. E.g., Sigmund Freud, *Leonardo da Vinci: A Study in Psychosexuality* (New York: Random House, 1910). Or should one say Sig. Fraud? Freud had been a practicing homosexual, ostensibly ending the affair several years prior to publication of that book; there is no evidence that Leonardo was homosexual, and all the psychosexual indicators are to the contrary. Key to Freud’s book: Leonardo was creative, unlike the Freud who was innovative in a different sense.

faith which the Venetians sought to impose upon every area of scientific inquiry, including social relations in general and economics in particular, outlawing all contrary conceptions and methods from science wherever they could. Conti's and Voltaire's campaign against Leibniz, under the banners of Galileo, Descartes, and Newton, launched the Venetian oligarchy's worldwide campaign to impose this "political correctness" upon the institutions and practice of science worldwide. The fraudulent claims for Newton's discovery of a calculus, a project concocted by Conti and furthered by Voltaire and his minions, were the beginning of this campaign. With Ortes' work, this radical empiricist view was established under the Union Jack.

Wherever the Venetian party won a war, the subject folk were compelled to expel all scientific thinking not submissive to the religious worship of Galileo and Newton. So, in 1815, it went with France under the Restoration Bourbons. So, to a large degree, it went in the divided Germany of Gauss and the Humboldts, as the cases of Clausius, Helmholtz, Kronecker, and Felix Klein attest.

G. The Case of Felix Klein

Earlier here, we identified Nicolaus of Cusa's crucial discovery of the transcendental domain, circa A.D. 1440. If the work of Conti's salon were not known, one would find it virtually inexplicable that one of the most famous figures in modern mathematics, Göttingen's Professor Felix Klein, should have claimed in 1895 that the transcendental character of the magnitude π had been first proven by Lindemann in 1882.²⁶⁷

That is not the only such folly by Professor Klein. Three other, closely related cases are directly relevant here: his misrepresentation of a crucial feature of Riemann's *Hypothesen* dissertation,²⁶⁸ his incompetent regard for the work of Georg Cantor, and his shameless efforts to represent Professor G.W.F. Hegel as the man who prevented the suppression of the teaching of calculus in Prussia.

In the first three cases, Klein falsifies by resort to fallacy of composition. That is to say, there is nothing objectionable in what Klein actually shows; he shows something, narrowly, which is truthful as far as his

demonstration goes, but pretends that what he shows also demonstrates something more fundamental, which he knows it does not. In the fourth instance, his defense of Hegel, his argument is flatly contrary to the truth. In fact, the introduction of Nineteenth-Century mathematics at Berlin was accomplished by Alexander von Humboldt and the Prussian military, virtually over the protesting dead body of Professor Hegel.²⁶⁹ The latter issue must be mentioned because reference to the fact of this matter is helpful for understanding the first three.

In other words, in the first three matters referenced, he is lying *Delphically*. Why does he lie so? He is engaged in *political lying* about scientific method; his mind has become, if not explicitly a British-occupied territory, a region under Conti's influence. His praise of Hegel exposes his political motive for the false representations in the first three instances cited here.

Remember Soviet science under Stalin? The public papers of the best scientists in Russia, Ukraine and so forth, often began with paeans to the scientific genius of Stalin himself, or to the Friedrich Engels of "opposable thumb" notoriety. An analogous display occurred sometimes under Adolf Hitler. One wished to believe that none among those scientists could have believed a word they were saying in such ritually required obeisances. It is not necessary to do such things in Russia today. One may be inspired by that example to hope that in the not-too-distant future, professors of mathematics and physics generally will be given a similar freedom, so that they are no longer obliged to make themselves disgusting by *politically correct* ritual obeisance (*Gleichschaltung*) to the names of Galileo and Newton.

Professor Klein was not prostrating himself before a Stalin, who was not available for that part then, or British intelligence's Engels, who was; he made do with occasional allusions to Hegel. His behavior is an example of the Conti phenomenon; it is a bellwether of what has happened to science and culture in the United States and other nations today.

This is not limited to the area of physical science, but since mathematics is a more primitive language than the spoken ones, the case is made more readily by reference to such examples. The phenomenon which Klein's case illustrates is a general one today, a phenomenon which could not be understood unless it were viewed historically.

Look at Klein's case from the standpoint of the Friedrich Schiller whose historical genius provided his survivors the key to freeing Europe from Napoleon Buonaparte's tyranny.

267. Felix Klein, *Famous Problems of Elementary Geometry*, in *Famous Problems and Other Monographs*, trans. by Wooster Woodruff Beman and David Eugene Smith (New York: Chelsea, 1962), pt. II, "Transcendental Numbers and the Quadrature of the Circle," pp. 49-92.

268. Klein insisted upon the most simplistic, wrong reading of "Pythagorean" form under the second, middle section of Riemann's paper.

269. Hegel died in 1831, during an epidemic, still doing his utmost

It was Schiller's studies of the struggle for the freedom of the Netherlands and of the Thirty Years War, which afforded the circle of von Wolzogen, Scharnhorst, vom Stein, and von Humboldt the key to the military defeat of the Emperor Napoleon. It was to a large degree the inspiration of Schiller's poetry and tragedies which enabled the volunteers to conduct themselves in the manner which pleased Blücher so grandly. When Europe was then free from Napoleon, as she would not have been but for these Germans acting upon the lessons provided by Schiller, how was Germany rewarded by the Vienna Congress? Vom Stein was sent into internal exile, and Schiller received the posthumous boot of tyranny under the Holy Alliance's Carlsbad decrees. In this circumstance, there came to the top of Prussian celebrity the Metternich spy G.W.F. Hegel, and, at Hegel's side, the prophet of Nazi law, the Romantic neo-Kantian F. Karl Savigny.²⁷⁰

Meanwhile, as we have noted earlier, repression also came to French science. At the Ecole Polytechnique, Gaspard Monge and his program were uprooted from that institution, which was given over to the neo-Newtonian creations of Abbot Moigno, LaPlace, and Augustin Cauchy. Alexander von Humboldt, working to snatch real French science from under the hooves of Cauchy and his crew, faced the difficulty that the university at Berlin, which should have been nominally under the direction of Alexander's brother and Schiller's follower, Wilhelm, was actually under the veto-control of a pair of tyrannical, anti-science rogues, Hegel and Savigny. Hegel was determined not to allow men who would appear, later, as the world's greatest gathering of scientists, to be habilitated at the university. To get around Metternich-asset Hegel, Alexander was obliged to establish advanced mathematics instruction in the philology department, and to rely upon the Prussian military to habilitate professors at their academy, who could not be prevented then from teaching at Berlin.

For an extended period, there was a similar, perhaps worse situation of political repression at Gauss' Göttingen University, under the tyranny of the British House of Hanover. Gauss' letters to the Bolyais, father and son, on the matter of his own suppressed discoveries in non-Euclidean geometries, reflect the degree to which

to prevent the introduction of Nineteenth-Century science to the University of Berlin.

270. Savigny, to whom Karl Marx owed his instruction in law at Berlin, is the forerunner of Carl Schmitt, whose radically positivist dogma provided the basis for law under Hitler's Reich. Real history tends to be like that; Heinrich Heine understood the principle of the matter when he wrote of the Rothschild control over the future revolutionaries of 1848, and later of the evil embedded in Kant.

this political terrorism by reigning authorities was able to suppress science.²⁷¹ In that time, there was a notorious case of mass suppression of academic freedom there, the case of the "Göttingen Seven."²⁷²

Beginning 1850, even before Gauss' death, London launched a major onslaught against the influence of Leibniz's and Gauss' science in Germany. Kelvin performed a critical role in this. London's exemplary assets in German science during the middle of the century were at that time Rudolf Clausius and Hermann Helmholtz.²⁷³ By the close of the century, when Klein delivered his "Famous Problems" lectures, German science was in significant political decline, under increasing onslaughts from the radical positivists, such as Ernst Mach.

One must look back to the early decades of Nineteenth-Century Britain to put the political decline of German science into proper historical perspective. As of close of the Napoleonic wars, when John Herschel and Charles Babbage wrote their celebrated "D-ism and Dot-age" paper, ridiculing Newton's influence and the London Royal Society,²⁷⁴ John's father (and Carl Gauss' friend) Wilhelm Herschel the astronomer from Hanover, was the only first-rate scientist in Britain. Almost reluctantly, Britain crawled out of these decades of lapse into scientific illiteracy, junked Newton's pseudo-calculus for a bowdlerized version of Leibniz's, and established the British Association for the Advancement of Science (BAAS).

Then, Britain concentrated upon attempting to wreck scientific progress in the nations, including Germany, from which it had borrowed so much for its own recovery: Conti would have been pleased with the performance. Why was Gauss afraid to reveal his work in discovery of non-Euclidean geometry? To what purpose did Thomson (Kelvin) direct Clausius? Why did the British steer Helmholtz's fraud against music, and in other matters?²⁷⁵ Why did so many Nineteenth-Century

271. See footnote 196.

272. See Bierman, *op. cit.*, pp. 25-26.

273. It was under the direction of Kelvin, and with mathematical assistance from Grassmann, that Clausius cooked up the "second law of thermodynamics" by aid of an elementary blunder of misreading of the work of Sadi Carnot. Helmholtz was a robust and frequent hoaxster, devoid of scientific conscience, and completely a British agent.

274. Charles Babbage and John Herschel, *The Principle of Pure Deism, in Opposition to the Dotage of the University* (1811), an attack on the uselessness of Newton's "fluxions," demanding the adoption of a real calculus, that of Leibniz, instead.

275. Professor Hermann Helmholtz, *The Sensations of Tone* (1863), trans. and appendices by Alexander J. Ellis (New York: Dover Publications, 1954). Under British "influence," Helmholtz attempted to impose Conti's methods of Galileo and Newton upon music. Among the notable frauds in his work: (1) he proposed to eradicate the foundations of Classical music, the

German scientists feel obliged to begin serious works with a literary genuflection to the “Engels” (Newton) whom they repudiated implicitly in every part of the work which this disgusting genuflection prefaced? Such considerations do not justify Klein’s contested behavior, but they do render it historically comprehensible.

This brings us again to the detail in the devil, the crux of Klein’s fallacy of composition in the matter of π .

Circa A.D. 1440, Nicolaus of Cusa discovered that the circle is that higher species of function which we term “transcendental.” The crucial advances in science accomplished by Pacioli, Leonardo, Kepler, Desargues, Fermat, Pascal, Huyghens, Leibniz, Gauss, Riemann, *et al.* after that, are all derived from the radiated influence of this discovery by Cusa. Consistently, since Pomponazzi and his Kabbalistic follower Zorzi, the Venetians have fought to suppress not only the fact of Cusa’s discovery, but also the method by means of which the discovery was accomplished. The empiricist method of Galileo, Descartes, Newton, and Russell is premised upon that Aristotelian fraud of Pomponazzi, Zorzi, Conti, *et al.* That is the key to each and all of the four listed frauds of Professor Felix Klein.

It is sufficient to focus on the one selected example, Klein’s false statement that the transcendental nature of π was first proven by Lindemann in 1882, approximately 440 years after that discovery and proof of it were actually supplied by Nicolaus of Cusa. Klein is arguing from an Aristotelian standpoint; the issue was well known in Germany at that time; Klein ran up against this fre-

quently during the 1882-1895 interval preceding the lectures on “Famous Problems.” All of Cantor’s fundamental discoveries were publicly represented by him as premised on an anti-Aristotelian basis in Plato as viewed by Cusa.²⁷⁶ Klein is also aware of the same issue in the center of the so-called Leibniz-Clarke controversy and sundry attacks upon Leibniz’s *Monadology*.²⁷⁷

Dr. Samuel Clarke’s performance in the Leibniz-Clarke correspondence is immediately crucial for identifying the pretext underlying Klein’s hoax on the subject of the discovery of π ’s transcendental character.²⁷⁸ Clarke is not engaging in a dialogue with Leibniz; he is behaving like today’s literary hoodlums from the ranks of mass-media journalism, such as the London *Daily Telegraph*, *Washington Post*, *New York Post*, or *NBC-TV News*; he is carrying the “party line” of the Abbot Antonio Conti, who manufactured the issues being debated from the British side; no fact swerves Clarke from mindlessly repeating Conti’s “party line.” The issue posed by Leibniz there is clearly stated: Newton’s “fluxions” is not a calculus, but simply a rewarming of familiar stunts with infinite series.

This is the crux of the formal argument in exposing the fraud of a Venice-directed Leonhard Euler in 1761,²⁷⁹ a Cauchy of the Bourbon Restoration, or a Felix Klein of 1895: a refusal to admit that an infinite series of a lower species of function can not become congruent with a higher species of function. One of our given illustrations of this issue was the refusal of some to acknowledge a species-difference between the integer “5” and the similar quadratic root. Consider, as briefly

Florentine method of *bel canto* voice-training, substituting an unpleasant Nineteenth-Century British novelty, the “blank voice”; (2) he sought to outlaw the entire Classical tradition of musical tuning, that of J.S. Bach *et al.*, and to replace it by a false, mechanistic model derived by Conti’s methods of Galileo and Newton; (3) he concocted a false theory of hearing to conform to his dogmas on music (see Riemann, *Werke*, *op. cit.*, pp. 338-350; see note by the original publisher on page 338: Riemann was correct scientifically; Helmholtz’s “politically correct” concoction on this subject, not). In addition, still taught in defective university and conservatory classrooms today, is the argument of Ellis included in the appendices to Helmholtz’s work. In the case of those organs identified by Ellis on which Bach actually performed, only by adjustment and keyboard transposition could the organs have been tuned to ranges which Bach’s singers could have tolerated, a fact which Ellis knew, and which every competent instructor in a contemporary conservatory then or now has known: fraud! See *A Manual on the Rudiments of Tuning and Registration*, ed. by John Sigerson and Kathy Wolfe (Washington, D.C.: Schiller Institute, 1992), *passim*, for documentation of the ranges and registration of the human singing voice. The only reason that Helmholtz’s fraudulent opinions, and modern elevated pitch, are tolerated, is the pervasiveness of Nazi-like *Gleichschaltung*: “political correctness.” Conti again.

276. See Cantor, *Gesammelte Abhandlungen*, *op. cit.*, pp. 205-207, especially notes 1) and 2), the references to Plato and Cusa. (Cantor’s view of Giordano Bruno as a follower of Cusa is mistaken as to Bruno; it must be recognized that on this point Cantor is relying upon the secondary source.) Access to the issues arising between Cantor and Klein over the period of their sometimes close professional relationship is noted by Herbert Meschkowski and Winfried Nilson in their *Georg Cantor Briefe* (Berlin: Springer-Verlag, 1991). See Letters and editors’ notes on pp. 63-64, and in the editors’ references to the controversy with Klein in notes on pp. 109-110. Although Klein was a signator to the 1916 Göttingen honors for Cantor, he had joined the ranks of Cantor’s scientific adversaries long before 1895.

277. E.g., Euler, 1761. See Lyndon H. LaRouche, Jr., “Euler’s Fallacies on the Subjects of Infinite Divisibility and Monads,” in *The Science of Christian Economy*, *op. cit.*, pp. 407-425. This was also the central issue of Kant’s attacks upon Leibniz in the *Critiques*.

278. See G.W. Leibniz, “History and Origin of the Differential Calculus,” in *The Early Mathematical Manuscripts of Leibniz*, trans. by J.M. Child (Lasalle: Open Court Publishing Co., 1920), pp. 22-58. See also, *Gottfried Wilhelm Leibniz Philosophical Papers and Letters*, ed. by Leroy E. Loemker (Chicago: University of Chicago Press, 1956), pp. 1095-1169.

279. LaRouche, *The Science of Christian Economy*, *loc. cit.*

as possible, the nature of the issue as Klein identifies it in the given text-reference.

Consider carefully the elements of witting fallacy of composition which Klein employs to avoid touching upon facts which would reveal his sleight-of-hand in choosing the 1882 dating. Begin with a crucial instance of this, on pp. 55-56.²⁸⁰ He begins by stating the proposition in the following ambiguous terms: "... if the number π is not algebraic, it certainly cannot be constructed by means of straight edge and compasses. *The quadrature of the circle in the sense understood by the ancients is then impossible.*" [italics in original—LHL] On p. 56, he proceeds to the following statement, which includes a revealing omission and a falsehood:

The Greeks rose above this empirical standpoint [of the Rhind papyrus—LHL], and especially Archimedes. ... His method remained in use until the invention of the differential calculus. ...

The crucial intervening development was the rigorous definition of the class of *incommensurables* by Plato's Academy at Athens, notably the method of Eudoxus, on which Archimedes' attempted quadrature was premised; Klein's witting omission of that fact is an important fallacy of composition, permitting Klein to falsify his argument further, by also omitting reference to the ontological issue addressed successfully by Nicolaus of Cusa.

Those choices of starting-points set the stage for Klein's crucial, false assumption, set forth on pp. 58-59:

3. The period from 1670 to 1770, characterized by the names of Leibniz, Newton, and Euler, saw the rise of modern analysis. Great discoveries followed one another in such an almost unbroken series that, as was natural, critical rigor fell into the background. For our purposes the development of the theory of series is especially important.

With that silly bit of pedagogical hand-waving there, you have Klein's hoax set into place on stage. Henceforth, everything said by Klein is an extension of that whopper, that fallacy of composition.

The crucial code-words from that citation are "analysis" and infinite "series." Those code-words' appearance rightly implies that Klein is not addressing the *ontological* problem of species-distinction, which he only pretends

280. Remember, in reading Klein, we are not dealing with some half-educated modern university graduate; Klein had a grounding in a serious Classical education, and was well-versed in the history of mathematics. The omissions we identify here could only have been witting fallacies of composition. One will see that there is a clear pattern to these.

to be attacking; he is engaged in a sleight of hand, pretending to address an *ontological* problem, while considering only a *formal* one.²⁸¹ He is addressing a problem in infinite series; he is using the credibility of Hermite's and Lindemann's work on this problem of infinite series, to deflect the viewer's attention from the fact that he is not addressing the ontological problem at all. That is the formal nature of his fraud.

Review very briefly some relevant points identified earlier.

1. Klein is addressing a matter addressed by Cusa more than 450 years earlier: to demonstrate that the domain of *incommensurables* is divided into not less than two distinct species: the one, the notion of squaring the circle, and the magnitude which can not be squared. The proof of this distinction's discovery rests upon the method for defining *incommensurables* developed by Plato's Academy at Athens.

Without referencing, or replicating those well-known methods of that Academy which were emulated by Archimedes, no treatment of this matter can be regarded as scholarly or scientifically rigorous.

2. The definition of *species* of numbers or of magnitudes, or functions which serve as substitutes for numbers, is that the higher species is axiomatically incommensurable in terms of the lower one. Thus, Eudoxus, and Archimedes after him, knew that an infinite series in lower terms could not be congruent with, but only approximate closely values which are higher or lower than the magnitude of the incommensurable.

3. Cusa's "De Circuli Quadratura" is the classic method for determining the fact that circular action in space-time is a higher-order of species than simply extended magnitudes in space.

Work on infinite series is not useless; as in the case of Hermite and Lindemann, it represents a continuing effort to refine the methods available for giving less inexact, far more rapidly acquired numerical approximations of complex curves and surfaces in the complex domain, for manipulating different kinds of such series as sub-types, and so on. But ... *a well-cooked meal is a*

281. Klein's lecture may be compared with David Eugene Smith, "The history and transcendence of π ," in *Monographs on Topics of Modern Mathematics Relevant to the Elementary Field*, ed. by David E. Smith (1911) (New York: Dover Publications, 1955).

good thing, but not an appropriate motive for marrying the stove.

Such useful mathematical development as that of Euler, Hermite, and Lindemann, for example, has the ironic quality, that the more it succeeds on the one side, the formal side, the more problematic it becomes on the other side, the ontological side. This is the problem addressed by Riemann in the passages we cited earlier from his *Hypothesen*; that entire work is dedicated to the same problem. This is the issue of that formal side of the ontological problem of the “immeasurably small,” the formal issue which was greatly simplified for comprehension by the work of Cantor on the matter of transfinite types. From the vantage-point implicit in these references to Riemann and Cantor, the significance of Klein’s sleight-of-hand is that he is attempting to bury this ontological problem of mathematics out of sight, under a dung-heap of formalism; that is the essential fraud typified by his *Famous Problems*.

Formally, Klein’s presentation of his *Famous Problems* is an attack upon Leibniz and Riemann from the standpoint of Euler,²⁸² Clausius, *et al.*²⁸³ This is by no means a mere classroom issue of mathematical formalities.

Most readers are probably aware, that one of the results of the popularization of the word “relativity,” into the 1970’s, was significant discussion, among scientific circles, in college classrooms, and in some daily newspapers’ “Sunday Supplements,” of whether our universe were “curved,” and what sort of “curvature” it might have. In time, many have debated that issue without first troubling themselves to discover the nature of the evidence being debated to this effect. The better educated among persons from those generations may recall, that Albert Einstein referred to Riemann—and also Kepler—as an important forerunner of the present cen-

ture’s discoveries of Einstein *et al.* Riemann’s *Hypothesen* paper is the location in which those deeper implications of relativity were first addressed publicly.²⁸⁴ Let us compare the import of that aspect of the dissertation with our ongoing presentation of the method of history applicable to the exemplary case of Bertrand Russell. In that way, the broader historical significance of Klein’s fallacy of composition is made clear.

The key here is Riemann’s method, the same Platonic method of hypothesis employed by Nicolaus of Cusa for the discovery of that which we term today the transcendental domain. The same method was employed by Gauss, by Bolyai, by Lobachevski, and by Riemann for the discovery of both so-called “non-Euclidean” geometry, and for the development of the notion of the hypergeometric domain. By questioning the generally accepted assumptions of geometry and of mathematics generally at that time, these Nineteenth-Century discoverers did to geometry generally what Cusa did to the quadrature theorems of Archimedes: Riemann, like Cusa, focussed upon the presumptuousness of the axioms (Riemann: “hypotheses”) which underlay generally accepted classroom mathematics of that time.²⁸⁵ This led to the result upon which Einstein made his referenced general comment, on a small but important aspect of Riemann’s dissertation as a whole.

As Einstein understood this corner of the business, the question is posed: *What are the differences which might*

282. LaRouche, *The Science of Christian Economy*, *loc. cit.*

283. See a note by Heinrich Weber, citing one of Clausius’ blundering attacks upon Riemann, in Riemann, *Werke*, *op. cit.*, p. 293. This is typical of the attacks upon the work of Gauss, of Heinrich’s brother Wilhelm, and of Riemann, coming from Britain, through Clausius, Helmholtz, *et al.* under the influence of Thomson (Kelvin) *et al.* from the 1850’s onward. James Clerk Maxwell, like Rayleigh, one of the leaders of the British attack on Gauss, Weber, and Riemann, made clear that he and his colleagues were rewriting electrodynamics in order to rid the subject of mathematical conceptions rooted in “geometries other than our own.” Rayleigh went so far as to insist, that were Riemann correct in showing the possibility for powered transonic and supersonic flight of projectiles, then all of British mechanistic physics would collapse; therefore, he argued, Riemann had to be wrong. Under the initial direction of his senior in the Cambridge Apostles’ cult, Bertrand Russell got into this British business of Riemann-hating in the 1890’s, with his tour of lectures in geometry.

284. Cf. Riemann, *Werke*, *op. cit.*, p. 273: “. . . in which the difficulties lie more in the conceptualizing . . . and I could make use of no preparatory work but several very brief indications given on this by Privy Councillor Gauss, in his second treatise on biquadratic residues . . . and some philosophical investigations of Herbart.” According to the Weber *Werke* (N.B., Appendices, pp. 507-558—one should ignore Hans Lewy’s tendentious introduction to the Dover reprint edition), Riemann’s revolutionary breakthrough came during a period of intense work, during a period preceding the crucial date of discovery, March 1, 1853, through his June 10, 1854 presentation of the hypothesis dissertation. It was his initial breakthrough of the earlier of those dates which plunged him into intensive library researches. Notably, it is the mid-1840’s Göttingen lectures of a former student at Friedrich Schiller’s Jena, the anti-Kantian Herbart, which continues through 1853 and beyond to supply Riemann’s point of departure for his revolution in physics. He is fully aware of this nature of his work in the 1854 dissertation, as the reference to March 1, 1853 otherwise indicates. One should not exaggerate Einstein’s insight into Riemann’s work; briefly, there are indications that Einstein, although he broke with Machian positivism, was not able to comprehend the ontological implications of the crucial discoveries of his friend Gödel, or of Leibniz, Riemann, Cantor, *et al.* (The portion of the Riemann paper to which Einstein refers implicitly is section II, as summarized in subsection 5.)

285. Riemann, *Werke*, *op. cit.*, p. 272.

be observable by people living within our physical space-time domain, by means of which we might discover whether our universe has a predominantly negative, positive, or zero curvature? Einstein read the relevant literature as showing, for example, that Gauss and Riemann inferred a spherical curvature, and Lobachevski a negative (hyperbolic) curvature. By contrast, the mathematical method of Galileo, Descartes, Newton, and Bertrand Russell belongs to a universe which has implicitly a zero curvature.²⁸⁶ Riemann reports that he addressed this proposition with help of concepts suggested by two of Gauss' crucial writings, the first on biquadratic residues, and a second on curved surfaces,²⁸⁷ and, as noted above, by some promptings from the work of a one-time student of Schiller's work, the anti-Kant philosopher Herbart.²⁸⁸ With aid of the suggestions taken from Gauss' work, and an intensive study of the work of Newton, as well as Legendre, *et al.*, in addition to studies under Jacob Steiner, Riemann effected what he correctly understood to be a revolution in mathematical physics, that which centered around the possibility of measuring the curvature of the *physical space-time* in which our species acts.²⁸⁹

This was a Platonic revolution, which Riemann's posthumously published papers on Herbart, combined with the evidence of his *Hypothesen* itself, oblige us to view in no other way but that.

In reviewing professional opinions on Riemann's rigorous original and profound contributions to the formalities of mathematics and mathematical physics, it should be recognized that these aspects of his work are often referenced to the (sometimes intended) effect of misleading our attention away from the well-springs of his genius.²⁹⁰ The center of Riemann's discovery of the 1853-

1854 interval lies not in the mathematical formalities of the subject-matters principally addressed; Riemann's genius lies in emphasizing the *subjectivity* of all scientific work, as his posthumously published critical items on Herbartian method corroborate the explicit guidance provided within the dissertation itself.

The key to understanding the essential subjectivity of Riemann's revolution is the present author's "Metaphor" series, including the relatively most recent "The Truth About Temporal Eternity."²⁹¹ Apply the more general implications of the Riemann argument referenced by Einstein. The argument to be made is as follows.

In earlier portions of this present report, as in the referenced "The Truth About Temporal Eternity," the case is made that the absolute distinction which sets mankind apart from and above all other species is mankind's manifest capacity to alter willfully, successfully, our species' potential relative population-density. The quality of this capacity is shown to us chiefly in two ways.

First, we can look at all of discoverable human existence from the standpoint of the recent six centuries of the combined physical economy and demographic characteristics of European civilization. This enables us to recognize not only the benefit of replacing the old feudal and other forms of imperial social organization by Dante's and Cusa's notion of the sovereign nation-state republic based upon subjection to a Christian definition of natural law, but also willful fostering of the forms of technological progress in infrastructure and production which depend, in turn, upon progress in science and in Classical forms of art. This enables to recognize the efficiency of precursors of such progress in earlier forms of society, including the evidence of the continuing development of language itself.

Second, the young child learns the concepts of his or her civilized culture by reliving the act of discovery of those conceptions. "Why?," the mentally healthy child asks. As we have indicated, respecting the Classical alternative to textbook education, once we are able to replicate willfully what we can recognize as an act of original and fundamental discovery of a new principle of science, we are thus enabled to make ourselves conscious of that specific type of mental activity which we have replicated within our own minds. By recognizing such creativity

286. Russell admittedly played around with pretending to understand such matters. Notably, he played the role of Britain's assigned control of Albert Einstein for a while, gaining at least one expression of glowering resentment from Einstein for this, and Marburg gnostic Ernst Cassirer's opportunity, in his book *Substance and Function*, to poke great fun at Russell's virtual philosophical illiteracy. This is in addition to the fact, that Russell's access to Einstein had some other unpleasant, radioactive and related consequences.

287. From Gauss' *Werke, op. cit.*, "Theoria residuorum biquadraticorum II" (1832), vol. II, pp. 95-148 (Latin), pp. 170-178 (Gauss' German-language commentary on the Latin work); "Anzeigen: Disquisitiones generales circa superficies curvas" (in German) (1827), vol. IV, pp. 341-347.

288. Riemann, *Werke, op. cit.* For Riemann on Herbart, see pp. 509-525; for editor's comment on this, see pp. 507-508.

289. The term *physical space-time* is used here in the sense of Riemann's definition of higher geometry-like relations above the mathematical domain.

290. The now customary reference to Riemann's alleged debt to Cauchy typifies the phenomenon. (What of plagiarist Cauchy's fraud respecting his own debt to Abel?) Riemann himself emphasized a debt to an Isaac Newton with whom he disagreed:

See, for example, the page note on p. 534 of the *Werke*, citing "the third letter to Bentley." See in the context of pp. 524-525 (on "causality") as a whole the last lines on p. 525, beginning with "Das Wort Hypothese (the word *hypothesis*)," through to the bottom of the page, "... so würde er diese Geschwindigkeit beständig behalten."

291. LaRouche, *loc. cit.*

as being a type of activity, rather than an isolated act, through replicating numerous such original discoveries, *creative mentation* becomes an object of which we are conscious as we might be conscious of any sensory event.²⁹² By employing the same method for discovery of new theorems consistent with an established theorem-lattice, and also discoveries which overturn such theorem-lattices axiomatically, the conscious mind of the student is enabled to distinguish between ordinary discovery and axiomatic-revolutionary discovery, the latter Plato's notion of *Hypothesis*.

From the combining of these two points of reference (as we have outlined those standpoints above here), we are able to define human creativity as a *mental object*, and this in the same sense that we use the term "object" to identify the conception we associate with any empirical phenomenon. It is only by doing precisely that which Pomponazzi, Zorzi, Francis Bacon, and so on explicitly prohibit, including "mental objects" (e.g., metaphor) as scientific phenomena, that we are able to adduce that efficient quality which defines mankind as a species set absolutely apart from and above all other species.

So, as we have emphasized at an earlier point, relative to science (e.g., Riemann's principle underlying his fundamental breakthrough of 1853-1854), in mathematics and related aspects of physics we encounter two general classes of what Riemann identifies as *Geistesmassen*,²⁹³ the metaphors which the present writer has termed "thought-objects."

From the initial vantage-point referenced by Riemann, that of Classical constructive and formal geometries, the lower of these classes is the notion of the *Cantorian transfiniteness* of any formally consistent theorem-lattice: that, for the array of both known and yet-to-be-discovered theorems in a given lattice, we may substitute the set of axioms and postulates underlying that lattice as a whole. By conceptualizing that latter array of axioms and postulates as a "generating principle,"²⁹⁴ we are to present to ourselves the solution-principle of Plato's *Parmenides*; in place of the *Many* theorems of the open-ended lattice, we substitute as a *One* the unified conception of the array of axioms and postulates as a single mental object.²⁹⁵

However, it is impossible to conceptualize such a set of axioms as a "One" from within the confines of reference to but one such theorem-lattice. To overcome that difficulty, one must either generate a valid new theorem-lattice, more powerful (in cardinality) than the first, or one must relive someone else's original discovery to that effect. This difficulty, of conceptualizing the *One* which is a generating-principle for a *Many*, cannot be solved by merely comparing two axiomatically distinct theorem-lattices; one must experience the generation of the higher from the lower, either an original experience, or as a replication of that original discovery within one's own mental processes.

One can then name that discovery "Pythagoras," "Plato," "Eudoxus," "Eratosthenes," "Archimedes," "Nicolaus of Cusa," "Leonardo da Vinci," "Kepler," "Descartes," "Pascal," "Huyghens," "Leibniz," . . . , "Riemann," "Cantor," or "Gödel," as all good literate scientific practice has learned to do. If one of these has effected several discoveries of principle, or qualitative improvements of such a discovery, we use the names of the discoveries, separately, or hyphenated, as "person-species" of discovery, or assign a sub-name to each of the discoveries of that person.

It is only in such social relations, premised in the domain of such mental objects (Riemann's *Geistesmassen*), that real science proceeds. By looking into the mind of others, through reliving their acts of axiomatic-revolutionary discovery, and their experience in reliving, in their turn, the axiomatic-revolutionary discoveries of others, we are able to look similarly into our own minds. Otherwise, without that specific, and very immediate quality of social relations with others—in terms of relatively valid axiomatic-revolutionary discoveries,²⁹⁶ including many long dead, science were impossible.

Without experiencing the *generation* of successively higher cardinalities of species-distinct theorem-lattices (or, the equivalent experience), it were impossible to conceptualize the set of axioms of a single species of theorem-lattice as a generating-principle, as a Platonic *One*. The lesson of Plato's *Parmenides* may be restated, therefore: Human knowledge through mere sense-perception alone were impossible; except as man acts, through thought-objects, to *change* human behavior axiomatically, man were incapable of that quality of distinction from the mere beasts for which we assign human significance to the term "knowledge."

That returns one's study of Riemann's work to the opening outline of his referenced dissertation: the task

292. See Riemann's treatment of what he terms *Geistesmassen*, in *Werke, op. cit.*, pp. 509-525. This same matter is treated at length in the author's "Metaphor" series, *loc. cit.*

293. Riemann, *Werke, op. cit.*, p. 507.

294. The term "generating principle" is employed here strictly in Georg Cantor's sense of the notion.

295. In first approximation, the relationship between the relative species-distinctness of the *One* versus the *Many* is formally analogous to the distinctions made by Kurt Gödel's famous proof (e.g., 1931, *op. cit.*).

296. The formal definition of "relatively valid," as employed in this location, implies the test of the relative cardinality of the state of knowledge achieved through the discovery.

is to examine, in a general way, the presumptions, called axioms, which underlie (as “generating principles”) the various forms (theorem-lattices) of geometry (and physics) which have existed from Euclid through Legendre.

Only from the standpoint of physical economy, as this writer has defined that relevance here and elsewhere,²⁹⁷ is a rigorous science possible. The question, “What is knowledge?” must first be restated, “What is human knowledge?” Animal behavior is put out of consideration axiomatically; any person who extends comment on human behavior from the behavior of animal types, such as the late Professor B.F. Skinner, is a blundering incompetent or a dangerous quack.²⁹⁸ Human knowledge is that process of development which distinguishes the human species absolutely from all types of beasts. The physical-economic, demographic history of mankind is the starting-point for the study of knowledge; that history is defined as the comparison of (changes) increases of potential relative population-density with implicitly axiomatic-revolutionary changes in ways of thinking, from sets of ideas with relatively lower cardinality, to those with relatively higher. The truth lies not within any term of that series, but rather in the principle of change which orders the succession to ever-relatively higher cardinality.

That notion of change, termed by Plato the principle of *hypothesis*, is what the Venetians have banned. The attempt to restrict thought to sense-objects, and to ban thought-objects from scientific work, is the essence of empiricism, and the essence of a principle of evil. Thus, Galileo’s method is an embodiment of evil; the insistence upon substituting infinite series for a principle of discovery (hypothesis), is the most common reflection of the influence of evil institutionalized within academic and related life over the course of the recent five centuries. That is the evil within Klein’s fallacy of composition respecting π . The connections indicated are key to understanding the evil embodied by Bertrand Russell.

From the standpoint of the science of physical economy,²⁹⁹ the generalized *geodetic* required by Riemann’s discovery, is not as Einstein mistakenly imagined: universal physical space-time is *bounded* externally, not by some conjecturable “fence” around the universe, but transfinitely, as Cantor understood that Plato’s notion of the *Good* bounds the *Becoming*, as hypothesizing the

higher hypothesis is so bounded by that *One* which subsumes the *Many-ness* of all hypothesizing. The generalized geodetic required is the characteristic of efficient human activity within the universe. From the standpoint of the universe, the only truly efficient expression of human activity is that successive rise to relatively higher orders of cardinality of knowledge which is representable by a corresponding series of axiomatic-revolutionary discoveries.

That geodetic defines the true curvature of our universe, because it reveals the laws of the universe as that *One* which corresponds, as an externally bounding principle of universal change, to man’s successfully increasing mastery of the universe in *per-capita*, *per-household*, and *per-square-kilometer* terms.

That geodetic is also that map of the human intellect which is our indispensable guide to scientific knowledge, including what we term “moral knowledge,” or “natural law.” Without it, scientific progress in the larger sense were impossible. Science has progressed despite the Aristotelian-empiricist attempt of the Venetian Party to halt it. The dogma of Galileo’s method, and the related insistence that apparent convergence in terms of infinite series eliminates the existence of singularities, is the devil’s own work, a product of the Venetian efforts to bring human knowledge to a halt by outlawing anything but the empiricist method of Aristotelians and neo-Aristotelians such as Pomponazzi, Zorzi, Bacon, Locke, Newton, and Ortes.

To understand the recent six centuries of European civilization’s process of emerging as the dominant characteristic of a planetary culture, we must return to reconsider a point identified here earlier. Consider the principles of the Renaissance as one type of geodetic, the opposing principles of the Venetian Party as an opposing type of geodetic, and the actual course of the internal history of the recent six centuries of European civilization as a third type of geodetic.

The case of Klein’s frauds illustrates the scope of the “brainwashing” of institutionalized science by rendering obeisance to an axiomatically empiricist form of argument typified by what is often identified as “generally accepted classroom mathematics.” Klein’s relevance to the case of Bertrand Russell is essentially that Klein’s moral corruption typifies the environment which rendered possible the toleration of an influence as patently evil as Bertrand Russell efficiently has remained to date, live or deceased.

Thus, science itself has been a victim of British colonial methods.

Remember! How did the “Venetian Party” of Britain build its empire?

First, came gun-boats, muskets, and Venetian-style

297. E.g., “The Truth About Temporal Eternity,” *loc. cit.*

298. See B.F. Skinner, *The Behavior of Organisms; An Experimental Analysis* (New York: Appleton-Century-Crofts, 1966); also *Science and Human Behavior* (New York: Free Press, 1967).

299. For which the author is indebted principally to Leibniz’s discovery of that science, and to Riemann’s discovery, with a crucial subsidiary debt to Cantor.



diplomacy—which of the three weapons is more despicable, remains uncertain, though the evidence tends to suggest the latter. Thus, the people are subjugated, more or less in the fashion one herds wild animals into a corral.

Then, comes the business of taming the captive herd. Forceful restraint is still obligatory. Those captives tending to rebelliousness must be detected, and either eliminated or reduced to a moral condition of old jello. The flock must be bred, to evoke in the cultivated descendants the desired attributes of milkiness, meatiness, and docility. In this way, the captive breed is brought into a state of self-government, in which the ruling bureaucracy is more savagely British than the Brutish Empire itself. At that latter point in the dumbing-down process, come the “winds of change,” and the captives are entrusted with the duties of fettering themselves at night, or whatever else the I.M.F. or the London financial market suggests.

So, it was with the Venetian Party’s taming of science.

The insistence upon the methods of Galileo, Descartes, Newton, Helmholtz, John Von Neumann, Norbert Wiener, and Russell has turned the leaders of science into an irrationalist pagan priesthood, tyrannizing those who teach in classrooms, spewing their *obiter dicta* through sewer-pipes such as *Nature* and *Science*. So, for the purposes of dumbing-down the captive herds still further, the “New Math” was introduced during the late 1950’s and 1960’s. So, today, to transform the children of once-civilized people into disgustingly rutting Yahoos, the imperial bureaucracy of the United Nations’ one-world dictatorship introduced to the U.S. schools “Outcome-Based Education,” well designed to transform a human being into a dumb cow.

So, the time has come, when the London Venetian Party has put on its World Federalist mask. The time has come to cull the dumbed-down human herd “by methods which are disgusting, even if they are necessary.” Evil Russell; poor, duped Felix Klein!

3. The Coming of Age of Humanity

WE HAVE NOW REACHED THE POINT at which to set forth summarily the conclusions which we propose ought to be reached through the types of evidence which have been sampled in our presentation of the foregoing, lapsed-time portrait of recent history.

We might have chosen to title this summary "Of Principalities and Powers." The past six centuries, taken in the context of the two thousand years preceding the Fifteenth-Century Renaissance, illustrate the point that history is shaped by ideas. These are ideas which shape the rise and fall of entire civilizations, entire cultures, over period of not less than centuries. This shows us how impotent and ineffectual men and women are whenever they limit their exertions to matters of flesh-and-blood, practical social relations over such relatively insignificant intervals of time and place, as the span of a generation or two within some local area of this planet.

Only as we act efficiently in steering, altering and developing those ideas which shape a half-millennium or so of history, either throughout this planet, or in a large region of it, do we have any willfully significant effect upon the fate of nations, of entire civilizations. The paradigm for this fact is the past six-centuries' history of what we call physical science. The kind of conscious and efficient influence which an individual person might have on the outcome of an entire period of history, is typified by the individual who relives those moments of the past, which correspond to axiomatic-revolutionary types of scientific discoveries, and who reacts to that by correcting those discoveries, and bequeathing so an improved body of science to future generations.

In the case of so-called physical science, one can willfully shape the history of science efficiently according to one's intention; the key is to master consciousness of the principles governing valid axiomatic-revolutionary types of discoveries, as we have indicated above. That requires mastery of Plato's method of hypothesis; no alternative method for this purpose is yet known to exist.

All of the bodies of ideas which shape history over the span of centuries are analogous to the case for the ideas of physical science. The individual person participates efficiently in shaping willfully the outcome of his own existence only to the degree he or she participates consciously, efficiently in mastering those qualities of history-shaping ideas.

One cannot learn the principles which shape history from only the facts of the immediate social relations

personally experienced within the span of a single person's lifetime. Many have proposed to premise alleged principles upon just that limited experience; inevitably, what they propose always turns out to be utopian rubbish, or worse.

Such misconstrued "experiments" are justly put into the same class as "flat-earth" dogmas generally; they are the delusions of persons who imagine themselves to be dwelling in a universe of "zero curvature": they do not wish to recognize that they have been experiencing history of a certain "non-zero curvature," have been living in a manifold in which direction is determined in accord with the position in the stream of history in which one is located at a particular moment, a direction which could not be the same if one were in a different position within that stream, a result which would not be the same had the action transpired in a different position.

Alas, we live on a planet peopled largely with Don Quixotes and Sancho Panzas. Most persons dwell either in the mists of some academic or related sort of ideological fantasy, like Cervantes' Don Quixote, or they are so busy with their personal pleasures and family affairs that "I have no time to waste on history." The Don Quixote is willing to govern society, but governs it madly. The more numerous Sancho Panzas cannot rule society, because they cannot even govern themselves. Until we can bring mankind into the Age of Reason, which we might wish were the Coming Age of Humanity, history will be shaped in actuality, not by the wills of masses of humanity, but by the mere handfuls who, for purposes of good or evil, steer the fate of mankind generally as herds of cows are steered to and from the pasture—and, occasionally, also to the slaughter-house.

The Age of Reason signifies a world in which the typical individual is no longer a Don Quixote or Sancho Panza, but rather a person who is efficiently conscious of the proper role of the brief mortal moment of the individual's mind in shaping the millennial spans of human history: national, regional, planetary, and interstellar. This Age of Reason will be no utopia, no perfectly designed order of things; by the very nature of things, such a goal could never be attained. The very idea of a utopia—any utopia—always has, and always will do no better than to drive the credulous into lunacy. It will simply be an Age in which most adult persons understand that history is ruled not by flesh and blood, but

by principalities and powers, powers whose existence is typified by the recent six-centuries' struggle between Good and Evil in the domain of development of physical science. It will be an Age in which most adult individuals recognize that the meaning of life is to be found in participating in shaping those ideas which, in turn, shape history over the span of not fewer centuries. It will be an Age in which adults generally recognize the nature of the human species, as in the image of God—by virtue of physically efficient, valid axiomatic-revolutionary creativity in ideas. It will be an Age in which most adults act according to that knowledge.

What do we do in the meanwhile, given the prevalence of Don Quixotes, Sancho Panzas, and even worse? How do we get through the present mess? The proper answer to that is as ancient as Plato: the so-called “philosopher kings.” The “philosopher king” is a person who has accepted Miguel Cervantes' plea to the poor wretches of Sixteenth-Century Spain, that he or she rise above being a Don Quixote, or Sancho Panza.

The professor would say, “That is a good question.” Only a few of us are likely to participate in the Age of Reason; most citizens, even in the nations which are relatively best off, will remain Don Quixotes or Sancho Panzas. Not only would they fail to become “philosopher kings,” they would, for the most part, reject rather angrily any demand that they cease being Don Quixotes, or Sancho Panzas. Most nations will remain for the present moment as Lazare Carnot found France at the moment Carnot accepted what appeared to be the “lost cause” position of organizing France's defense against all-conquering enemy invaders. That is to say, there is no nation on this planet qualified to enter directly into an Age of Reason earlier than several generations yet to come. We must be content to seek nothing more ambitious than a modest intermediate condition, a condition fairly described as *the Age of Survival*.

The best we can desire from the present moment of all humanity's great peril, is that we have leaders in whom the people place their trust, and who are morally qualified to be such leaders. The people generally will continue to seek simple things, the possibility of immediate survival for their families, personal freedom, and the expectation of the development, and security, of their posterity: those simple, but just possessions whose existence is now increasingly in jeopardy throughout the entirety of this planet. The people will find survival as a crowd of confused persons would find escape from a burning building; they will seek escape from the intolerable under the guidance of qualified leaders whom they have chosen as worthy of their trust.

The Age of Survival is one in which the people have

such qualified leaders, and in which the citizens have enough sense to have chosen them. Those people will recognize such leaders chiefly by three qualities: (1) That the prospective leaders have a record of success in forecasting the effects of a few crucial policy-choices. (2) That the prospective leaders do not shilly-shally in face of pressures of “political correctness.” (3) That the prospective leaders have recognized, and have earned murderous hatred from, those powerful forces who are—today—behind the traditions of such “Venetian Party” figures as Bertrand Russell.

Five-and-a-half centuries after the Council of Florence, Venice and its outgrowth, the “Venetian Party,” has come to dominate not only the financial institutions of the world, and most of the political ones, but also dominates the institutions of science, arts, and education generally. Under this reign, the world has been brought to the verge of a general collapse of an apocalyptic quality like that of the Fourteenth Century, but much worse. Time is running out rapidly.

There are three foreseeable alternatives for the next several years before us. Either we reverse the Venetian rule, or the Venetian faction will establish the kind of global, one-world dictatorship which the proposal for the U.N.O.'s Cairo population conference portends, or, the failure of both efforts results in a planetary chaos far worse than that of Fourteenth-Century Europe.

The people will survive that peril before us in but one way: By mobilizing themselves against those forces of Evil—those “principalities and powers”—merely typified by the case of the late Bertrand Russell. If the people are to survive, they will recognize that adversary to be such rather soon. There is little time to waste if they are to survive; it is already very late. When they do react so, they will be disposed to choose appropriate leaders. Our task is to ensure that they find enough of them.

END NOTE

The researches of the author and his associates into the Venetians involves dozens of persons over the recent two decades, in some cases longer. All of the conceptual analysis of the relationship among the work of the Venetian Aristotelians and European science and theology is the author's original work. The documentation of the historical details and documentation added to the author's files on the Venetians themselves was done principally by Classical scholars and others literate in Italian and Latin over much of these past twenty years. Since the documentation is so dense, we have elected to note the documentation only in the instance it has direct bearing upon the mainstream of the argument in progress, and is not commonplace documentation of the history of Venice and its agents given in other published locations.

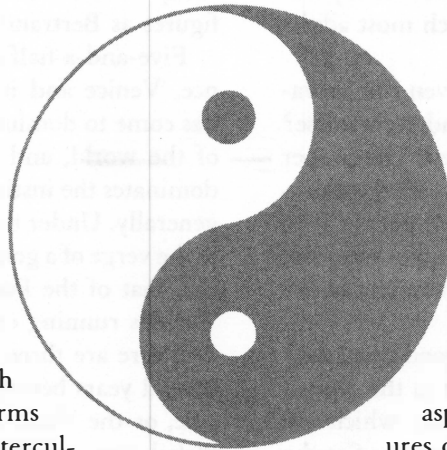
The Taoist Perversion of Twentieth-Century Science

by Michael Billington

It is generally recognized that the cultural collapse in the West since the unfolding of the rock-sex-drug counterculture in the 1960's has been heavily doused with Zen Buddhism, Taoism, and other forms of "Chinese Mysticism." As the counterculture of the 1960's and 1970's became increasingly accepted as the "established" popular culture of the 1980's and 1990's, these exotic and esoteric ideologies contributed to the emergence of the irrational cult of "environmentalism" as the dominant paradigm of society and government. The view of man as a rational being in the image of God, defined by his creative capacity to scientifically transform and advance his environment through higher-order technologies, has been largely replaced by the view of man as a mere beast, subject like any beast to the relative scarcity of resources available to a fixed level of technology.

Why has the scientific community not provided society with a thorough refutation of this perverse misconception of human creative potential? Why have such obvious frauds as "global warming," or the "ozone hole," been tolerated, or even sponsored, by many scientists who ostensibly received a level of education adequate for them to know better? Why have scientists tolerated or joined in the witchhunt against the most exciting potential breakthrough in both theoretical and applied physics, the "cold-fusion" discoveries? The answer lies in the decay of the scientific establishment itself over the course

Political prisoner Michael Billington's "Toward the Ecumenical Unity of East and West: The Renaissances of Confucian China and Christian Europe," appeared in the Summer 1993 issue of Fidelio.



of the Twentieth Century—especially since the famous confrontation at the Solvay Conference in 1927.

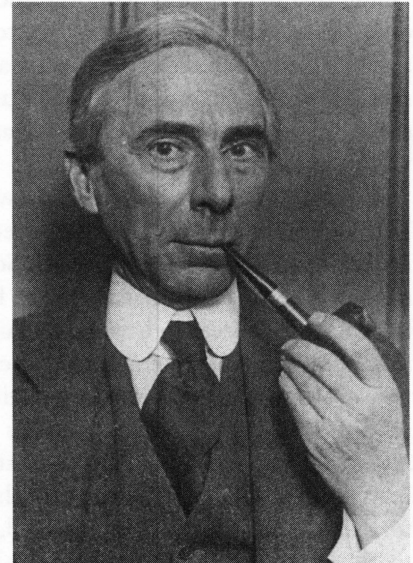
We will examine this problem by focussing on one particularly vulnerable aspect of the ideology of several leading figures of Twentieth-Century science: the adoption of Taoist forms of mysticism as a justification for the irrational rejection of causality and coherence in the physical sciences. We will demonstrate two aspects of this: first, that behind this adaptation of Taoism is an intentional effort by these circles to destroy the only fruitful school of scientific inquiry throughout the course of history, that identified with the method of the "hypothesis of the higher hypothesis" of Plato, Nicolaus of Cusa, Kepler, and Leibniz; and second, that the use of Taoist ideology constitutes a distortion of the true moral and scientific tradition of China associated with Taoism's enemy, Confucianism. As this distortion has been introduced back into China, it has further undermined the scientific tradition there by lending the false label of "Western Science" to the in-fact Taoist/Alchemist mystical worldview.

We will investigate the physicists of the Copenhagen School—with emphasis on Niels Bohr and Wolfgang Pauli—and the British eugenicists and holist biologists, in particular, Joseph Needham. In each case, the gnostic, Taoist views of these men can be traced to Bertrand Russell, considered by many to be the most evil man of the Twentieth Century. Not coincidentally, Russell had been deployed to China by the British oligarchy in the 1920's to counter the republican movement of Dr. Sun Yat-sen, where he had played a crucial role in the creation of the Communist Party of China.

Decades before his deployment to China, Russell had

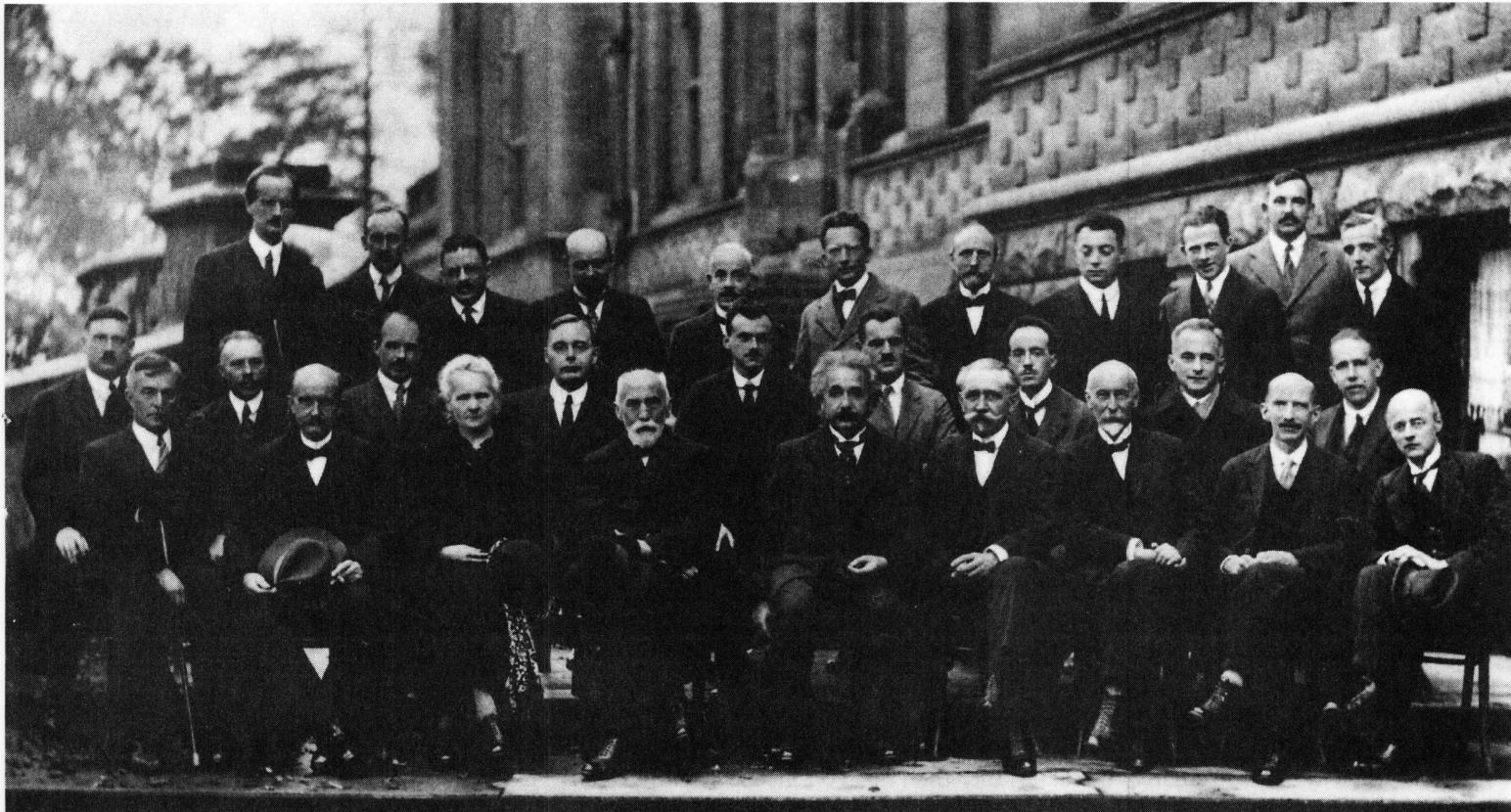
already distinguished himself as the leading philosophic apologist for the empiricist cult of logical positivism, as well as the racist eugenicists around Julian Huxley, who were building a global race-science movement. His 1900 book, *A Critical Exposition of the Philosophy of Leibniz*, established the battle lines for the British empiricists and geopoliticians against the Platonic school of Christian science and economics represented by Johannes Kepler and Gottfried Wilhelm Leibniz, and in the Nineteenth Century, by Georg Cantor and Bernhard Riemann. Russell's 1920 trip to China, and his book, *The Problem of China*, served to direct the Chinese intellectuals of the post-World War I period, who were enraged by the British sell-out of China at Versailles, toward the ideology of British free trade, Marxist-Leninist political policies, and various New Age libertarian dogmas. Russell blamed China's backwardness on the Confucian moral tradition, without mentioning the previous sixty years of British importation of opium

and looting of the Chinese economy. In fact, he openly espoused the racist, colonialist notion of the "noble savage," against a 3,000-year-old Chinese nation which had, before the Golden Renaissance, surpassed Europe in many aspects of science and culture. While denouncing the moral and intellectual teachings of the Confucians, he heaped praise on the opposite, passive, mystical tradition of Taoism. Revealing both his racist outlook and his intention to prevent the development of science in China, Russell wrote: "Progress and efficiency make no appeal to the Chinese, except to those who



Prints and Photographs Division, Library of Congress

Bertrand Russell (right), who visited China in 1920, argued against scientific progress and in favor of the passive mysticism of Chinese Taoism. Below: The 1927 Solvay Conference of the world's leading scientists saw fierce debates over whether the physical universe was organized lawfully. Seated, front row: Albert Einstein (center), Max Planck (second from left), Madame Eve Curie (third from left); second row: Niels Bohr (far right), Max Born (second from right), Louis de Broglie (third from right); standing: Werner Heisenberg (third from right), Wolfgang Pauli (fourth from right), Erwin Schrödinger (sixth from right).



Inst. International de Physique Solvay, Courtesy AP Emilio Segrè Visual Archives

have come under Western influence. By valuing progress and efficiency, we have secured power and wealth; by ignoring them, the Chinese, until we brought disturbance, secured on the whole a peaceable existence and a life full of enjoyment.”

Most importantly, Russell conveyed to the Chinese his own warped view of Western science and philosophy, such that an entire generation of Chinese youth were taught that the development of science and physical economy in the West was entirely due to British empiricism and the free trade economics of Adam Smith, without a mention of the Platonist roots of European (and American) science and physical economy as represented by the work of Gottfried Leibniz.

Russell's initial attack on China was developed by the British holist biologist Joseph Needham. Needham, a member of both the British Royal Society and the Communist Party of Great Britain in the 1930's, decided in the middle of his career to become a China scholar. Over the following decades he compiled an encyclopaedic collection of detailed studies of the scientific history of China, published in multiple volumes as his *Science and Civilization in China*, which is still being extended today. Needham's role in falsifying the philosophic and scientific history of China is broadly recognized, but nonetheless his work remains the standard both in the West and in China itself. We will examine his overt distortion of the classical tradition of Confucian scholarship and his glorification of Taoist alchemy and mysticism.

Taoism and Modern Physics

In 1947, Niels Bohr was granted the Order of the Elephant by the Danish Crown, for his work in the development of quantum mechanics and his service to Denmark. In designing a coat-of-arms for the occasion, Bohr chose the ancient symbol of Taoism, which portrays a fundamental, irreconcilable but “harmonious” duality to the universe and to human existence, known as the Yin and Yang, whereby the “seed” of anything is contained within its opposite [SEE illustration, page 90]. Above this symbol, Bohr placed the words: “Contraria sunt complementa”—“Opposites are complementary.” Bohr thus equated, correctly, his famous concept of “complementarity” with the Yin and Yang mysticism of the Taoist cult of ancient China.

Bohr's concept of complementarity arose in the context of the discovery of quantum phenomena in light and in atomic interactions during the first quarter of the Twentieth Century. In 1901, Max Planck discovered that energy was radiated in discrete quanta, rather than in a continuous flow, as had been previously understood in electro-

magnetic theory. Albert Einstein showed in 1905 that light also radiated in quanta, or photons. This contradicted the well-known wave nature of light, demonstrated by the interference and diffraction patterns of light propagation. Werner Heisenberg, in 1927, added that in the investigation of these sub-atomic wave and particle phenomena, the observation itself disrupts the phenomena, such that the determination of the particle's (or “wavicle's”) location renders its momentum indeterminate, and *vice versa*; this was called the “Uncertainty Principle.” Bohr then asserted that, because of the wave/particle duality and the Uncertainty Principle of Heisenberg, we must discard the principle of causality in physics, but retain the mechanics of Newton and Maxwell to describe the experimental results observed on each side of the dichotomy. This rejection of any new theory, was declared to be itself a new theory. As Bohr said:

Indeed, the spatial continuity of our picture of light propagation and the atomicity of the light effects are complementary aspects in the sense that they account for equally important features of the light phenomena which can never be brought into direct contradiction with one another, since their closer analysis in mechanical terms demands mutually exclusive experimental arrangements. At the same time, this very situation forces us to renounce a complete causal account of the light phenomena and to be content with probability laws based on the fact that the electromagnetic description of energy transfer [i.e., classical mechanics—MB] remains valid in a statistical sense. (*Light and Life*, 1932)

Man's knowledge is reduced to a pure empiricism, where all we can know is what we observe, and all knowledge is ultimately reducible to probability statistics.

Bohr repeatedly insisted that his quantum mechanics did not overturn “classical physics,” but that the physics of Newton and Maxwell were special cases of his broader theory, where the field of investigation was sufficiently large that quantum effects were insignificant. But it must be noted that Bohr's reference to “classical physics” in all cases refers only to the empiricist tradition of Newton and Maxwell, and not to the opposing tradition of Platonists such as Johannes Kepler, G.W. Leibniz, Carl Friedrich Gauss, Bernhard Riemann, and Georg Cantor, who contributed every significant discovery of modern physics, and whose works were in general distorted and misunderstood by the efforts of Newton and Maxwell to “system-ize” them. Bohr's Copenhagen School, in fact, was a continuation of the empiricist approach of the Newtonians; and given the now-famous occult beliefs and practices of Sir Isaac Newton, it will perhaps be no surprise to see the extreme occultism of, especially, Bohr's

most intense defender, Wolfgang Pauli. But it is first necessary to review the history of the conflicting Chinese schools of philosophy.

Taoism and Confucianism

In ancient China, as in the development of civilizations in every part of the world, there were two schools of thought that emerged as man began to investigate his environment. There were those who viewed the heavens and believed that the wondrous geometry that revealed itself in the rotational motion of the stars served as a textbook in which man could discover the laws of Creation and the related social laws necessary for peace and development among men. In China, such was the School of the Scholars, known to the West as Confucianism after the great sage Confucius (551-479 B.C.), who compiled previous writings and contributed his own ideas to this moral and scientific tradition.

When asked by his disciples how they could carry on after his death, Confucius answered:

Look to the Heavens. What do they say?
The seasons run their appointed course,
And all things proceed according to their nature.
Look to the Heavens. What do they say?

Investigations by several leading European scientists in the Eighteenth and Nineteenth Centuries determined that Chinese scholars had developed an advanced knowledge of the motions of the heavens by at least the Third Millennium B.C. The *History Classic*, one of the books compiled and edited by Confucius, contains precise descriptions of the stars appearing at specific times of the solar calendar. By mapping those readings against the 26,000-year astronomical cycle known as the Precession of the Equinoxes, these European astronomers were able to date the writing of the *History Classic* to the Twenty-fourth Century B.C. Gustave Schlegel, whose *Uranographie Chinoise* of 1875 is acknowledged as having been the most advanced work in the field well into the Twentieth Century (even by his detractor Joseph Needham), proved in addition that Chinese astronomers had predicted solar eclipses in the Twenty-second Century B.C., about two thousand years earlier than similar developments in the West. Schlegel even discovered evidence in the Classics that significant astronomical readings were being recorded in the Seventeenth Millennium B.C.!

Needham, in keeping with the British reconstruction of history, labelled these findings "quite absurd," and "purely legendary," lying that Schlegel and others had lit-

tle support and that they "served to discredit what real historical research might reveal." In any case, claimed Needham, if such knowledge had existed in the Third Millennium B.C., it could only have been "derived from Babylonian sources." Needham exudes similar rage at the results of the Seventeenth-Century collaboration of the Jesuit missionaries and their Chinese astronomer allies. "The fabulous datings," he protests, "accepted by the early Jesuits, seem to be ineradicable from Western literature." At no point does Needham attempt to provide evidence against these discoveries of antiquity, other than one weak argument that the charting of the critical stars may have been at a different time of day than commonly believed, but he admits this is conjectural. We shall see why Needham, and the "Taoists" of European science, believed it necessary to discredit the actual scientific tradition of China's scholars, just as they tried to discredit the Christian Platonic tradition in Europe, especially that of Kepler and Leibniz.

Opposed to this scholarly, Confucian school were those who insisted that the Heavens were not meant to be understood but, at best, observed in order to assist in soothsaying and divination. This mystical view devolved into the Taoist movement associated with Lao Tzu (Sixth Century B.C.) and Chuang Tzu (Fourth-Third Century B.C.). The writings of Lao Tzu, the *Tao Te Ching*, begins: "The Tao (Path or Way) that can be known is not the true Tao." An alternative translation is "The Tao (Path) that can be trodden is not the true Tao." In either form, the message is that the Ultimate, or the True Way of the Taoists, is not intelligible to man and cannot, in fact, be followed by man as a conscious act, but only submitted to as a mystical flow of nature.

The Confucians also refer to the Tao, but as The Creator of the Universe, and as the way of truth which man must follow through wisdom. Mencius (372-289 B.C.), whose works, together with those of Confucius, constitute the fundamental texts of Confucianism, said that the Tao of Heaven is that of perfect truth and sincerity of will, while the Tao of man is precisely to use his Heaven-granted power of reason to increasingly discover this truth and achieve this sincerity of will (*Mencius*, 4, 1, 12). Like the Augustinian Christian concept of God, the Tao of Confucianism can never be known in its completeness, since it is infinite. But, unlike the Taoists, the Confucianists perceive no limit to man's increasing knowledge, and no mystical, unbridgeable gap between man and his knowledge of the Tao. Confucius, in describing his own development as a sage, said that at the age of fifty he understood the mission of heaven, and at seventy he could follow his own will without violating natural law (*Analects* 2, 4).

This ennobled view of man's potential was predicated on the belief that man was born fundamentally good, owing to the virtues granted by Heaven to every child. Foremost among these virtues was that of *jen* (仁), translated usually as benevolence or humaneness, a notion very close to that of *agapē*, the profound love of truth and of mankind as a whole which St. Paul presented as the highest form of love. Embedded in this *jen* are justice, propriety, and the capacity for wisdom (*Mencius*, 6, 1, 6). Together, these virtues characterize the nature of man, a nature which closely parallels the Christian notion of *imago viva Dei*, man created in the living image of God.

To the Confucians, there was no distinction between the advancement of scientific knowledge and the development of the moral qualities necessary for the organization of society. Besides astronomical studies, the government (which was generally composed of scholars who had passed state examinations based on the Classics) was responsible for the research and development of hydraulics and agronomy to assure the successful expansion of agriculture. Perhaps the best example of the opposite approaches to science and technology taken by the Confucians and the Taoists, is the famous passage from the Taoist Chuang Tzu, who imagines a meeting between a disciple of Confucius and a Taoist peasant who is scooping water with a cup to irrigate his field. The Confucian says: "If you had a machine here, in a day you could irrigate one hundred times your present area. The labor required is trifling as compared with the work done. Would you not like one?" He describes a well-sweep, whose foot-driven pulley with wooden scoops lifts water from an irrigation ditch. The Taoist peasant denounces him, insisting that one who is cunning with instruments must also have a scheming heart, cannot be pure and incorrupt, and is thus not a fit vehicle for the Tao. "It is not that I do not know of such things," he says, "I should be ashamed to use them" (Chuang Tzu, 12).

This proposal of the Confucian, which Chuang Tzu mocks, is an early expression of a true science of physical economy, where the principles of nature are transformed through machines into means for increasing the productive powers of labor, and thus expanding the population potential. We also see, in this Taoist peasant hero, that the environmentalist fanaticism which has contributed so much to the breakdown of civilization today, is nothing new. In fact, the embrace of Taoism by the Twentieth-Century scientists led inexorably to the current anti-scientific cultism typified by the "global warming" hoax, the "ozone hole" hoax, and the genocidal policies adopted by governments and world bodies in the service of these concocted frauds.

The Taoist 'Invisible Hand'

Taoism's central tenet is *wu wei*, which is translated "non-action." This is not the literal non-action of ascetic meditation, but rather, it means that one should do nothing purposeful, nothing which is not in keeping with the mystical, unknowable flow of nature, the Tao. This is (not accidentally) precisely the notion applied to economics by British East India Company agent and occultist Adam Smith. Smith's free trade dogma of *laissez faire*, allowing the "invisible hand" to guide the "magic of the marketplace," could be called the *wu wei* of the British Empire. Just as this "invisible hand" was quite visibly dealing opium, stealing food and raw materials, and waging war against any opponents of such "freedom," so the Taoist ideology served as the basis for suppression and control by tyrants throughout Chinese history.

The foremost such tyrant was the Emperor Ch'in Shihuang, founder of the Ch'in dynasty (221-206 B.C.), the idol of Mao Tze-dung, who banned scholarship, burned the Confucian texts, and buried alive the Confucian scholars who resisted. Taoism served the Ch'in dynasty as a folk-religion for pacification, together with the dictatorial "Legalist" doctrine of state power. Technology was to be tolerated only to the extent necessary to maintain military superiority over a backward people, while science was replaced by alchemy, to such purposes as discovering the "fountain of youth" for the emperor. Lao Tzu said: "The more implements the people have to add to their profit, the greater disorder is there in the state and in the clan" (Lao Tzu, 57). Chuang Tzu adds: "Every addition to or deviation from nature detracts from the ultimate perfection of all" (Chuang Tzu, 8).

This brutal conception of man as a mindless beast is captured in a passage from Lao Tzu which both Chuang Tzu and Joseph Needham considered among their favorites:

Banish wisdom, discard knowledge and the people will be benefited a hundredfold.

Banish benevolence, discard righteousness, and the people will be dutiful and compassionate.

Banish skill, discard profit, and thieves and robbers will disappear.

Banish learning, and there will be no more grieving.

The other fundamental concept of Taoism is the cult of Yin and Yang, which is associated with the use of the *Book of Changes* (*I Ching*) as a tool of divination. This is a concept much admired by both the founders of quantum mechanics and the holist biologists. The terms Yin and Yang merely refer to opposites in nature: light and shadow, positive and negative, masculine and feminine, etc.

But in the hands of the Taoists, they became a mystical unity of opposites and a declaration of moral relativism, denying the existence of universal moral standards. The Yin and the Yang are in continual cyclical motion, first one dominant and then the other. The seed of Yin is in the Yang and *vice versa*, as indicated by the dots in either side of the symbol [SEE illustration, page 76]. Most importantly, good and evil, right and wrong are also subject to the law of Yin and Yang. Chuang Tzu said: “Take no heed of time, nor of right and wrong” (Chuang Tzu, 2). Also: “If we say that anything is good or evil because it is either good or evil in our eyes, then there is nothing which is not good, nothing which is not evil. Those who would have right without its correlative wrong, or good government without its correlative misrule—they do not apprehend the great principles of the universe.”

This moral relativism is the same as the gnostic “Power of Light” and “Power of Darkness” ideology present in the West in Rosicrucianism and Freemasonry. As we will see, it is this aspect of Taoism which was most praised by Joseph Needham as the essence of a truly “scientific” view of the universe.

Confucians acknowledged the obvious existence of opposites in the material world, but firmly rejected moral relativism in regard to the nature of things, especially in regard to the moral nature of Man. Mencius identified the nature of man as the virtue *jen* (*agapē*), provided to him by Heaven. While evil may be seen as the absence of the good, in no way could the good be seen as merely the absence of evil. The good, like Heaven itself, is self-generative, and it is precisely this quality which makes man uniquely capable of participation in the unfolding creation.

Niels Bohr and The Occult

How, then, did eminent scientists such as Bohr and Wolfgang Pauli come to embrace such an immoral, anti-scientific dogma as Taoism? It was consistent with their gnostic worldview. This consistency can be demonstrated in their obsessive effort to extend their theory of “complementarity” in atomic physics into an all-inclusive worldview.

Bohr was raised in Copenhagen in the circles of the philosopher Harold Høffding, a follower of the British philosophical radicalism of Jeremy Bentham, J.S. Mill, *et al.* His father, a physiologist and a “free thinker,” was a close friend of Høffding, and young Bohr and his brother were members of a small group of Høffding’s special students. Bohr’s maternal grandfather, D.B. Adler, founded

one of Denmark’s leading banks after earning his fortune as a banker in London. Allied with Adler was the founder of Carlsberg Breweries, I.C. Jacobsen, whose son Carl became an ardent follower of the Theosophist mystic Madame Blavatsky. The Carlsberg Foundation, together with the Rockefeller Foundation, were to be the primary sponsors of Bohr’s career and of the Bohr Institute in Copenhagen. Bohr began his career in England in 1911 on the first of many Carlsberg Foundation grants.

When the discovery of the quantum effects and the wave-particle dichotomy demonstrated the inadequacy of classical mechanics, scientists such as Einstein, Louis de Broglie, and Erwin Schrödinger perceived this as an opportunity to hypothesize and investigate a new set of axioms to embrace the newly discovered phenomena. Bohr, on the other hand, insisted that there was no conceptual problem requiring solution; rather, there was an inherent irrationality in nature itself. Causality, he argued, did not hold at this level—determinism must be scrapped. (Bohr’s rejection of “determinism” is not limited to a rejection of the “*Deus ex machina*” of Descartes, but includes any notion of causality whatsoever. Wolfgang Pauli, who considered himself the primary “defender of the faith” of acausality, even criticized Bohr in the 1950’s for wavering on this issue.)

Rather than questioning our understanding of the nature of matter, Bohr asserted that this nature was unknowable. In his 1955 essay “Atoms and Human Knowledge,” Bohr attacked those who argued that his “complementarity” theory was an excuse for not solving the problem. He wrote, “The view has been expressed that the statistical mode of description must be regarded as a temporary expedient which, in principle, ought to be replaceable by a deterministic description. The thorough discussion of this question has, however, led to that clarification of our position as observers in atomic physics which has given us the epistemological lesson [of acausality and non-determinism].”

The One and The Many

Bohr acknowledged that his theory denied the existence of a solution to the ancient problem of the One and the Many, implicitly solved by Plato in the *Parmenides* dialogue. Philosophically, the solution of the problem lies in recognizing the creative power of the sovereign individual mind as the efficient cause of change in the physical universe through, in particular, the discovery and dissemination of new scientific principles. Bohr, to the contrary, insisted that man, as part of the universe, is inherently incapable of understanding the laws of the universe. Here Bohr turns to Taoism: “For a parallel to the

lesson of atomic theory . . . we must in fact turn to quite other branches of science, such as psychology, or even that kind of epistemological problem with which already thinkers like Buddha and Lao Tzu have been confronted, when trying to harmonize our position as spectators and actors in the great drama of existence" (*Biology and Atomic Physics*, 1937, the year of Bohr's only visit to China). Bohr denied any accommodation to mysticism, but then defended the extension of his own acausal theory to other fields: "The straightforward solution of the unexpected paradoxes met with in the application of our simplest concepts to atomic phenomena might . . . help us to clarify conceptual difficulties in other domains of experience."

Here Bohr reveals his gnostic prejudice, arguing, like Kant, that creativity cannot be made intelligible to human consciousness. Bohr says that any attempt to reflect on the creative process of the mind must, as in the case of observing atomic phenomena, alter the "mental content" under investigation. Thus, any theory of knowledge must "begin and end with a renunciation as to explaining our own conscious activity" (*Light and Life*, 1932). Further, he argues (with Aristotle) that consciousness only results from "residual impressions in the organism, amounting to an irreversible recording in the nervous system." If creative thought takes place in the subconscious, Bohr says: "The impossibility of providing an unambiguous content to the idea of subconsciousness corresponds to the impossibility of pictorial interpretation of the quantum mechanical formalism" (*Unity of Knowledge*, 1954).

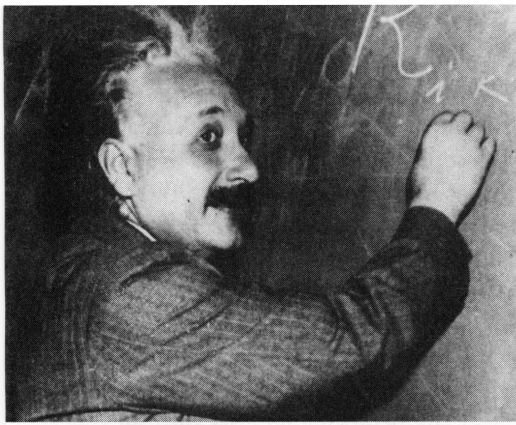
Bohr recognized the implications of this worldview for society, aligning himself with those who, like Locke, assert that justice and charity are ultimately incompatible: "It must be recognized that any occasion which calls for the strict application of law has no room for the display of charity and that conversely, benevolence and compassion may conflict with all ideas of justice" (*Unity of Knowledge*). This is a rejection of the Christian (and Confucian) notion that justice and charity are impossible without each other. Bohr's view is, in fact, precisely the basis for the Taoist/Legalist state in China, and the Lockean "social contract" concept of British law, whereby man gives up his sovereign will to the power of the state.

If, for Bohr, science is beyond intelligibility, then art is pure magic and fantasy. "Literary, pictorial, and musical art may be said to form a sequence of modes of expression, where the ever more extensive renunciation of definition, characteristic of scientific communication, leaves fantasy a freer display" (*Unity of Knowledge*). It is not surprising that, although nearly all the scientists who worked on the new atomic physics were Classical musicians, who often would play chamber music in the

evenings, Bohr was never able to do more than "beat time," according to his biographer Niels Blaedel.

Before discussing the more overtly occult work of Bohr's strongest supporter, Wolfgang Pauli, it should be mentioned that Bohr was not satisfied with merely presenting his Taoist "non-solution" to the fundamental problems of physics, but he also expended enormous energy on destroying the efforts of those who dedicated themselves to discovering an actual solution to the particle-wave paradox. The most famous example can be seen in his debate with Albert Einstein, who insisted that the universe could not be governed by chance—that "God doesn't shoot dice." Bohr refuted Einstein's flawed attempts to present a "unified field theory" at the famous 1927 Solvay Conference of the world's leading physicists (SEE illustration, page 77). The statistical analysis of the probabilities of atomic phenomena, presented by Bohr and Heisenberg, provided a pragmatic structure which "worked" to a certain extent in describing empirical results. This "Copenhagen School" won the day, and even the best of the scientists capitulated. Louis de Broglie, a collaborator of Einstein, presented an alternative hypothesis to Bohr at the 1927 Solvay Conference, attempting to integrate the particle and the wave. When the Copenhagen School and the institutional power behind it mobilized against de Broglie, he, in the words of his collaborator Philippe Guéret, "recognized that the theory of quantum mechanics was gaining ground, and resigned himself to teach the theory that had won out over his own conceptions of the wave-particle duality" ("Reviving de Broglie's Wave-Particle Synthesis," *21st Century Science & Technology* Vol. 6, No. 3, Fall 1993, p. 44). For twenty-five years, de Broglie taught the method he knew to be false, but finally, in 1952, returned to research on his original ideas. De Broglie considered the post-1926 developments in quantum mechanics to be "a virtual *coup d'état* in theoretical physics," according to his collaborator in later years, Georges Lochak (as quoted in Uwe Parpart, "The Theoretical Impasse in Inertial Confinement Fusion," *Fusion*, Vol. 3, No. 2, Nov. 1979, p. 30).

Even worse is the case of Erwin Schrödinger, one of the best scientific minds of his era. Schrödinger's 1926 discovery of fundamental wave equations which describe the motion of electrons was based, he said, on the "de Broglie-Einstein undulation theory of the moving corpuscle according to which the latter is nothing other than a kind of 'foam crest' [*Schaumkamm*] upon the wave radiation constituting the fundamental world-principle" (as quoted in Parpart, *ibid.*). His so-called ψ -wave describes a wave which carries with it a "particle" possessed of mass, anticipating the later discovery of solitons in plasma physics and hydrodynamics, which are metastable structures that form within plasmas under certain condi-



Brown Brothers

Below: Werner Heisenberg (left) and Niels Bohr. Insets: left, Albert Einstein; right, Louis de Broglie; bottom, Erwin Schrödinger.



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Francis Simon, courtesy AIP

tions. His work explained the stationary states of electrons in the atom, and was shown to be analogous to the “purely mathematical” statistical, probabilistic methods of Heisenberg’s matrix mechanics.

Schrödinger himself never considered his “ ψ -function” theory to be complete, since it implied a higher-order process which gave rise to the “particle-like” phenomena in the wave, but this higher-ordered conception was yet to be worked out. Bohr found it convenient to use Schrödinger’s discovery in his quantum mechanics, while insisting that such a higher-order conception was “neither possible nor required” (*Unity of Knowledge*). In a famous episode acknowledged even by Bohr’s admirers as a brutal personal attack, Schrödinger was brought to Bohr’s institute in Copenhagen, and, despite an illness which kept him bedridden, was subjected by Bohr to an incessant harangue against his incomplete hypothesis, until Schrödinger reportedly gave in.

In the article referenced above, Parpart emphasizes that Schrödinger, following Riemann and Leibniz, recognized that the nature of the particular (such as the quanta

of action or the “particle” emerging from non-linear phenomena in the continuum) is determinate, not in a Newtonian, mechanistic fashion, but by the lawful ordering of the continuum as a whole. Lyndon LaRouche, in his August 1992 *Cold Fusion: Challenge to U.S. Science Policy* (Science Policy Memo, Schiller Institute, Washington, D.C.), made a similar point, following Riemann: “Without the ability to derive a discrete manifold, and its metrical characteristics, from nothing more than a continuous manifold, and to accomplish this in an ordered way, the development of a valid, integrated, comprehensive mathematical physics were an impossibility.” This concept of a quantized field was the root of Johannes Kepler’s great discoveries. Kepler recognized in the structure of the

solar system a harmonic correspondence to the Golden Section ratio which reveals itself in all life forms, as well as in the Platonic Solids and in the structure of the musical scale. It was more recently demonstrated that this Golden Section ratio is also the characteristic of the structure of the atom (Laurence Hecht, "Mysterium Microcosmicum: The Geometric Basis for the Periodicity of the Elements," *21st Century Science & Technology*, Vol. 1, No. 2, May-June 1988, pp. 18-30). Schrödinger anticipated this fact in 1926: "[T]he customary quantum conditions can be replaced by another postulate, in which the notion of 'whole numbers' merely as such, is not introduced. Rather, when integralness does appear, it arises in the same natural way as it does in the case of the node-numbers of a vibrating string. The new conception . . . strikes, I believe, very deeply at the true nature of the quantum rules."

Schrödinger is moving toward the idea of singularities in a quantized field, of the sort which Kepler, in showing that the locations of the orbits in the solar system were determined lawfully by the correspondence to the natural order of the series of inscribed Platonic Solids and of the musical scale, called the "Harmony of the Spheres." LaRouche has said on this question that our "primary concern is how relatively force-free pathways of action are defined, without prior regard for whether any sorts of 'forces' actually exist in our universe, or not. We must, first of all, discover what is the geometry of action in the universe in which we live" (*Cold Fusion*).

Schrödinger, however, in his debates with Bohr, did not fight for an understanding of a higher conception of the "geometry of action of the universe," but instead attempted to refute the existence of the "quantum jumps" in electron orbits which were anomalous in respect to classical mechanics. By clinging to the idea that the particle could be reduced to a physical wave, he wanted to "smooth over" the anomalies of quantum phenomena.

Had Schrödinger fully adopted the Platonic method as represented in the physics of Leibniz and Riemann, he would have seen the anomalous discontinuities as the most valuable point of investigation, the clue to a higher-order conception which subsumes the discontinuities in an intelligible manner. Bohr, of course, insisted that there was no intelligible model. LaRouche addressed this problem in *Cold Fusion*, in reference to the misunderstandings of the work of Riemann and Cantor by those who seek an "idealized continuity." What is required, he says is not "representations of a continuous substance, but a continuous pathway of action. It is not a continuum of continuous substances which we ought to seek, but a continuity of action" which includes singularities which are least-action or "force-free" pathways.

In regard to our primary subject, the Taoist perversion

of science, it is of interest that Erwin Schrödinger also investigated the philosophies of the East in his youth, but he took inspiration not from the mysticism of Taoism or the Indian Tantric and Buddhist traditions, but from the Vedas, the classical Sanskrit texts of Indian civilization, which, like the Confucian classics in China, presented the scientific and moral worldview of man as reflecting the creative power of the Creator. In a philosophical essay, "Seek for the Road," written at the peak of both his creative discoveries and the offensive against him by the Copenhagen School in approximately 1926, Schrödinger provided the following indictment of his age:

Slowly, almost unobserved, that part of ancient Indian wisdom, which the marvelous Rabbi had kindled to new flame beside the Jordan, flickered out; the light faded from the re-born sun of Greece, whose rays had ripened the fruits we now enjoy. The people no longer know anything of these things. . . . Crass, unfettered egoism is raising its grinning head, and its fist, drawing irresistible strength from primitive habits, is reaching for the abandoned helm of our ship.

Schrödinger protested that people believed they had found a "safe course in the field of pragmatic knowledge. . . . Then, it was Aristotelian philosophy, now it is modern science."

Schrödinger defended metaphysics against the pragmatists and empiricists who surrounded him. In reference to a current definition of science as "a description of facts, with the maximum of completeness and the maximum economy of thought," he said that this left him with a "cold clutch of dreary emptiness."

But over the years, Schrödinger also gave up his search, as demonstrated both in his science and in his philosophic writings. In 1960 he wrote an essay "What is Real?," in which he heaped praise on the leading Taoist of the age, the evil Bertrand Russell, as the "greatest mind of England." He succumbed to crass materialism, accepting Russell's "promising contribution that mental states are constituted from the same kind of elements as bodies, merely put together in a different way." And, despite his earlier renunciation of Aristotle and moral relativism, he concluded that everything we know of the external world we know only through sense perceptions—and everyone's "sense world" is different.

Wolfgang Pauli and C.G. Jung

But if Schrödinger succumbed to positivism and relativism, Bohr's associate Wolfgang Pauli led the charge toward an undisguised alliance between science and the

occult. Over a period of many years, Pauli collaborated with one of the central figures of the New Age attack on Western civilization and Judeo-Christian culture, the para-psychology guru C.G. Jung.

Pauli was born in Vienna in 1900. His godfather was the Viennese logical positivist Ernst Mach. Considered a young genius during his university days in Munich and at Göttingen, he made several contributions to the investigations of atomic structure during the 1920's, while working closely with Bohr and Heisenberg. In 1929, he quit the Church, and, suffering from a deep depression following a short, unsuccessful marriage, became a psychiatric patient of Jung between 1931 and 1933.

Jung had extended Freud's concept of man as a beast, controlled by the bestial passions, to a mystical extreme. Mankind, he said, was defined by a "collective unconscious" of irrational, primeval forces, beyond the power of reason, which revealed themselves only in dreams, fantasies, delusions, etc. These "archetypal images" define the true human being.

Jung had been fascinated from youth by Oriental mysticism. He eventually adopted the Taoist Yin-Yang notion that complementary opposites exist within each individual psyche, such as masculine/feminine, sense perception/intuition, and feelings/thinking. These opposites had to be balanced to achieve self-realization.

Pauli and Jung agreed that Bohr's concept of "complementarity," and "acausality" of the physical universe was the direct equivalent of Jung's Taoist psychology—in particular, with Jung's concept of "synchronicity." This led to the 1952 collaboration by Jung and Pauli on a book entitled *The Interpretation of Nature and the Psyche*. Jung's part of this astonishing tract entailed his only exposition on "synchronicity," while Pauli's part was an extended essay distorting the work of one of history's greatest scientific minds, Johannes Kepler, culminating in a defense of Kepler's enemy, the Rosicrucian alchemist Robert Fludd!

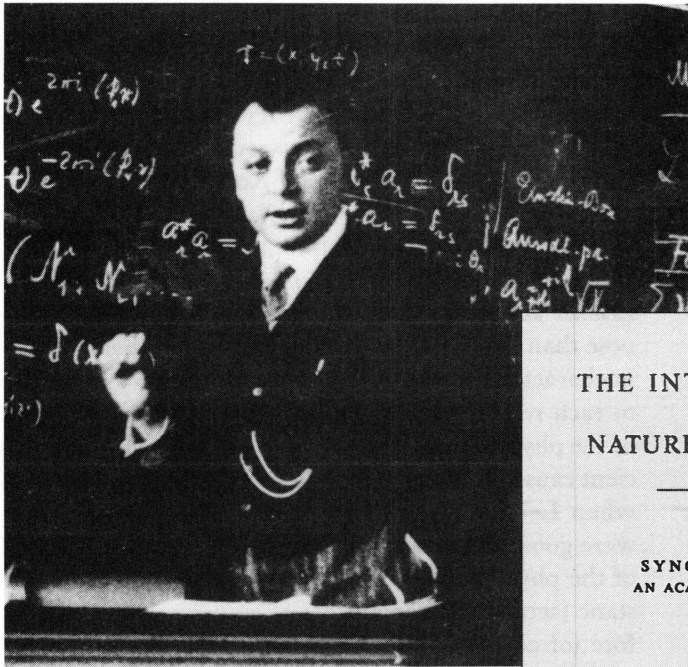
Because Pauli's Copenhagen School, together with the organizations formed around Jung's occultism—in particular, the Frankfurt School (Michael Minnicino, "The Frankfurt School and 'Political Correctness,'" *Fidelio*, Vol. I, No. 1, Winter 1992)—played such a central role in the perversion of science and the creation of both the "post-industrial society" paradigm and the New Age counterculture, which have reduced Western civilization to its current, potentially terminal crisis, we will review the method of their joint work in some detail.

It is not an accidental aspect of the Jung-Pauli book that both Kepler and Leibniz, whose Platonic/Christian method gave rise to the great scientific discoveries of modern history, are distorted beyond recognition, and then denounced in favor of a more mystical, gnostic worldview.

It is easily demonstrated that these attacks by physicist Pauli (as well as those of the biologist Needham) come directly from Bertrand Russell, who, on behalf of the British oligarchy, correctly recognized that in order to impose the anti-science, anti-growth policies of the British Empire, the influence of Kepler and Leibniz had to be destroyed. A brief look at Russell's attack on Leibniz is necessary and useful at this point.

Russell's 1900 *A Critical Exposition of the Philosophy of Leibniz* accuses Leibniz of publishing for no other purpose than to achieve fame and wealth! The book is fairly characterized as a series of hysterical fits in response to each reference by Leibniz to the ordered lawfulness of the physical universe, or to the fact that ideas are efficient causes of change. Russell was particularly incensed when Leibniz demonstrated that the laws of nature were good, in the sense of the positive self-development of the physical universe, rather than Russell's preferred static (actually entropic) state of equilibrium; he, therefore (of course) repudiated Leibniz's ontological proof of the existence of God. But Russell was nowhere capable of providing any justification for his attacks, other than his insistence on the libertarian right to be free of any moral restraint over his personal conduct or over his empiricist approach to science. Russell complained of Leibniz: "He rejected entirely the liberty of indifference—the doctrine that the will may be uncaused—and even held this to be self-contradictory. . . . He held also that the indifference of equilibrium would destroy moral good and evil, for it would imply a choice without reason, and therefore without a good or bad reason." One can see clearly the roots of the Copenhagen School's "acausality" and moral relativism.

Although the "wave-particle" paradox was not yet known in its modern form (Max Planck's discovery of the quantization of energy was in 1900, the same year as Russell's book on Leibniz), Russell anticipated the problem by attacking (in a typically hysterical fashion) Leibniz's implied solution in his theory of dynamics, and especially his rejection of Newton's "action at a distance." Leibniz, he says, simply refused to accept the fact that there are three and only three mutually exclusive theories of dynamics: (1) matter composed of hard, extended atoms; (2) a doctrine of the plenum, an all-pervading fluid or aether; or (3) unextended centers of force and action at a distance, as in Newton. Said Russell: "Leibniz failed to grasp these alternatives, and thus, from his love of a middle position, fell between not two but three stools." Leibniz, he said, treated mechanical impact as atoms, space as a plenum, and the *monads* as unextended centers of force. "The failure to choose," said Russell, "between these alternatives made his dynamics a mass of confusion." In fact, said Russell,



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Leibniz only rejected Newton's theory of gravitation as action at a distance to get revenge for their "personal quarrel" over the calculus! He ends his book by concluding that Leibniz was "the champion of ignorance and obscurantism."

Synchronicity and Leibniz

Jung's essay in the book published jointly with Pauli is called, "Synchronicity: An Acausal Connecting Principle." It argues that "the discoveries of modern physics have shattered the absolute validity of natural law and made it relative." Since the new laws of quantum mechanics are statistical and probabilistic, there must exist, Jung asserts, events which do not follow deterministic laws, which are outside of causality. (This is the entirety of Jung's theoretical "argument.") Such events fall in the category of "synchronicity," which refers to two or more simultaneous events which take place in the universe (either physical events or a combination of physical events and psychic events—thoughts or dreams) which are not caused by one another in any way, but which are nonetheless connected in a "meaningful" way. Jung "proves" this assertion by a statistical study of the astrological signs of married couples, where he found that the incidence of marriages between individuals of the "appropriate" signs were so high that there was a 1:500,000,000 probability against such results being by chance alone. Thus, according to Jung, astrology works.

Jung's other "proof" takes the form of an extended discussion of the Taoist practice of divination using the *I*

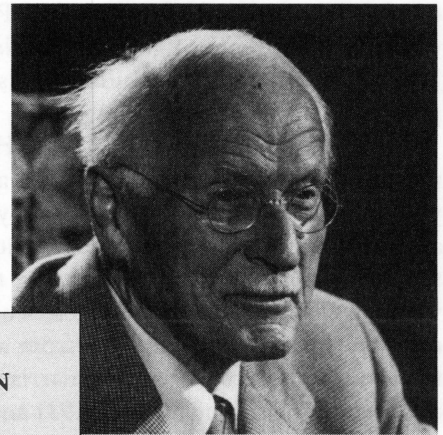
THE INTERPRETATION of NATURE and the PSYCHE

C. G. JUNG
SYNCHRONICITY:
AN ACAUSAL CONNECTING
PRINCIPLE

W. PAULI
THE INFLUENCE OF ARCHETYPAL
IDEAS ON THE SCIENTIFIC
THEORIES OF KEPLER



BOLLINGEN SERIES LI
PANTHEON BOOKS



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Wolfgang Pauli (left) and C.G. Jung (above) collaborated in this 1952 precursor of New Age occultism.

Ching (Book of Changes). Jung's view of the Chinese people is the same as the British racist view: that the Chinese are naturally Taoist, anti-rationalistic, mystical, etc. Jung says, "Only in astrology, alchemy, and the mantric procedures do we

find no differences of principle between our (Western) attitude and the Chinese." Jung wrote the preface to the translation of the *I Ching* by occultist Richard Wilhelm in 1949, who was an adviser to Kang Sheng, the chief of intelligence and security for the Chinese Communist Party. Jung wrote in the preface: "I truly undertook to give the esoteric and the occult an opportunity to speak and reveal each its special style of wisdom." Jung applied his theory of synchronicity to the *I Ching* by asserting that the question asked of the *I Ching*, a psychic event, happens simultaneously with the physical tossing of the sticks (which determines which chapter in the *I Ching* will provide the answer to the question), and they are therefore connected in a meaningful way. Again, this is the total extent of his "proof" that the *I Ching* "works," simply asserting that the readings of the text have an "uncanny relevance" for the life of the person.

Jung then introduces a wild distortion of Leibniz, in a manner similar to that of Joseph Needham, as reported below. The necessity for these attacks on Leibniz by Jung and Needham, as with their mentor Bertrand Russell, stems from the fact that Leibniz, in thoroughly discrediting the mechanics of Newton and Descartes, had re-

established the Platonic/Christian Renaissance method of scientific discovery. The physical sciences and the moral sciences were reunited, based on the power of reason as that which defines man as *imago viva Dei*. To justify mysticism and the occult, Russell and his followers had to reassert the division of science from religion, in order to identify an occult connection between the two, which man must accept by blind faith, by submission to the irrational Tao.

Jung fraudulently compares his concept of the archetypes in the mind to Leibniz's conception of the *monad*. To Leibniz, the creative power of reason in the human mind was the actual substance of man, reflecting the universal substance that was God the Creator. He discovered in nature certain universal principles which reflected natural law. These included especially the universal principle of least action, which holds that physical phenomena and life processes occur in such a way that the greatest amount of work is achieved with the least amount of energy expended. This is observed, for instance, in the refraction of light through media of varying densities, where light takes the non-linear path of least-time between two points. To Leibniz, the human mind, the highest expression of the Creation, displayed these laws in the purest form. It was in this respect that the individual *monad*, the mind, could, through its own act of creative reason, reflect on the infinite order of the universe and hypothesize scientific principles explaining the physical changes in that universe, thus contributing to those changes.

Leibniz then proposed that this higher-order lawfulness of the universe defined a "pre-existing harmony," owing to the universally valid lawfulness by which the unfolding creation takes place, including both physical processes and mental creative activity. It is this notion of the relationship of the individual creative mind to the universe as a whole which is the basis of all true scientific discovery.

Jung turned this on its head. What Leibniz really meant, said Jung, is that since the mind reflects the universe as a whole, therefore there is a connection between whatever is going on in the mind and everything going on anywhere in the universe, and that this relationship is not causal, but is "meaningful." To Jung, "the pre-established harmony (of Leibniz) is an absolute synchronism of psychic and physical events." Leibniz is proclaimed the virtual founder of "synchronicity"!

The obvious point to be made is that this occult "connection" is completely lacking in "harmony"—there is no harmonic lawfulness uniting these disparate events, merely their coincidental timing in a Taoist "All-in-One" soup. In particular, Jung simply ignores another universal law fundamental to Leibniz's scientific method, the law

of sufficient reason, "by virtue of which we hold that no fact can be true or existing and no statement truthful without a sufficient reason for its being so and not different; albeit these reasons most frequently must remain unknown to us" (Leibniz, *Monadology*, #32). Jung's only reason for asserting that every event in the universe can be "found" in the individual mind is the simultaneity of the psychic and the physical events—which is certainly not sufficient!

In the end, Jung rejects even his own false construct of Leibniz's ideas, saying: "It is not necessary to think of Leibniz's pre-established harmony or anything of that kind, which would manifest itself in a universal correspondence and simplicity." Even the hint of a rational causal order to the world is too much for Jung, for whom the occult is sufficient.

Pauli and Kepler

Pauli's part of the book co-authored with Jung is entitled "The Influence of Archetypal Ideas on the Scientific Theories of Kepler." What Jung did to Leibniz, Pauli does to Kepler, falsifying his ideas, and then attacking this fraudulent construct.

Pauli quotes Kepler directly on his concept of the archetypes pre-existing in the mind, but then "interprets" Kepler's meaning, according to his own wishes. In the *Harmonice Mundi*, Kepler writes: "To know is to compare that which is externally perceived with inner ideas, and to judge that it agrees with them. . . . Sensory experiences, when consciously realized, call forth intellectual notions that were already present inwardly, so that that which was formerly hidden in the soul, as under the veil of potentiality, now shines therein in actuality."

Kepler insists that these "notions" in the mind, these archetypes, are geometric in nature, and come from "the Mind of God, whose copy here (on Earth) is the human mind, that from its archetype retains the imprint of the geometrical data from the very beginnings of mankind." In *De Stella Nova*, Kepler writes: "Geometry is the archetype of the beauty of the world." Pauli says, "This axiom of his is at once his strength and his limitation."

Why a limitation? Pauli says: "[Kepler's] ideas represent a remarkable intermediary stage between the earlier, magical symbolical and the modern, quantitative-mathematical descriptions of nature." To Pauli, the strength is the so-called "magical symbolic" part, and the limitation is Kepler's retreat from the mystical!

For example, Pauli transformed Kepler's concept of archetypes *as geometry* into archetypes *as specific images*, pictures in the mind which match up with physical things in the physical universe, and equates this process to the "primordial images or archetypes introduced into

modern psychology by C.G. Jung.” These images, Pauli says, are not clear concepts, but are strongly “emotional.” In other words, these are the dreams and fantasies to which Jung ascribes occult meaning, in an “acausal” relationship with unrelated events in the universe.

Compare this to Kepler’s actual profound discovery of the harmony of the spheres—the direct relationship between the location of the orbits of the planets in the solar system and the geometric ordering of the five constructible regular polyhedra (the Platonic Solids), and thus also with the divisions of the musical scale, all generated by the Golden Section. It is this geometric relationship, taking the Golden Section not merely as an arithmetic ratio but as a constructive generating concept, which Kepler perceives as an archetype in the mind of man.

He did not merely describe the laws of motion of the planets (which is all that Newton learned from him), but he demonstrated geometrically that those orbits exist where they do as “least-action pathways,” and could not have existed anywhere else—an issue not even considered by Newton’s linear, reductionist methods.

Consider also Kepler’s beautiful metaphor of the human mind as a circle in relationship to the Divine Mind as a sphere: “When intersected by a plane, the sphere displays in this section the circle, the genuine image of the created mind . . . both, to be sure, are circular. The circle is related to the plane as in the curve to the straight line—mutually incompatible and incommensurable . . . but the circle beautifully fits into the intersecting plane (of which it is the circumscribing limit) as well as into the intersecting sphere by way of a reciprocal coincidence of both, just as the mind is both inherent in the body, informing it and connected with corporeal form, and sustained by God, an irradiation as it were, that flows into the body from the divine countenance, whence it derives its nobler nature” (*Harmonice Mundi*).

This is metaphorical, but it is nonetheless a truthful scientific expression of the creative process as circular action, of a higher-order bounding condition to the linear interior of the circle, while reflecting the perfection of the sphere. LaRouche identifies precisely this type of metaphor as the medium for the transmission of scientific discoveries, and as the basis for understanding causality in a universe which includes human beings. Whereas Bohr and Pauli revert to Taoist mysticism when considering man as both observer and actor in the universe, concluding that causality must be discarded, LaRouche identifies the actual causal connection between the mind (spirit) and matter—not magical powers, but the power of valid scientific discoveries to cause transformations of nature. LaRouche says:

Instead of limiting causation to the notion of ‘exerting force’ against objects, conceive of change *per se* as a form of causation. . . . Consider the transmission of a valid, crucial scientific discovery generated within one sovereign creative mind, to be assimilated efficiently for successively improved (changed) practice by other minds. . . . The medium used is language: spoken and written language, geometry, and music. (*Cold Fusion*)

Pauli, however, after quoting Kepler’s metaphorical passage on the mind, reduces it to a linear mapping. He refers to the circle as a literal symbol, which simply maps onto circles in the universe. Pauli writes: “It can be seen that in Kepler the symbolic picture precedes the conscious formulation of natural law. The symbolical images and archetypal conceptions are what cause him to seek natural laws. Because he looks at the sun and the planets with this archetypal image in the background, he believes with religious fervor in the heliocentric system.” In an essay written in 1953 called “The Struggle Towards Wholeness in Physics,” Pauli admitted the source of this view of Kepler to be Bertrand Russell: “This is how I have actually understood Kepler’s spheres and his ‘tendency towards a cult of the sun,’ as B. Russell and others have expressed it.” Russell wrote in his 1935 *Science and Religion* that Kepler “was originally led to favor the Copernican hypothesis almost as much by sun worship as by more rational motives.”

Pauli’s purpose in this obfuscation is only revealed in the final section of his book, where he reviews the famous debates between Kepler and Robert Fludd, the British alchemist and Rosicrucian.

Fludd, typical of all mystics, Taoists, and related gnostics, claims that his occultism is the only alternative to crass materialism and empiricism. Fludd posited a spiritual world of light and a material world of darkness, in constant struggle but of equal power. Only by the use of the Rosicrucian mysteries can the “spiritual” powers be used to affect the material world, such as the alchemist effort to release the “*prima materia*,” the “world-soul” dormant in matter. Kepler, said Fludd, is but a “vulgar mathematician concerned with quantitative shadows.”

Kepler said of Fludd: “One can see also that he takes his chief joy from incomprehensible riddle-images about reality, while I proceed precisely from the standpoint of throwing the bright light of knowledge upon things in nature that are wrapped in obscurity” (*Harmonice Mundi*).

Pauli fully defends Fludd (and even contributes some original translations of Fludd’s gobbledegook, including several occult diagrams). He concurs with Fludd that Kepler’s idea that the soul responds to proportion is due to his entanglement in the dark (the corporeal world),

rather than the imaginative faculty, which recognizes Unity (i.e., "All-is-One"), and comes from the light (the mystical world).

In Pauli's personal letters, he discusses his rejection of Christianity, again crediting Bertrand Russell for the inspiration. In place of the Christian trinitarian view which Kepler (following Nicolaus of Cusa) had demonstrated, through hypothesis and experimentation, to be a scientifically appropriate description of the physical universe, Pauli preferred the "Quaternarian" view of Robert Fludd. Pauli's fourth dimension of this "Quaternity" was "the evil side of God," which he identified with the irrational, acausal side of life and the physical universe. Following the "secret writings" of the Rosicrucians, Pauli wrote: "I would like to interpret the 'dark' as that which, for the time being eludes intellectual, regular ('light') order. That is, the evil in ethics (integrating the evil in the divinity), the acausal in natural philosophy."

Pauli not only quoted Lao Tzu to support this view of the evil in God ("Nature has no love for the human species"—Lao Tzu), but by 1955, he had adopted a virtual Taoist creed: "I believe it is the fate of the West to again and again link these two basic positions with one another, the one which is critically rational and desires to know, and the one which is mystically irrational and searches for the absolving experience of amity. Both positions will always live in the human soul, and one will always already carry the other as the germ of its opposite. . . . We must entrust ourselves to this process and recognize the pair of opposites as complementary."

Pauli admitted that Kepler really doesn't fit into either of the Rosicrucian categories of "light" and "dark," but avoided this problem by extending Fludd's categories to an even more Taoist form, a "psychological contrast between the feeling type, or the intuitive type, and the thinking type." Kepler is dumped into the "thinking type" category with Newton and Aristotle! Pauli embraces the feeling type, the occult: "Even at the cost of consciousness of the quantitative side of nature and its laws, Fludd's 'hieroglyphic' figures do try to preserve a unity of the inner experience of the 'observer' (as we should say today) and the external processes of nature, and thus a wholeness in its contemplation." Kepler lacked this mystic "wholeness," said Pauli, and is thus responsible for the collapse into the materialism of Newtonian physics!

But, says Pauli, we have been saved by Bohr and Jung: "Modern quantum physics again stresses the factor of the disturbance of phenomena through measurement, and modern psychology again utilizes symbolic images as raw material . . . to reorganize processes in the collective psyche."

In place of natural law, as understood by Kepler and Leibniz, Pauli posited a "new type of statistical, quantum-physical natural law . . . which cannot in principle be reduced to causal-deterministic laws," and, like Jung's synchronicity kookery, "must recognize the existence of the essentially unique in physical occurrences. I should like to propose," said Pauli, "following Bohr, the designation 'statistical correspondence' for this new form of natural law."

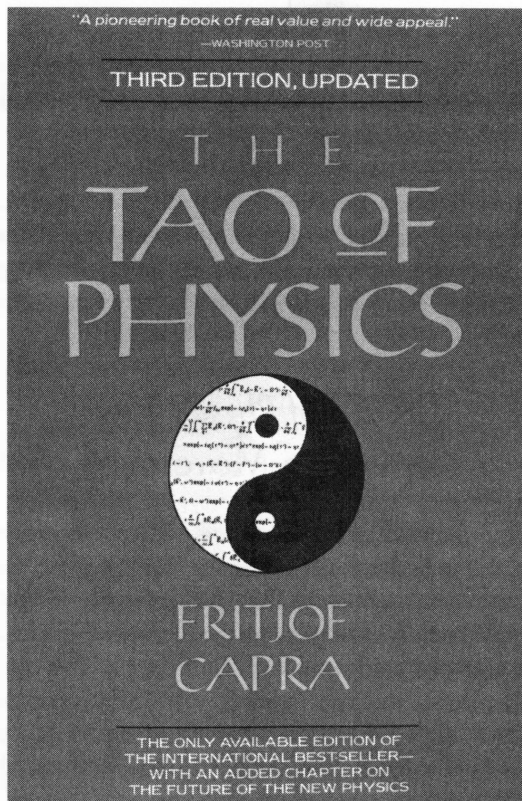
The Tao of Physics and The Green Movement

In 1975, at the peak of the explosion of the counterculture in America, a Berkeley-educated Ph.D. in physics, Fritjof Capra, published a book called *The Tao of Physics*. By the 1990's, this book had been published in over a dozen languages and had sold over a million copies. The author, who admitted that the consumption of psychotropic drugs had "showed me how the mind can flow freely, how spiritual insights come on their own," compared the results of quantum mechanics to the teachings of the Eastern mystics, especially Taoism and Zen Buddhism. Capra has gone on to become a leading figure in the radical environmentalist movement in the U.S., advocating de-industrialization, population reduction, and similar eco-fascist attacks on humanity.

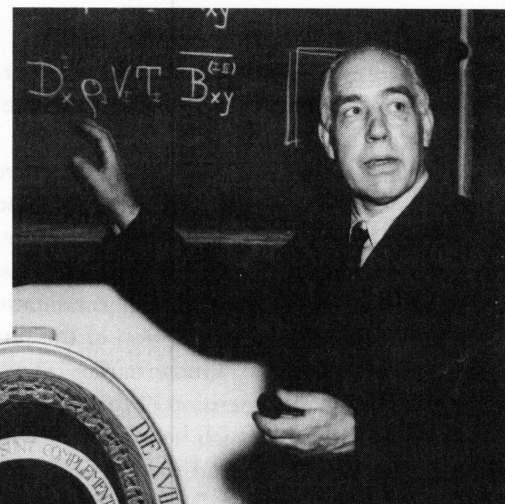
But Capra's book was not simply the ravings of a Berkeley pothead who turned on to Zen. He is in fact a well-groomed product of today's university training in advanced physics. According to his own report, he worked closely with Werner Heisenberg, Niels Bohr's closest collaborator, in the early 1970's, who went over every chapter of his book. Capra wrote: "It was Heisenberg's personal support and inspiration that carried on through those difficult years, when I went out on a limb to develop and present a radically new idea."

Capra's claim of Heisenberg's support must be viewed with circumspection, since Heisenberg in his later years, attacked the Copenhagen interpretation and other "pessimists among particle physicists who believe that there simply is no such law of nature, defining the dynamic properties of matter" (Heisenberg, "What is an Elementary Particle?," 1975).

The importance here is that the gnostic irrationalism of Bohr's "complementarity," the Taoism of the Copenhagen School, not only poisoned the potentially fruitful development of science, which development could have prevented the current global economic disaster, but it also directly contributed, intentionally, to the creation of the hysterical anti-science ideology which spawned such



Left: Fritjof Capra's "The Tao of Physics." Right: Niels Bohr. He designed a coat-of-arms with the Taoist Yin-Yang symbol (below).



Princeton University, Courtesy AIP



Nationalhistoriske Museum på Frederiksborg

deadly frauds as "global warming," the anti-nuclear movement, etc.

It is worth reviewing two points from Capra's *Tao of Physics*—first, his accurate comparisons between Taoist irrationalism and the ideology of the Copenhagen School, and, second, the distortion of Confucianism, imposing on China a synthetic Taoist ideology under the rubric of an all-inclusive "Chinese philosophy."

Capra makes explicit the Taoist root of Pauli's division of people into "thinking-types" versus "intuitive, feeling types." He asserts that "it has been recognized" that there are two types of knowledge, rational and intuitive, associated, respectively, with science and religion (which was the thesis of Bertrand Russell's 1935 *Science and Religion*). He accuses the West, in general, but also Confucianism in the East, of being too rational, too scientific, too Yang at the expense of Yin. He asserts that in China, "two complementary [!] philosophical traditions—Taoism and Confucianism—have developed in ancient China to deal with the two kinds of knowledge." True knowledge, or "absolute" knowledge, comes only from the "non-intellectual experience of reality, arising in a non-ordinary state of consciousness called meditative or mystical."

To avoid the problem of the One and the Many, Capra simply chooses unity over multiplicity—the mystical "All-is-One" soup of the Taoists and the Buddhists, the "night in which all cows are black." To deal with the

obvious differentiation of things in the physical universe, he uses the Yin/Yang "unity of opposites," which we saw Bohr adopt as the insignia of his coat-of-arms. Capra extends this to its necessary logical conclusion of moral relativism, ascribing

such amoralism to "the East." "In the East, a virtuous person is therefore not one who undertakes the impossible task of striving for the good and eliminating the bad, but rather one who is able to maintain a dynamic balance between good and bad." Confucius would turn over in his grave to hear such a thought ascribed to him.

However, Capra is indeed accurate in projecting this Taoist immorality onto the ideology of Bohr and his supporters. He reports that the "basic oneness of the universe is not only the central characteristic of the mystical experience but is also one of the most important revelations of modern physics." The solution to the wave/particle paradox is simply the unity of the Yin and Yang—they can be opposites and be one at the same time.

Similarly, Capra draws out the parallels between Buddhism and Bohr's view of the impossibility of knowledge (owing to man's role as both actor and observer in the universe). Capra quotes the Mahayana Buddhism master from the First Century, Ashvaghosha: "All phenomena in the world are nothing but the illusory manifestation of the mind and have no reality on their own." Capra is correct in asserting that this is the logical result of quantum theory "in its most extreme form." Ultimately, says Capra, this theory implies that "the structures and phenomena we observe in nature are nothing but creations of our measuring and categorizing mind." This, of course, does not refer to the causal effect of new valid scientific discoveries by

a human mind applied to the transformation of nature, as LaRouche (following Cusa, Kepler, and Leibniz) identified above. Rather, this is pure reductionist empiricism—the world is what we observe with our senses (which is where Bohr and quantum mechanics never departed from the empiricism of Newton), and thus, reality is only in our minds. This is most clearly demonstrated by Bohr’s argument that the uncertainty involved in man’s efforts to measure the location and momentum of an atomic particle is not simply a problem in our method of observation, but is an uncertainty in nature itself. No proof is offered—simply the Aristotelian (and Buddhist) assertion that the perception of the shadows on the wall of Plato’s cave is all that is real.

The second point to be made about Capra’s *Tao of Physics* is his obfuscation of the humanist natural theology which characterizes both the Vedic literature of India and the Confucian teachings of China. By simply lumping these teachings together with the mystical, anti-rational extremes of Mahayana Buddhism and Taoism, calling the amalgam “Eastern Mysticism,” Capra joins his voice to the Venetian effort of the past four centuries to destroy the Confucian tradition (in tandem with their efforts to destroy apostolic Christianity), an effort in full force today. Since Capra follows the method of Joseph Needham, which will be fully discussed below, it is necessary to present only one example of Capra’s particular form of this fraud.

In drawing the parallel between the Copenhagen “complementarity” with the Yin/Yang “Harmony of Opposites” ideology, Capra quotes from the Upanishads, from Buddhists, from Taoists, and from Confucius, intending to prove his point. All are referring to the unity of opposites, but what Capra fails to recognize (by intention or by ignorance) is that the actual mystics are referring to all things being one, an undifferentiated, atheistic soup, while both the Indian and Chinese humanists are referring to the unity of opposites in God, the existence of the absolute infinite, and man’s relationship to that infinite through reason.

For example, Taoist master Chuang Tzu is quoted: “The ‘this’ is also the ‘that.’ The ‘that’ is also the ‘this’ . . . That the ‘that’ and the ‘this’ cease to be opposites is the very essence of the Tao.” And Mahayana Buddhism master Ashvaghosha is quoted: “When the mind is disturbed, the multiplicity of things is produced, but when the mind is quieted, the multiplicity of things disappears.” These simply state the denial of multiplicity in favor of an all-encompassing but incomprehensible Unity.

Capra then quotes from the Upanishads, intending to make the same point:

He who, dwelling in all things,
Yet is other than all things,

Whom all things do not know,
Whose body all things are,
Who controls all things from within—
He is your Soul, the Inner Controller,
The Immortal.

This is not a denial of multiplicity, but a praise of God, the non-Other, who is intelligible as that which is immortal through man, the rational soul.

Joseph Needham: Ideological Triple Agent

The final section of this essay will expose the vicious fraud carried out against China by the British biologist, “China scholar” Joseph Needham. But to understand Needham’s distortion of the history of Chinese science and philosophy, it is necessary to briefly review the developments of the Confucian Renaissance in China in the Eleventh and Twelfth Centuries A.D., and the nearly successful collaboration in the Seventeenth Century of Western Renaissance Christianity and Eastern Renaissance Confucianism.

Every period of significant development in China coincided with a period in which Confucianism was dominant, generating exponential population expansion, while every period of Taoist (and later, the associated Zen Buddhist) domination led to decline and catastrophic population collapse (Michael Billington, “Toward the Ecumenical Unity of East and West: The Renaissances of Confucian China and Christian Europe,” *Fidelio*, Vol. II, No. 2, Summer 1993). The greatest period of development came in the Confucian Renaissance during the Sung Dynasty (A.D. 960-1260). The scientific and technological impulse generated in this period turned China into the most advanced economy in the world for several centuries, even generating a recovery from the devastation of the genocidal Mongol occupation (A.D. 1260-1368) [SEE Figure 1]. However, the unfolding of the Florentine Renaissance in Europe in the mid-Fifteenth Century coincided with a general decline in China, including a resurgence of Taoism and Taoist-influenced degeneration within Confucianism, which culminated in the collapse of the Ming dynasty in 1644.

The last half of the Seventeenth Century, however, saw an experiment in global ecumenical collaboration which is particularly important for our examination of the Taoist perversion of Twentieth Century science in the West. Gottfried Leibniz, in collaboration with Jesuit missionaries working at the highest levels of the Court during the reign of the Ching Emperor Kang-Hsi (1661-1722), launched a Grand Design to link the entire Eurasian landmass through economic development, sci-

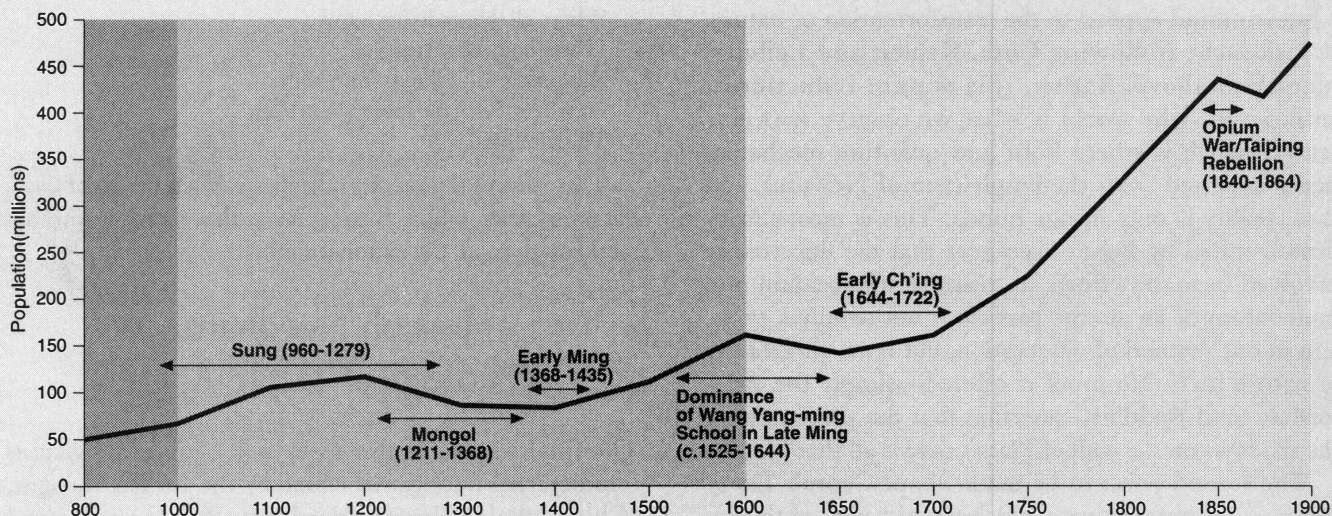


FIGURE I. Rapid population growth accompanied the three major periods of influence of the Confucian (Sung) Renaissance, while population collapse followed each recurrence of Taoist/Legalist rule. In addition to the Sung period proper, there were two major revivals of Confucian ideas as guides to the institutions of the Empire, each leading to a period of dramatic economic, scientific, and cultural advance: First, the early Ming Dynasty, following the devastation of the Mongol occupation in the Thirteenth and Fourteenth Centuries; and second, the early Ch'ing Dynasty, following the collapse of the Ming in 1644. British Empire "Legalist" policies, combined with their manipulated anti-Confucian Taiping Rebellion, resulted in another population collapse during the Eighteenth Century.

Note changes in time scale at A.D. 1000 and 1600.

Source: Colin McEvedy and Richard Jones, *Atlas of World Population History*.

entific collaboration, and a common ecumenical moral outlook. Leibniz's writings on China show that he saw in the Confucian teachings, and especially in those of the Sung Renaissance sage Chu Hsi, the core of the same scientific worldview which he had himself developed in the process of his seminal work in launching modern physics and the science of physical economy (Billington, *ibid.*).

Although Confucius and Mencius generally avoided discussion of the attributes of Heaven, both revealed in their writings a belief in a Creator and a belief that man is created fundamentally good, reflecting the pure goodness of Heaven. Chu Hsi, 1,500 years later, developed this concept in a manner which showed that the physical laws of the universe were precisely the same as the laws of creative reason. Chu Hsi defined universal Principle, or *Li* (理), as the infinite first cause, the Great Unity, which was both totally indivisible while also embodying the most perfect multiplicity. This Principle, or *Li*, was the elementary substance of all things, in the sense that any particular corporeal substance only existed in conjunction with its Principle. Leibniz recognized in this a profound scientific view of the world, similar to his own concept of the *monads* (or souls, in the case of conscious beings) as the simple substance, with the Universal Monad being God himself. This concept posed a solution to the problem of the One and the Many, the Parmenides paradox of

Plato, by, on the one hand, defining the nature of each particular creation as that which reflects the Creation as a whole (or, the individual *Li*, or *monad*, reflecting and participating in the Universal *Li*, or Universal Monad, or God); while, on the other hand, demonstrating that the action of each *Li*, each *monad*, affects directly the entirety of the unfolding Universal Creation. Chu Hsi, like Leibniz, saw this principle at work even in the smallest inanimate object, while identifying the hierarchy of creation whereby the human mind, which reflects the Universal Principle (*Li*) in the most perfect, least obscured manner of all created things, is uniquely capable of both understanding and consciously affecting this process as a whole through the exercise of creative reason.

Leibniz believed this to be the fundamental basis for the scientific method of hypothesis, as opposed to the mere empiricist tabulation of sensory data by a mind conceived as an Aristotelian "blank slate." He compared Chu Hsi's concept of the *Li* as the nature of things, to his own view that "nature is wise, in that she does all for an end and nothing in vain" (G.W. Leibniz, *Natural Theology of the Chinese*).

Chu Hsi's work became the standard for Confucian scholarship throughout subsequent history, withstanding numerous attempts to "revise" his work with Taoist distortions. It is important to note here that Chu Hsi directly

and repeatedly refuted Taoist ideology. Said Chu Hsi, the notion of *wu wei*, non-action (“go with the flow” in New Age jargon), which was central to Taoism, failed to understand that the nature of the mind, like the mind of Heaven, “is none other than the production of things; that if one interprets this mind any other way, one will invariably be drowned in emptiness and submerged in quietude, and will fail to attain the proper connection between substance and function, root and branch” (*Chu Wen King wen-chi* 42:196). To defend Taoism, the work of Chu Hsi (and Leibniz) had to be destroyed. This was the task assumed by Joseph Needham.

A Taoist Friend of Mao

Joseph Needham turned to China studies at the peak of his career as a biologist in England in the 1930's. Both he and his wife were members of the British Royal Society. He was a leading spokesman for Bertrand Russell's collaborator Alfred North Whitehead's theory of “organicism,” a holist, atheistic view of the universe as a living organism following neo-Darwinian biological laws of evolutionary growth. He was a member of the Communist Party of Great Britain, placing him in political collaboration with the geneticist J.B.S. Haldane, who was also a Communist and editor of the London *Daily Worker* in the 1940's. He was also in the circles of the Fabian Society, H.G. Wells, the Webbs, and Bertrand Russell himself. Needham's oft-repeated “philosophy of life,” following Russell's division of religion, art, and science, identified five forms of human experience: religion, science, history, philosophy, and aesthetics. “I don't think there is any necessity to reconcile them,” said Needham.

Following World War II, Needham's biologist/geneticist friend Julian Huxley headed a project to profile and manipulate ethnic divisions throughout the world under the auspices of the new Russellite project, the United Nations. Since the 1920's, Huxley had served as the world leader of the pseudo-science of eugenics (“race purification”), supplying his supposed “scientific” authority to the implementation of racial laws in Britain, the U.S., and in Nazi Germany. Needham called on his friend Huxley and persuaded him to include a division on science to his U.N. project, in addition to the original divisions on education and culture; this gave birth to UNESCO (the United Nations Educational, Scientific, and Cultural Organization). This agency became the center for occultists at the U.N., with Needham himself heading the Science Division during 1946.

According to Needham's account, when some Chinese biologists came to work in his laboratory at Cambridge, he became fascinated with China and suddenly dedicated his life to a massive study of the history of science in Chi-

na, resulting in the multi-volume encyclopaedic project, *Science and Civilization in China*. It is more likely, however, that he was deployed by his Communist and/or Fabian associates to take responsibility for China, and to establish relations with the emerging Taoist movement called the Communist Party of China (CPC). Bertrand Russell had personally deployed himself to China in 1920 to introduce Bolshevik theory, Malthusianism, and his particular brand of moral perversity, which contributed directly to the original formation of the CPC. Russell and his collaborator, Needham's mentor Whitehead, may have directly encouraged Needham's choice of vocation.

Whatever the first cause, Needham became a close friend and collaborator of Mao Zedong and the Communist leadership, functioning as a spokesman for the Maoist nightmare up to the present. Although his prejudices are well known, he is nonetheless accepted as the absolute authority on science in China in the West and even in Taiwan. Thus, while reinforcing the British distortion of Chinese culture in the West, Needham has functioned as the “Kim Philby” of British intelligence in China, feeding back into China, to his “old friends,” a distorted profile of Western science and culture intended to reinforce the bestial worldview of Taoism by lending the support of so-called Western science against the Confucian tradition.

It is not only of historical interest that Needham's role in the British-sponsored destruction of China be exposed. The current revival of Confucian studies is dominated by a Taoist-oriented faction, centered around Harvard University, British agent Lee Kwan Yew of Singapore, the World Council of Churches and others, who are intent on reimposing a Twenty-first-Century form of Nineteenth-Century British imperial control over China. The “Third Wave,” “post-industrial society,” anti-science ideology of this network rests on Needham's distortion of Chinese history.

The thesis of Needham's writings comes directly from Max Weber and Bertrand Russell—that Taoism is both the source of the true Chinese character, and, through alchemy, the root of all scientific progress, while Confucianism, being authoritarian and concerned only with human society (rather than nature), has been a hindrance to scientific development. Confucianism, Needham wrote, suffered from an “intense concentration of interest on human social life to the exclusion of non-human phenomena (which) negated all investigation of things, as opposed to affairs” (all quotes from Needham are from his *Science and Civilization in China, Vol. II*). The result, he said, is that “rationalism proved itself less favorable than mysticism to the progress of science.” This is a recurring theme, asserting that “science and magic are in their earliest stages indistinguishable.” This is not only

true in China, Needham says, but universally, and he even admits to the occult roots of British science: "Rational theology was anti-scientific, mystical theology proved to be pro-scientific. . . . [Thus,] the interest taken in the early Royal Society in what we now can see were magical claims." His mild effort to put his praise of the occult in the past is a bluff, as will be seen.

As we saw also in the case of Wolfgang Pauli, the embrace of the occult in science is the necessary result of an empiricist or positivist view of the world. Needham quotes the Taoist master Chuang Tzu admiringly: "Those who study the Tao [know that] they cannot follow these changes to the ultimate end, nor search out their first beginnings—this is the place at which discussion has to stop" (Chuang Tzu, 25). Needham comments: "Note in the above passage the characteristic distaste for metaphysics; the ultimate beginning and the ultimate end are the Tao's secret. All that man can do is to study and describe phenomena; it is indeed a profession of faith in natural science." To Needham, "natural science" is merely the mechanical recording of sensory data, completely lacking in any hypothesizing activity whatsoever, and dependent upon the acceptance of a mystical and unknowable cause and purpose to things and affairs.

There is no place for the "Good" in such an empiricist schema. The Taoist Yin/Yang, like the gnostic "Power of Light" and "Power of Darkness," entails a pure moral relativism. Needham's personal creed on this point is blood-curdling: "The expulsion of partiality and human weakness in the investigation of the more disgusting or terrible aspects of Nature, and the expulsion of human ethical criteria and preconceptions from the human approach to Nature, lead naturally to a realization that human standards are irrelevant outside humanity."

Needham quotes one of his favorite chapters from Lao Tzu's *Tao Te Ching*, a book which Needham considers to be "without exception the most profound and beautiful work in the Chinese language." Chapter 5 reads:

Heaven and Earth are not benevolent [have no *jen*],
They treat the 10,000 things like straw dogs.
Nor is the Sage benevolent [the Sage has no *jen*],
To him also the hundred clans are but straw-dogs.

Needham's comment: "No one can understand this unless it is realized that the expulsion of ethical judgments from natural science was an essential step in its development. . . . Ultimate benevolence may require temporary non-benevolence." One hears, in these words, the various apologists for the evil of the British Empire's rape of China, India, Africa, etc. But also, one hears the conscious perversion of the beauty of scientific discovery by the ugliness of Taoist mysticism.

The Roots of the Environmentalist Counterculture

The "politically correct" environment of the 1990's is quite demonstrably a Taoist creation. The mentality which accepts the idea of the "post-industrial society" as a positive notion has already accepted the fundamental Taoist axioms associated with radical environmentalism, feminism, and the libertinism of the yuppie lifestyle and the "rock-sex-drug counterculture." This is a scientific issue, as well as a moral one.

Needham draws the connection quite clearly in the following extended quotation:

The observation of Nature, as opposed to the management of Society, requires a receptive passivity in contrast to a commanding activity, and a freedom from all preconceived theories in contrast to an attachment to a set of social convictions. This is the sense in which we may interpret the symbols of "water" and "feminine" so dear to the early Taoist schools. . . .

There has been a great failure in subsequent ages to understand this psychological symbolism. . . . The Confucian . . . social-ethical thought-complex was masculine, managing, hard, dominating, aggressive, rational and donative—the Taoists broke with it radically and completely by emphasizing all that was feminine, tolerant, yielding, permissive, withdrawing, mystical and receptive. . . . The female receptiveness which the Taoists desired to display in their observation of Nature was inextricably connected with the feminine yieldingness which they believed should be prominent in human social relations.

Today's Gaia cult, whose irrationalism has become law, for example, in the Montreal Protocol banning CFC's, in the effective ban on nuclear power development, in the witchhunt against cold fusion, etc., was carefully nurtured by such priests of Taoism as Joseph Needham. To Needham, this is the "social truth embodied in the Lao Tzu. . . . Taoism had to retain, unborn within itself for two thousand years, science in the fullest sense."

Even the insane policy of "technological apartheid" (as Lyndon LaRouche has called it) now being enforced by the United Nations, which refuses access to modern technology by Third World nations under the excuse that it may have a "dual use" in weapons production, is accredited to Taoist wisdom. Needham points to the Taoist's "distinct prejudice against technology and inventions, which seems at first sight very curious. One can see, in fact, that mechanical inventions have always been double edged. Their *méfiance* sprang from the (not unjustified) impression that all machines were infernal machines, or very liable to be so." Needham even wrote a book praising the Seventeenth-Century "Levellers" movement in England, a Puritan sect that smashed machines as the



Archives Unesco

Biologist Joseph Needham (left) played a key role in presenting the West with a distorted, Russellite picture of Chinese civilization. A close collaborator of UNESCO founder, the racist Julian Huxley (below), Needham headed its Natural Sciences Department.



UNESCO/Claude Bablin

works of the devil. Such anti-technology (Taoist) fanaticism was, said British Royal Society Fellow Needham, “by no means so disadvantageous to the working class as has usually been supposed.”

Needham vs. Chu Hsi and Leibniz

To justify this Taoist view of history and science, Needham recognized that he was required to explain the historical fact that the greatest development of science and technology, both in China and in Europe, occurred as the result of the exact opposite epistemological worldview—in Europe, the Christian Platonism of Nicolaus of Cusa, Kepler, and Leibniz, which generated the discoveries of the Golden Renaissance, and of Bernhard Riemann and Georg Cantor in the Nineteenth Century; and, in China, the Confucian tradition as developed by Chu Hsi in the Twelfth Century, and his followers up to the collaboration with Leibniz in the late Seventeenth and early Eighteenth Centuries.

Needham’s solution was simple, if ludicrous. He declared both Chu Hsi and Leibniz to be atheists, covert Taoists, and the founders of his theory (from Whitehead) of “organicism”!

The fundamental antinomy of history, said Needham, was between theological idealism and atomic materialism. Leibniz, he said, “was an example of this split personality of Europe. He first grew up in Aristotelian-Thomist theological scholastic vitalism, but then went over to ‘atoms and the void,’ i.e., to Lucretian-Cartesian

mechanical materialism, a system of thought which had always tended, however disguised, to atheism.” The “atheist” Leibniz then solved the antinomy through his theory of *monads*: “Against the Cartesian view of the world as a vast machine, Leibniz proposed the alternative view of it as a vast living organism.”

This is an absurdity, obvious on even the most cursory review of Leibniz’s writings. Leibniz begins his *Monadology* by posing an apparent contradiction: the *monad* is defined as “simple substance,” the “veritable atoms of nature, the elements of all things.” But by being “simple,” he specifies that the *monad* has “no parts, neither extension, nor figure, nor divisibility.” This cannot, therefore, be the “atom” in the sense of hard little balls of matter which, added together, make up larger pieces of matter, as reductionists looking for the ultimate “fundamental particle” may imagine. Leibniz identifies the fact that the actual substance of the universe is the process of change itself, that every *monad* is different and is undergoing continual, self-generated change. Herein lie the laws of nature: the law of sufficient reason, which locates the source of change within the individual *monad* as coming from the “necessary being,” the Universal Monad, which “acts according

to the principle of the best possible.” This view of the universe is the basis of the method of hypothesis of the higher hypothesis, which is the source of all scientific discovery.

Needham, following Russell and Whitehead, simply ignores what Leibniz says, and asserts that “the *monads* of which he considered the world to be composed were indissoluble organisms participating as parts of higher organisms.” In a rather hilarious footnote, he says: “It is at first sight disturbing to find that *monads* are defined as without parts, but Leibniz used the word ‘parts’ in a rather special way.”

Needham is then ready to impose the same distortion upon Chu Hsi and the method of the Confucian Renaissance in the Twelfth Century. He quite correctly identifies the fact, first stated by Leibniz himself, that “the hierarchy of *monads* and their pre-established harmony resembled innumerable individual manifestations of the Neo-Confucian *Li*” of Chu Hsi. But he translates *Li* not as “Principle,” nor as “substance” in the sense of Leibniz, but as “organization,” meaning simply the arrangement of the organisms which make up his Newtonian world.

Without attempting a thorough discussion here, it should be noted that Chu Hsi explicated at great length his concept of *Li* as preceding matter. The Taoists imputed a mystical power to the “stuff” of material being, called the *Ch’i* (氣)—it was this *Ch’i* of matter that was transformed by alchemy, and which was accessed in the human body to achieve longevity through breathing exercises, sexual perversions, etc. Chu Hsi, by identifying the process of creation by Heaven (the universal *Li*) as impressing its image upon every created thing (the individual *Li*), showed, like Leibniz, that the essence of things was located in the process of change, guided by a principle of perfection. The *Ch’i*, related to matter, involved opposites, Yin and Yang, but *Ch’i* could only exist in connection with the *Li*, which is above matter, and has no opposite. Scientific method, as identified by Chu Hsi, was located in the “investigation into the principle (*Li*) of things and affairs to the utmost,” a total repudiation of empiricism.

And yet, Needham ascribes his pure empiricist methodology, and the view of the world as an “organism,” an amoral glob of mud and protoplasm, to Chu Hsi and to Leibniz! In fact, Leibniz explicitly refuted Needham on precisely this point (250 years earlier), both for himself and on behalf of the Confucians:

Perhaps some Chinese assume that a primitive composite has resulted from the primitive form, or *Li*, and from the primitive matter or *Ch’i*; a substance of which the *Li* is the soul and the *Ch’i* its matter. They could comprehend this substance under the name Supreme Ultimate, and the entire world would thus be conceived of as an animal, life universal, supreme spirit, a grand personage; the Stoics

speak of the world in this fashion. Among the parts of this grand and total animal would be the individual animals just as for us animalcule enter into composition of the bodies of large animals. But since one does not find this error explicitly in the ancient Chinese authors, it should never be attributed to them, all the more so since they have conceived of matter as a production of God. God will not combine substance and matter, and thus the world will not be an animated being, but rather God will be an *intelligentia supramundana*; and matter, being only an effect of His, will never be coeval with Him. (*Discourses on the Natural Theology of the Chinese*)

Completely ignoring the entire history of Confucian teachings on benevolence (*jen*) and, in particular, Chu Hsi’s teachings on the creative power of Heaven, Needham told *Scientific American* magazine in 1992 that, “One of the most liberating aspects of the whole of my life was when I went to China and found that a quarter of the human race doesn’t find the need of believing in a benevolent and creative god.” Needham’s contribution to Twentieth-Century science is perhaps best captured by the ending to his volume on Chinese philosophy and science:

Modern science, since the time of LaPlace, has found it possible and even desirable to dispense completely with the hypothesis of a God as the basis for the laws of Nature, has returned, in a sense, to the Taoist outlook. . . . This is what accounts for the strangely modern ring in so much of the writing of that great school. (*Science and Civilization in China, Vol. II*)

It should be noted that the various popular applications of scientific theory to economic policy over the past fifty years have the same Taoist epistemological roots as the Copenhagen School and Needham’s “organicism.” The “systems analysis” approach that emerged from Norbert Wiener’s “Cybernetics” and Von Neumann’s “Game Theory,” as well as Prigogine’s “Chaos Theory” and its kookier spin-offs like Alvin Toffler’s “Futurology” and George Soros’ pseudo-theories on the science of stealing—all of these reveal to investigation the same rejection of any creative process in the human mind, replacing the mind with a computer, capable only of data input and linear deductions. Such ideological diseases eventually cause terminal conditions if left unchecked, as we see today in both the anti-science cults that run the United Nations and the governments of most advanced sector nations, and in the cancerous bubble in the world financial system, brought on by the “creative financing” in junk bonds, derivatives, and related looting of the real productive economy. A return to rigorous scientific method, as proven historically by the advance of mankind’s physical economy under the impulse of Platonic/Christian and Confucian thinking, is the minimum requirement for reversing the planet’s unfolding breakdown crisis.

On the Theory Of the Transfinite

Correspondence of Georg Cantor
and J.B. Cardinal Franzelin

(1885-1886)

GEORG CANTOR (1845-1918), MATHEMATICIAN AND PHILOSOPHER, *carried on an extensive correspondence, on a wide variety of topics, with his colleagues and many others in various countries. After his death, twenty letterbooks were found, into which he had copied his numerous letters. Seventeen of these letterbooks were burned as fuel shortly after the war, and only three were rescued from the flames.*

The following correspondence with J. Bapt. Cardinal Franzelin (1816-1886) is contained in these letterbooks. Two of Cantor's letters and a part of Franzelin's reply were published by Cantor himself and incorporated into his work "Mitteilungen zur Lehre vom Transfiniten" ("Communications on the Theory of the Transfinite").

In 1869, Pope Pius IX called a Vatican Council. Without debating here the issues of this council, it is important to note that the convening of the council created an uproar in Europe and especially within international Freemasonry, which convened an opposing council in Naples, in which the "Mazzini networks," including Giuseppe Garibaldi and Victor Hugo, participated. At the Vatican Council the standpoint of the encyclical "De Fide Catholica"—that man can know God through reason—was affirmed. Cardinal Franzelin played an important role in this part of the council, and later in the formulation of the social policies of Pope Leo XIII.

With his first letter to Cardinal Franzelin, Cantor included a brief essay, which has been included in this translation. It is almost identical to an 1885 letter he had sent to his Swedish colleague in Stockholm, Mr. Eneström, and was published by Cantor himself in 1890 in the "Journal of Philosophy and Philosophical Critique." We have also translated several brief, related items from Cantor's correspondence with others.

This is the first time that the complete known correspondence between Georg Cantor and Cardinal Franzelin has been translated into English and published in one location.

The translation of these letters was prepared from the German texts published in *Georg Cantor: Briefe*, edited by Herbert Meschkowski and Winfried Nilson (Berlin: Springer-Verlag, 1991) (GCB) and *Georg Cantor: Gesammelte Abhandlungen mathematischen und philosophischen Inhalts*, edited by Ernst Zermelo (Berlin: Springer-Verlag, 1990) (GCGA). They are published by permission of Springer-Verlag.

Letter from Georg Cantor
to Cardinal Franzelin*

Halle, Germany
December 17, 1885

Permit me, Monsignore, to present to you herewith a small essay (in proof sheet), of which I will take the liberty to send you several copies by book-post, as soon as the printing shall be completed.

I would be pleased, if the attempt contained therein, to properly differentiate the *three main questions* respecting the Actual-Infinite, would also be submitted to examination from the standpoint of the Christian-Catholic philosophers.

The fact that Your Eminence in your great work on dogma, namely in the book “De Deo uno secundum naturam” in thesis XLI does not necessarily reject the standpoint taken by me, which *affirms* the A.I. in all three main respects, motivated me already one year ago to take the liberty to inform Your Eminence of my relevant works.

Please accept, Your Eminence, the expression of my greatest esteem, with which I have the honor to sign myself as

very respectfully,
Your Eminence’s most loyal
G.C.

*GCB, letter #99, p. 252. Italics indicate author’s emphasis only.

On the Various Standpoints
With Regard to the Actual Infinite*

(From a letter by the author to Mr. G. Eneström
in Stockholm on November 4, 1885.)

. . . Your letter of Oct. 31 of this year which I received today contains the following question: [in French—ed.] “Have you seen and studied the essay by the Abbot Moigno entitled: ‘Impossibilité du nombre actuellement infini; la science dans ses rapports avec la foi.’ (Paris, Gauthier-Villars, 1884)?”¹ Indeed I did obtain this short paper some weeks ago. What Moigno says here about the alleged impossibility of the actual infinite numbers, and the use which he makes of this false argument for the foundation of certain religious doctrines, was already essentially known to me from Cauchy’s: “Sept Leçons de physique générale” (Paris, Gauthier-Villars, 1868).² Cauchy seems to have been led to this speculation, most peculiar for a mathematician, by the study of P. Gerdil. The latter (Hyacinth Sigmund, 1718-1802) was a notable, very respected personality and a distinguished philosopher, who worked for a while as a professor in Turin,

afterwards was educator of the subsequent King Karl Emanuel IV of Piedmont, was then called to Rome in 1776 by Pope Pius VI, was employed in various businesses of the Holy See, and finally was appointed Bishop of Ostia as well as Cardinal. Perhaps he will be known to you as the author of some works on geometry and historical matters. Cauchy on page 26 refers to a treatise of Gerdil’s, which bears the title: “Essai d’une démonstration mathématique contre l’existence éternelle de la matière et du mouvement, déduite de l’impossibilité démontrée d’une suite actuellement infinie de termes, soit permanents, soit successifs.” (Opere edite ed inedite del cardinale Giacinto Sigismondo Gerdil, t. IV, p. 261, Rome, 1806).³ The same subject is also presented by him in “Mémoire de l’infini absolu considéré dans la grandeur” (ibid., t. V. p. 1, Rome, 1807).⁴

I am by no means in fundamental opposition to these authors, inasmuch as they strive for a harmony between faith and knowledge, but I consider the means, of which they avail themselves here to that end, to be entirely wrong.

If the religious dogmas would require for their support such an *absolutely false* principle, as that of the impossibility of actual infinite numbers (which in its well-known formulation “*numerus infinitus repugnat*”⁵ is as old as the hills; recently it can be found for example in Tongiorgi: “Institut. philos., t. II, 1. 3, a. 4, pr. 10” in the form of: “*Multitudo actu infinita repugnat*”⁶; it can also be found among others in Chr. Sigwart “Logik, Vol. II. p. 47, Tübingen, 1878,” and in K. Fischer “System der Logik und Metaphysik oder Wissenschaftslehre, p. 275, Heidelberg, 1865”),⁷ then they were in a very bad condition, and it seems to me most noteworthy that the holy Thomas of Aquinas in I p, q. 2, a. 3 of his “Summa theologica,” where he proves the existence of God with five arguments, makes *no* use of this faulty principle, although in other respects he is no opponent of the same; in any case it seemed to him at least too uncertain for this purpose. (Compare Constantin Gutberlet: “Das unendliche metaphysisch und mathematisch betrachtet,” Mainz, 1878, p. 9.)⁸ As much as I value Cauchy as a mathematician and a physicist, as sympathetic as I find his piety and as much as I am also particularly pleased with that “Sept Leçons de physique générale,”⁹ apart from the error in question, nevertheless I must decidedly protest against his authority, there where he has failed.

It is now exactly two years ago, that Mr. Rudolf Lipschitz in Bonn called my attention to a certain passage in the correspondence between Gauss and Schumacher, where the former declares himself against *any* bringing into play of the Actual-Infinite in mathematics (letter of July 12, 1831); I have answered in detail, and have *in this*

point dismissed the authority of Gauss, of which I think so highly in all other respects, as I reject today the testimony of Cauchy and, in my short paper “Grundlagen einer allgemeinen Mannigfaltigkeitslehre, Leipzig, 1883,”¹⁰ among others also the authority of Leibniz, who in this question has committed a peculiar inconsistency.

If you would look more closely at the aforementioned short paper (not the translation in the “Acta mathematica,” t. II, where only one part therefrom is printed), then you would find that in paragraphs 4-8 I have fundamentally answered all objections, which could be made against the introduction of actual infinite numbers. Although at that time the writings mentioned of Gerdil, Cauchy, and Moigno concerning our subject were not yet known to me, nevertheless the respective sophisms of these authors are refuted just as well, as the petitiones principii of the philosophers so abundantly cited by me there.

All so-called proofs against the possibility of actual infinite numbers, as can be distinctly demonstrated in every case and can also be concluded from general principles, are in the main point faulty thereby, and therein lies their πρώτον ψεύδος,¹¹ that they from the outset demand or rather impose upon the numbers in question all properties of the finite numbers, whereas however the infinite numbers on the other side, if they are to be conceivable at all in any form, must, owing to their contrast to the finite numbers, constitute an entirely new species of number, whose character is by all means dependent on the nature of things and is the subject of inquiry, but not of our caprice or our prejudices.

Pascal, as I have seen only recently, has well recognized the questionable if not paradoxical nature of such deductions, as we encounter them with the mentioned authors, and he therefore also declares himself, just as his friend Antoine Arnauld, *in favor of the actual-infinite numbers, except that he for a different, refutable reason, which I will not take up in further detail here, underestimates the human mind with regard to its power of comprehension of the Actual-Infinite.* (Compare

Pascal, “Oeuvres complètes,” t. I p. 302-303, Paris, Hachette & Co., 1877; and also: “Logique de Port-Royal,” ed. by C. Jourdin, 4^e partie, chap. 1, Paris, Hachette & Co., 1877).¹²

If one chooses to distinctly classify the various views, which have asserted themselves in the course of history with regard to our subject, the *Actual-Infinite* (henceforward for the sake of brevity denoted by A.-I.), then several viewpoints present themselves for that purpose, of which I wish to emphasize only one today.

One can namely call into question the A.-I. in *three main respects: firstly, inasmuch as it is called in Deo extra-*

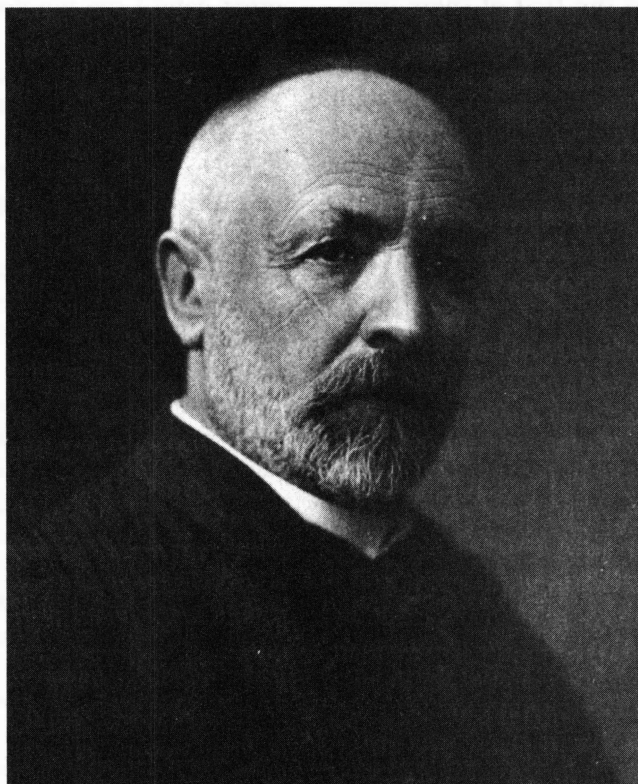
*mundano aeterno omnipotenti sive natura naturante,¹³ where it is called the Absolute, secondly, inasmuch as it occurs in concreto seu in natura naturata,¹⁴ where I name it Transfinitum and thirdly the A.-I. can be called into question in abstracto, that is inasmuch as it may be comprehended by human cognition [Erkenntnis] in the form of actual-infinite, or as I have named them, transfinite numbers, or in the even more general form of the transfinite ordinal types (ἀριθμοὶ νοητοὶ or εἰδητικοὶ).*¹⁵

Disregarding the *first* of these three problems for the moment, and confining ourselves to both of the latter, *four different standpoints* automatically result, which indeed also find

themselves represented in the past and the present.

One can reject, *firstly*, the A.-I. not only *in concreto*, but also *in abstracto*, as this is done for example by Gerdil, Cauchy, Moigno in the mentioned texts, by Mr. Ch. Renouvier (compare his “Esquisse d’une classification systématique des doctrines philosophiques,” t. I, p. 100, Paris, au Bureau de la Critique philosophique, 1885)¹⁶ and by all so-called *positivists* and their kin.

Secondly, one can affirm the A.-I. *in concreto*, but then reject it *in abstracto*; this standpoint is found, as I emphasized in my “Grundlagen, p. 16,”¹⁷ in Descartes, Spinoza, Leibniz, Locke, and many others. If I have to name here one of the more recent authors, then I mention Hermann



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Georg Cantor

Lotze, who defends the A.-I. in concreto in an essay entitled “L’Infini actuel est-il contradictoire? Réponse à Monsieur Renouvier” in the “Revue philos. de Ribot,” t. IX, 1880¹⁸; Renouvier’s reply is found in the same volume of that journal.

Thirdly, the A.-I. can be affirmed *in abstracto*, but then denied *in concreto*; this is the standpoint of one faction of the *neoscholastics*, while another, and perhaps the larger faction of these, a school powerfully spurred by the encyclical of Leo XIII of August 4, 1879: “De philosophia Christiana ad mentem Sancti Thomae Aquinatis Doctoris Angelici in scholis catholicis instauranda”¹⁹ still seeks to defend the first of these four standpoints.

Finally, *fourthly*, the A.-I. can be *affirmed* not only *in concreto* but also *in abstracto*; on this basis, which I consider the *only right one*, only a few stand; perhaps I am temporarily the first, who represents this standpoint with complete determination and in all its consequences, however this I know for certain, that I shall not be the last one who defends it!

Also taking into account the position of the philosophers on the problem of the A.-I. *in Deo*, one obtains a classification of the schools into *eight standpoints*, all of which, strange to say, appear to be represented. One difficulty of the arrangement into these *eight* classes could only result from those authors, who have not taken a definite position with regard to one or more of the *three* questions concerning the A.-I.

The reason that the so-called *potential* or *syncategorematic*²⁰ *Infinite* (Indefinitum) gives rise to no such arrangement, is, that it has significance exclusively as a *correlative concept* [Beziehungsbegriff], as an *auxiliary mental image* [Hilfsvorstellung] for our thinking, but signifies no *idea* in itself; in that role it has certainly proven, through the differential and integral calculus discovered by Leibniz and Newton, its great value as a means of cognition [Erkenntnismittel] and an instrument of our mind; it can not claim for itself a more extensive significance.

Perhaps you were led to pose your question by a remark in my essay “Über verschiedene Theoreme aus der Theorie der Punktmengen,”²¹ in “Acta mathematica,” t. VII, p. 123, where I named among others Cauchy as the authority for my view with regard to the *constitution of matter*; by doing so, I have had in mind especially that component of my hypothesis in which I affirm the *strict spatial point-like quality* [Punktualität] or *dimensionlessness* [Ausdehnungslosigkeit] of the *last elements*, as they were also taught, following the precedent of Leibniz, by Pater Boskovič, in his paper “Theoria philosophiae naturalis redacta ad unicum legem virium in natura existentium, Venetiis, 1763”²²; and certainly this view of Cauchy

is found in his “Sept Leçons,” and is skillfully defended prior to him by André Marie Ampère (Cours du collège de France 1835-1836), after him by de Saint-Venant (Compare his “Mémoire sur la question de savoir s’il existe des masses continues, et sur la nature probable des dernières particules des corps.” “Bulletin de la Société philomatique de Paris,” 20 Janvier 1844²³; as well as his larger work in the “Annales de la Société scientifique de Bruxelles,” 2^e année), among us in Germany principally by H. Lotze (compare his “Mikrokosmos,” Vol. I) and by G. Th. Fechner (compare his “Über die physikalische und philosophische Atomlehre,” Leipzig, 1864).²⁴ On the other hand I can not deny that Cauchy at least in that short paper (and indeed also the remaining above-mentioned authors, with the exception of Leibniz) polemicize against the second component of my hypothesis, the *actual-infinite number of the last elements*; with what justification, I have indicated above. That Cauchy nevertheless *on other occasions* did not remain faithful to this opinion respecting the A.-I., as it really could not be otherwise, I will demonstrate some time later. . . .

Despite the essential difference between the concepts of the *potential* and *Actual Infinite*, in that the former signifies a *changeable* finite magnitude, *growing* beyond all finite boundaries, the latter a *fixed in itself, constant* Quantum, situated however beyond all finite magnitudes, it happens to be the case, unfortunately only too often, that the one is confused with the other. Thus for example, the not seldom occurring conception of the *differentials*, as if they were *specific* infinitely small magnitudes (while they are, after all, only *changeable* auxiliary magnitudes, assumed to be as small as you please, which completely disappear from the end results of the calculations and therefore are characterized already by Leibniz as mere *fictions*, for example in Erdmann’s edition, p. 436) is based on a confusion of these concepts. If, however, out of a justified aversion against such an *illegitimate* A.-I., a certain *Horror Infiniti*, which found its classic expression and support in the mentioned letter of Gauss, has been formed in broad layers of science, under the influence of the modern Epicurean-materialistic tendency of our time, so the therewith connected uncritical rejection of the *legitimate* A.-I. seems to me to be no trifling offense against the nature of things, which one has to take as they are, and this behavior can be understood as a kind of *shortsightedness*, which deprives one of the possibility to see the A.-I., although it in its Supreme, Absolute Bearer has created us and preserves us, and in its secondary, transfinite forms surrounds us everywhere [allüberall] and even dwells in our mind.

Another frequent *confusion* occurs with the two forms of the *Actual Infinite*, in that namely the *Transfinite* is mixed

up with the *Absolute*, while however these concepts are strictly separated, insofar as the former is to be conceived as an *indeed Infinite*, but nevertheless a *yet increasable*, the latter however essentially as *unincreasable* and therefore mathematically *indeterminable*; we encounter this mistake, for example, in *pantheism*, and it constitutes the *Achilles' heel* of *Spinoza's Ethics*, about which, of course, F.H. Jacobi has maintained that it could not be refuted with rational arguments. One can also observe that since Kant, the false notion has come into vogue among philosophers, as if the *Absolute* were the ideal boundary of the *Finite*, while in truth this boundary can only be thought of as a *Transfinitum* and indeed as the *minimum of all Transfinites* (corresponding to the *smallest* suprafinite [überendlichen] number, denoted by me with ω). Without serious critical prior discussion the concept of infinity is treated by Kant in his "Kritik der reinen Vernunft,"²⁵ in the chapter on "Antinomien der reinen Vernunft,"²⁶ in four questions, so as to furnish proof [Nachweis], that they could be *affirmed* or *denied* with equal rigor. It is likely that hardly ever, even taking into consideration the Pyrrhonic and academic skepticism, with which Kant has so many points in common, has more been done for the discrediting of human reason and its capabilities, than with this section of the "critical transcendental philosophy." I will demonstrate at some other time, that it is only through a *vague, distinctionless* application of the concept of the Infinite (if in these circumstances one can still speak of concepts at all), that that author has succeeded in gaining recognition for his *antinomies*, and even that, only among those, who like him willingly evade a thorough mathematical treatment of such questions.

At this point I would also like to respond to *two* attacks, which have been attempted against my works.

Herbart, as is well known, conceives the definition of the Infinite such, that only the *potential Infinite* can be included in it, so as to thereupon base a so-called proof, that the A.-I. would be self-contradictory. He could have *just as well* defined the conic section as a curve, whose points are all equally distant from a center, in order to support the thereupon based argument against Apollonius of Perga: "There are no conic sections other than the *circle*, and what you there call *ellipse*, *hyperbola* and *parabola* are contradictory concepts." Of such wares are the objections, which the gentlemen *Herbartians* have put forward against my "Grundlagen." (Compare "Zeitschrift f. exakte Philos.," by Th. Allihn and A. Flügel, Vol. 12, p. 389.)²⁷

Mr. W. Wundt refers, although in a peculiar way, to my works in *two* of his papers, in his "Logik, Vol. II," as well as in the treatise "Kants kosmologische Antinomien und das Problem der Unendlichkeit, Philos. Studien, Vol. II,"²⁸

and in them the words *introduced by me* "transfinite = suprafinite" [überendlich] stand out frequently; nevertheless I can not find, that he has understood me correctly.

In the *former* work, for example, the whole sentence at the bottom of page 127 which starts with the words: "Wenn wir eine. . ." states the exact *opposite of what is correct*. Also the concepts of the *potential* and *Actual Infinite* (which I have called *non-genuine-Infinite* [Uneigentlich-Unendliches] and *genuine-Infinite* [Eigentlich-Unendliches] in my "Grundlagen") are defined by him entirely incorrectly. The juxtaposition with Hegel must likewise be rejected as incorrect. The *pantheistic* Hegel knows no essential differences in the A.-I., whereas it is indeed exactly *my* unique characteristic, to have sharply emphasized such differences, which I found, and to have rigorously mathematically developed them through discovery of the *fundamental* opposition of "*power*" [Mächtigkeit] and "*ordinal number*" [Ordnungszahl] among sets, which Mr. Wundt seems to have entirely overlooked, although it stands out on almost every page of my works. My inquiries bear just as little resemblance to the "mathematical," with which they are nevertheless placed in the same category by Mr. Wundt. The fluctuation of concepts and the confusion connected therewith, which were introduced into philosophy some *one hundred* years ago, at first from the far east of Germany,²⁹ manifest themselves nowhere more clearly than in the questions concerning the *Infinite*, as we see in the innumerable many publications of our modern philosophical literature, be they *criticalistic* or *positivistic*, *psychologicalistic* or *philologicalistic*. Thus it can not remain unmentioned, that Mr. Wundt wishes to use the word "Infinitum" exclusively to signify the potential Infinite. Now this word of old has been *quite generally* related to the most positive of all concepts, that of God; one must be astonished at the peculiar fancy, according to which the word "Infinitum" should henceforth be used only in the most restricted, syncategorematic sense.

EDITOR'S NOTES

1. "Impossibility of the actual infinite numbers; science in its relationships with faith".
2. "Seven lectures on general physics".
3. "Essay on a mathematical demonstration against the eternal existence of matter and motion deduced from the proven impossibility of an actually infinite series of terms, whether continuous or successive".
4. "Memorandum on the absolute infinite considered in magnitude".
5. "an infinite number is contradictory".
6. "an infinite multitude is in fact contradictory".
7. K. Fischer, "System of Logic and Metaphysics or the Theory of Learning".
8. "The Infinite Considered Metaphysically and Mathematically".
9. See footnote 2.
10. "Foundations of a General Theory of Manifolds".

11. "chief deception".
12. Pascal, "Complete Works".
13. "in God—who is Beyond the World, Eternal, Omnipotent—who gives rise to nature".
14. "or concretely, in created nature".
15. "numbers of the mind" or "seen in the eye of the mind".
16. "Outline of a Systematic Classification of Philosophical Doctrines".
17. See footnote 10.
18. "Is the Actual Infinite contradictory? Response to Mr. Renouvier".
19. "Aeterni Patris (On the Restoration of Christian Philosophy)".
20. *syncategorematic*, connoting another idea to express its full meaning; as, the term "son" is *syncategorematic* of the term "father".
21. "On Various Theorems of the Theory of Point Sets".
22. "Theory of Natural Philosophy Reduced to a Single Law of Powers in the Nature of Existences".
23. "Memorandum on the question of determining if continuous masses exist, and on the probable nature of the last elements of bodies".
24. "On Physical and Philosophical Atomic Theory".
25. "Critique of Pure Reason".
26. "Antinomies of Pure Reason".
27. Th. Allihn and A. Flügel, in the "Journal of Exact Philosophy".
28. "Kant's Cosmological Antinomies and the Problem of Infinity".
29. Kant taught in the city of Königsberg, located in what was at that time the far east of Germany.

*GCGA, "Über die verschiedenen Standpunkte in bezug auf das aktuelle Unendliche," pp. 370-376.

Letter from Cardinal Franzelin
to Georg Cantor*
December 25, 1885

I am very much obliged to Mr. G. Cantor for the transmittal of the papers about the "Actual Infinite." What greatly pleases me is that the selfsame appears to take not a hostile, but indeed a favorable position with regard to Christianity and Catholic principles. May God the truly Infinite reveal to him the sole necessary truth for finite salvation. I can little busy myself at present with metaphysical discussions; I confess however, that in my opinion, that which the author calls the "Transfinitum in natura naturata," can not be defended, and in a certain sense, although the author does not appear to intend it, would contain the error of pantheism.

*GCB, p. 253.

Letter from Georg Cantor
to Cardinal Franzelin*
Halle
January 22, 1886

To His Eminence Cardinal J. Bapt. Franzelin, S.J. in Rome.

The lines, which Your Eminence had the kindness to direct to me on Dec. 25, 1885, contain some doubts with

regard to the philosophical foundation of my works, sent to you for your examination; there are probably certain words used by me whose meaning I have not explained more precisely, which do not bring out my opinion quite exactly, and I would like to take the liberty to briefly explain myself more precisely.

1. I employ the expressions "natura naturans" and "natura naturata" found in my small essay "On the Various Standpoints With Regard to the Actual Infinite" with the same meaning which the Thomists have given to them, so that the *first* expression signifies God, standing outside of the substances created by Him out of nothing, as the Creator and Preserver of the same; the *latter* expression, on the other hand, signifies the world created through Him. Correspondingly I distinguish an "Infinitum aeternum sive Absolutum," which refers to God and His attributes, and an "Infinitum creatum sive Transfinitum," which will be expressed everywhere there, where in the natura creata an Actual Infinite must be confirmed, as *for example* with respect to, in my strong conviction, the actual infinite number of created individual beings, not only in the universe but also already on our earth and, in all probability, even in every ever-so-small extended part of space, wherein I completely agree with *Leibniz*. (Epistola ad Foucher, t. 2 operum, p. I., p. 243). Although I know that this theory of the "Infinitum creatum" is attacked, certainly not by all, but by most church doctors, and in particular, opinions contrary to it are brought forward even by the great St. Thomas Aquinas in his "Summa theol.," p. 1., q. 7., a. 4., nevertheless, the reasons, which in this question in the course of twenty years of inquiry, have forced themselves upon me from within and, so to speak, taken me captive, I might add against my will, because in opposition to always highly esteemed tradition, are stronger than everything which I have hitherto found said against them, although I have investigated it to a great extent. Likewise, I believe that the words of the Holy Scripture, as, for example, in Sap. c. 11, v. 21 "Omnia in pondere, numero et mensura disposuisti" ["You have disposed all things by measure, number, and weight." Wisdom 11:20—ed.], in which a contradiction against the actual infinite numbers was suspected, do not have this meaning; for let us suppose, there were, as I believe to have proven, actual infinite "powers" [Mächtigkeiten], that is cardinal numbers, and actual infinite numbers [Anzahlen], that is ordinal numbers (which two concepts, as I have discovered, are extraordinarily different in actual infinite sets, while their difference in finite sets is hardly noticeable), which just as the finite numbers obey strict laws given by God, so quite undoubtedly these transfinite numbers were also meant to be included in that holy utterance and therefore, in my

opinion, it may not be used as an argument against the actual infinite numbers, if a vicious circle shall be avoided.

That, however, an "Infinitum creatum," as existent, must be assumed, can be proven in several ways. So as not to delay Your Eminence too long, I wish to limit myself in this matter to two brief indications.

One proof proceeds from the concept of God and concludes first of all from the highest Perfection of God's Being the possibility of the creation of a Transfinitum ordinatum, then from His Benevolence and Magnificence the necessity of the actually ensued creation of a Transfinitum.

Another proof shows a posteriori, that the assumption of a Transfinitum in natura naturata renders possible a better, because more perfect explanation of the phenomena, especially the organisms and psychical manifestations, than the opposing hypothesis.

The friendly words of appreciation which Your Eminence has spoken with regard to my position towards Catholicism, I owe but little to my own merit, inasmuch as the circumstances into which I am born have had a voice in my standpoint; my highly esteemed late father was indeed Lutheran, my mother, however, whom I have the good fortune to adore among the living, belongs to the Roman Catholic Church and the same is true of her family, as far as I can trace it back. The views, however, which I myself have developed in the course of the years, have never removed me from the fundamental truths of Christianity, but have rather strengthened me therein; I harmonize only very little with the modern philosophical schools, on the contrary I am doing battle with most of them; no system is further removed from my essential beliefs than pantheism, apart from materialism, with which I have absolutely nothing in common.

I believe however, concerning pantheism, that it could be totally overcome in time, and perhaps only through my conception of the matter. Hereby may I be permitted for affirmation of this view to call to mind one of the most gifted pantheists, the German poet *Joh. Wolfgang Goethe*, who shortly before his end, on his last, his eighty-second birthday, August 28, 1831, wrote the following words:

"Long have I resisted,
Finally I give in:
When the old man turns to dust,
The new one will awaken.
And so long as you have not that,
This: die and become!
You are but a gloomy guest
Upon the dark earth."¹

But what concerns materialism and the tendencies connected therewith, as they appear to me, exactly because they are scientifically most untenable and most easily refuted, belong to those evils, of which the human species in the temporal existence shall never be totally freed.

Accept, Monsignore, the expression of high respect and most superior esteem
from Your Eminence's
most devoted servant
Georg Cantor

EDITOR'S NOTE

1. According to Meschkowski, Cantor errs here in attributing these lines to Goethe.

*GCB, letter #100, pp. 254-256.

Letter from Cardinal Franzelin to Georg Cantor* January 26, 1886

Most honored Sir,

From your learned essay "On the Problem of the A.I." I observe with satisfaction how you distinguish very well the Absolute-Infinite and that which you call the *Actual Infinite* in the created. Because you explicitly declare the latter to be a "yet increasable" (naturally in indefinitum, that is, without ever being able to become a not more increasable) and set it against the Absolute as "essentially unincreasable," which obviously must be just as valid of the possibility and impossibility of reduction or subtraction; thus the two concepts of the Absolute-Infinite and the Actual-Infinite in the created, or Transfinitum, are essentially different, so that when both are compared, only the one must be characterized as *genuine Infimite* [eigentlich Unendliches], the other as non-genuine [uneigentlich] and equivocal Infinite. Perceived thus, as far as I see until now, no danger for religious truths lies in your concept of the Transfinite. Nevertheless, in one respect you most certainly go astray against the unquestionable truth; this error, however, does not follow from your concept of the Transfinitum, but from the deficient conception of the Absolute. In your esteemed letter to me, you say, to wit, at first correctly (provided that your concept of the Transfinitum is not only religiously inoffensive, but also *true*, whereof I do not judge), one proof proceeds from the concept of God and concludes first of all from the highest Perfection of God's Being the possibility of the creation of a Transfinitum ordinatum. On the assumption that your Transfinitum *Actuale* contains no contradiction in itself,

your conclusion of the *possibility of creation* of a Transfinitum out of the concept of God's Omnipotence is entirely correct. My only regret is you go further and conclude "from His Benevolence and Magnificence *the necessity* of an actually ensued creation of the Transfinitum." Exactly because God in Himself is the absolute infinite Good and the absolute Magnificence, which Good and which Magnificence nothing can augment and nothing diminish, the *necessity* of a creation, whichever that may be, is a contradiction, and the *freedom* of creation a just as necessary Perfection of God, as all His other Perfections, or better, God's infinite Perfection is (according to our necessary distinctions) just as well *Freedom*, as Omnipotence, Wisdom, Justice, etc. According to your conclusion of the *necessity* of a creation of the Transfinitum, you ought to go much further yet. Your Transfinitum Actuale is an increasable; now if God's infinite Benevolence and Magnificence really demands with necessity the creation of the Transfinitum, so, for entirely the same reason of the infiniteness of His Benevolence and Magnificence, the necessity of increase until it would be no longer increasable follows, which contradicts your own concept of the Transfinitum. In other words: he who infers the necessity of a creation from the infiniteness of the Benevolence and Magnificence of God, must maintain, that everything creatable is indeed created from eternity; and that before the eye of God there is nothing possible, that His Omnipotence could call into existence. This unfortunate opinion of yours, of the necessity of creation, will very much hinder you, also in your so praiseworthy fight against the pantheists, and at least weaken the persuasive power of your arguments. I have dwelt on this point so long, because I most sincerely wish that your great acumen would free itself from such a fateful error, which of course many other great minds lapse into, even those who consider themselves orthodox.

What you write to me about your position regarding Catholicism, was on the one hand very gratifying, especially when I consider the surroundings within which you find yourself; but on the other hand I can not conceal from you, how painful it is for me, that you have the misfortune of finding yourself outside your mother's house. For men of your position, reflection upon the most important and for eternity decisive concern of religion is necessary, but much more necessary still, is humble prayer for illumination and strength from above.

I am no longer able to engage in a further correspondence about your philosophical views, with my many occupations, through which I am dependent upon an entirely different field; you may thus excuse me, if I will

not be able to answer your possible replies, which however, inasmuch as they refer to your system, I ask you to discontinue.

With respect, most honored Sir
Yours most faithfully
(signed) J B Card. Franzelin

*GCGA, (partial) pp. 385-386. GCB, (partial) pps. 256-257, 511-512 (facsimile, partial).

Letter from Georg Cantor to Cardinal Franzelin*

Halle
January 29, 1886

Your Eminence, I wish to express my warmest thanks for the expositions in your kind letter of the 26th of this month, with which I agree with full conviction; for in the brief indication of my letter of the 22nd of the same month, it was not my intention at the point in question, to speak of an objective, metaphysical necessity of the act of creation, to which God the *absolute Free* would have been subjugated; on the contrary, I wanted to point to a certain subjective necessity *for us*, to infer from God's Benevolence and Magnificence an actually *ensued* (not a *parte Dei ensuing*) creation, not only of a *Finitum* ordinatum, but also of a *Transfinitum* ordinatum.

Accept, Monsignore, my most sincere thanks for all the evidence of your fatherly goodwill and your great kindness.

Yours
most respectful devoted
G. C.

*GCB, letter #101, p. 258.

Excerpt from a letter from Georg Cantor to Gösta Mittag-Leffler*

Halle
Dec. 23, 1883

. . . My good friends, who like to call themselves metamathematicians, may think of my ideas as they will, they may write to London and Paris and for all I care to Kamchatka about what they think is right, I surely know, that the ideas on which I work with my weak powers will engage for generations the thinking minds, even when I and my good friends, the gentlemen metamathematicians, have long gone the path of all mortals. I am far from attributing my discoveries to personal merit, because I am only an instrument of a higher power,

which will continue to work long after me, in the same way as it manifested itself thousands of years ago in Euclid and Archimedes. . . .

*GCB, letter #59, pp. 159-160.

Letter from Georg Cantor
to Professor C.A. Valson*

Halle
Jan. 31, 1886

Professor C.A. Valson, in Lyon, 25 rue du Plat.
Highly esteemed colleague,

I deliberately put off my reply to your kind letter of Jan. 18, '86, because it was my intention to answer in detail; unfortunately I am still too much overloaded with various work and will therefore no longer wait to express to you my courteous thanks for the worthy as well as interesting present of your work on André-Marie Ampère as well as your letter. The "discours préliminaire" in your book will fascinate me no less than the other part, because I, as you know, treasure the value of all efforts which are directed towards elevating science to a more ideal standpoint, than can be achieved through pure rationalism, which through the brilliant talents of a Lagrange, Laplace, Gauss, etc., was led to develop and flower, and from which influence even Cauchy and many other of today's living geometers, whose tendency of heart, if I may say so, leans in a different direction, have not been able to fully escape. There is much I could say about all of this, but I confine myself to just this, that it is my conviction that the great achievement of Newton, the "Principia mathematica philosophia naturalis," to which all of the recent developments of mathematics and mathematical physics have conformed, is to be seen, because of the gross metaphysical shortcomings and erroneousness of his system, despite the good intention of the originator, as the true cause of the materialism or positivism of our time, which has grown into a kind of monster, strutting in the radiant robe of science, especially in the metropolitan and world-famous academies. Thus we see, that the greatest achievement of genius, despite the subjective religiosity of the author, if it is not united with true philosophical and historical spirit, leads to consequences, and I go so far as to declare, must necessarily lead to consequences whereby it is highly questionable, whether the good in them is not far surpassed by the evil which they simultaneously inflict upon mankind; and to the worst of evils it appears to me belong the errors of modern scepticism, which considers itself "positive" and harks back to Newton, Kant, Comte and others. I also wanted to send along some metaphysical theses for exam-

ination by Abbot Ehè Blanco, but I must also postpone that until a later date.

Thank you as well for the excerpts from "Fraité de Mécanique de Poisson" about the "infiniment petit." You give me herewith the desired opportunity to declare that there is no more determined opponent of these conceptions of Poisson, which are full of contradictions, than I, and that I most despise this kind of "Infiniment petit ou grand," which I call in the very beginning of the enclosed note the "L'infini actual illegitima"; it has led only to misunderstanding of the "Infini actual légitime." I rather hold that conception of the merely potentially infinite generally found in mathematics, for which especially the extremely significant works of Cauchy paved the way (although in Leibniz already the same conception of the differential is found), to be the *only correct one*. My works pertain to a totally different and in the main point new *mathematical* ordering of ideas, than can be achieved through the Newtonian principles, which, however, until now has only been recognized by a few. They do not refer directly to something above nature; they rather aim at a more precise, more complete, more refined knowledge of *nature itself*, certainly not without contact with Him, who stands above nature, because it is His voluntary creation. Please accept, Sir, the expression of my distinguished esteem and respect.

Your most devoted
(signed) Georg Cantor

P.S. Could you perhaps recommend to me a young man who would be enough of a philosopher and mathematician, and would be kind enough to produce for me small appropriate excerpts from texts, which I can not find in Germany, but which might be easily obtained in the libraries of Lyon or Paris? I would be greatly indebted to you.

*GCB, pp. 512-513 (facsimile).

From "Mitteilungen zur Lehre
vom Transfiniten"*

(From a letter from Georg Cantor to A. Eulenberg,
Feb. 28, 1886)

. . . The *Transfinité* with its abundance of formations and forms, points with necessity to an *Absolute*, to the "truly Infinite," to whose Magnitude nothing can be added or subtracted and which therefore is to be seen quantitatively as *absolute* Maximum. The latter exceeds, so to speak, the human power of comprehension and eludes particularly mathematical determination; whereas the *Transfinité* not only fills the vast field of the possible in God's knowledge,

but also offers a rich, constantly increasing field of ideal inquiry and attains reality and existence, I am convinced, also in the world of the created, up to a certain degree and in different relations, to bring the Magnificence of the Creator, following His absolute free decree, to greater expression than could have occurred through a merely “finite world.” This will, however, have to wait a long time for

general recognition, especially among the *theologians*, as valuable as this knowledge would prove to be as a resource for the promotion of their domain (religion). . . .

*GCGA, pp. 405-406.

—translated by Gabriele Chaitkin

An Afterword by Lyndon H. LaRouche, Jr.

July 30, 1994

Georg Cantor: The Next Century

The relatively brief period of Halle-to-Rome correspondence between mathematical genius Georg Cantor and Cardinal Johann Baptiste Franzelin, S.J. remains one of the more significant anomalies in the history of science, and also theology. To appreciate the central feature of that correspondence itself, it is essential to identify some crucially relevant features of Cantor’s life: then, and during the decade following the termination of that exchange of letters.

Georg Cantor’s 1897 *Contributions To The Founding of The Theory of Transfinite Numbers (Beiträge)*¹ is an indispensable work; but, there are problems. Cardinal Johann Baptiste Franzelin’s abrupt termination, on Jan. 26, 1886, of his ongoing correspondence with Cantor,² is crucial for understanding fully the darkened mood which distinguishes Cantor’s writings of the 1890’s from those of the 1880’s; and that latter period in Cantor’s life is one of the keys to understanding the circumstances in which the correspondence was terminated.

Directly to the crucial issue: Cantor’s depression confronts the informed reader immediately at the outset of reading the *Beiträge*. Exactly as it is placed there in the 1962 edition,³ the evidence is:

“*Hypotheses non fingo*” [—Newton].

That reference would not have been allowed by the Cantor of the Franzelin correspondence, the 1883-84 *Grundlagen*,⁴ or even the 1887-1888 “*Mitteilungen zur Lehre vom Transfiniten*.”⁵ The Cantor of 1897 and later, pleading for recognition from Britain, and engaging himself in such pathetic enterprises as the myth of Francis Bacon’s authorship of Shakespeare’s works,⁶ is no longer the Cantor of the 1880’s.

This mid-1890’s change in Cantor’s mood has been misused by sundry sophists as a pretext for deriding not

only the 1897 *Beiträge* as “pathological science,” but also such earlier writings as the *Grundlagen*. There are problematic features in the *Beiträge*, but none to which those critics might rightly object. From the vantage-point of those who have studied the more vigorous Cantor writings of the 1880’s, the failing of the *Beiträge* is its propitiatory quality, its excessive reliance upon formalism, just as the dedicatory note to Newton might imply.

Since our purpose here is to situate the Cantor-Franzelin correspondence, we are permitted and obliged to dispense with the subsidiary mathematical formalities of the matter as much as possible. Under those circumstances, the immediately following descriptive observation is supplied.

All of the crucial conceptions met in the *Beiträge* are met in earlier writings of the 1883-1888 interval; the significance of the 1897 book is that it supplies a proof and some further elaboration of those conceptions from a strictly formal standpoint. The Georg Cantor of 1897, a mere fifty-two years of age, has become, in one very important sense of the term, “an old man,” his enemies have finally succeeded in quenching his creative spark. He is left to no more than commenting faithfully upon the achievements of a brilliant past state of mind, to which he is fated never fully to return. The operative term there is “reporting faithfully”; the discovery reported in the 1897 book is authentically Cantor’s, but, sadly, the exposition is added by a Cantor who could no longer make new such original discoveries.

If one takes all the relevant elements of Cantor’s environment into account, Cardinal Franzelin’s abrupt termination of the correspondence was at least a contributing cause for Cantor’s very-premature old age. The Cardinal clearly did not intend such an effect; the problem was, that the topics of that correspondence are the same

issues which mobilized the rogues of the European science community, especially the mathematicians, in a two-decades-long aversive behavioral modification of Cantor. Those topics, which are the essential content of the correspondence, are the issues prompting Leopold Kronecker and his positivist accomplices to conduct one of the most widespread and disgusting inquisitions in the internal history of science, the virtual lynching of Georg Cantor.

Georg Cantor's Theology

Georg Cantor, born of Jewish ancestry in St. Petersburg, Russia on March 3, 1845, began life with a grand heritage. He was the maternal grandnephew of the Joseph Boehm who was, in turn, the collaborator of Ludwig van Beethoven in the performance of Beethoven's late string quartets, who was the founder of the Vienna school of violin performance, and personally the teacher of the famed violinist Joachim. That musical tradition permeated the family; until his adolescent turn into mathematics, Georg Cantor himself was trained as a violinist in this tradition, and two of his siblings, in addition to other immediate relatives, were notable musicians. The family converted to a Protestant rite, and moved to Germany, where he studied in such locations as Wiesbaden and Darmstadt.

During 1885-1886, this Jewish-born German Protestant, and music-student turned mathematical genius, is exchanging correspondence on some of the most profound issues of theology with an influential Cardinal in the Rome of Pope Leo XIII. To cap those ironies, Cantor was by no means unprepared.

This correspondence was prompted, on Cantor's part, by a question addressed to him, asking whether he had seen a certain writing by French Abbot Francois Napoleon Marie Moigno.⁷ This provoked a Nov. 4, 1885 letter to one G. Eneström in Stockholm,⁸ and the enclosure of a copy of that letter in Cantor's letter of Dec. 17, 1885 to Franzelin.⁹ The Cardinal acknowledged this communication in a letter of Dec. 25, 1885, cautiously rebuking Cantor's criticism of Cauchy and Moigno with the suggestion that Cantor might abstain from the appearance of pantheism.¹⁰ To this, Cantor replied on Jan. 22, 1886. The response from the Cardinal was issued on Jan. 26, 1886, excusing himself from further correspondence with Cantor.¹¹ Cantor sent a "thank you" letter for consideration given on Jan. 29, 1886, but received no acknowledgement.¹²

To assess the Cardinal's manifest reaction to Cantor's attack on the characteristically neo-Aristotelian (e.g., positivist) fallacies of Cauchy and Moigno, one must take into account the reputation already gained in profession-

al circles at that time by Cantor's 1883-1884 *Grundlagen*.¹³ This work had mobilized Cantor's enemies into attack at full tilt, led, as always, by Kronecker. Cantor's reaction to the query respecting Moigno's piece, is visibly a response to the already ongoing political lynch-mob being mobilized against him, in Germany, France, and elsewhere.

With the *Grundlagen's* appearance, it is evident that he is well-grounded in Plato's work, and is attempting to view the method of Leibniz from that standpoint. He has also shown himself a follower of Cardinal Nicolaus of Cusa in these matters. The appearance of the "Mitteilungen"¹⁴ affirms that continuing commitment. This establishes Cantor's scientific and theological outlook very clearly for anyone with the prerequisites to assess this.

Briefly: Cantor himself insists that his science and theology center around two crucial points of equivalence between his own work on the transfinite and Plato's principle of hypothesis. His opinion on these parallels is broadly correct.¹⁵ Cantor insists that his general notion of the *Transfinite* is equivalent to Plato's *Becoming*, and that his own *Absolute* corresponds to Plato's *Good*. By *Becoming* is signified Plato's generalized notion of what Plato terms *hypothesizing the higher hypothesis*.¹⁶ Obviously, to follow the argument in Cantor's letters (or, elsewhere, for that matter) one must first understand what is signified by Plato's principle of *hypothesis*.

For the purposes of formal criticism, especially formal mathematics or mathematical physics, Plato's principle of hypothesis is best presented in terms of his *Parmenides*: the ontological paradox of the *One* and the *Many*. His solution for that paradox is the formal definition of human creativity, as valid axiomatic revolutions in formal mathematical physics typify creativity, in the sense of Cantor's definition of *type*. In Plato, the term *hypothesis* signifies such a type of discovery, and never anything different. Briefly, work through an illustration of Plato's discovery of the principle of hypothesis.

The secondary student's classroom model of reference for a *Many* is Euclid's geometry: an expandable lattice-work of theorems, each and all mutually consistent with one another in terms of a shared, fixed set of axioms and postulates. That expandable list of theorems constitutes a *Many*. The challenge is to identify a single conception such that, when we think about that single conception, we are implicitly defining each and every theorem which might possibly be part of that theorem-lattice-work. If one adheres to the formalist methods of a *Parmenides*, a *Sophist*, an *Aristotle*, a *Galileo*, a *Newton*, a *Cauchy*, a *Kronecker*, a *Bertrand Russell*, or a *John Von Neumann*, no true solution to this ontological paradox is possible.¹⁷

However, let us discover a proposition which is true in nature, but which cannot be consistently a theorem of

that theorem-lattice; let us designate that latter as theorem-lattice "A." This theorem requires us to alter some part of the set of axioms and postulates of theorem-lattice "A" to the effect that all of the old theorems must now be scrapped in their earlier form, and recalculated on the basis of a new set of axioms and postulates, theorem-lattice "B." In another case, nature obliges us to proceed to a third theorem-lattice, "C." On this basis, Plato hints in writing the *Parmenides*, a solution for discovery of the *One* is attainable.

Instead of focussing upon fixed objects, such as sense-objects, one must focus upon *change* itself as the primary fact of nature, and of mental life. In the given case, it is the change from *A* to *B*, and from *B* to *C*, which is crucial. It is this change which one can conceptualize as an unified object of thought, a *One*. This permits us to conceptualize the changes in the respective underlying sets of axioms and postulates, from *A* to *B*, as a unit, as a *One*.

That *One* is an hypothesis. Any valid axiomatic-revolutionary discovery of that *type* is an instance of hypothesis as Plato defines hypothesis.

Next, continue with the illustration provided. Examine the successive changes, from *A* to *B*, *B* to *C*, and, then, *C* to *D*. This sequence of changes—of hypotheses—is a *Many*, too. Scrutiny of this *Many* enables us to conceptualize a higher sort of *One*. As the first level of *One*—e.g., *A* to *B*—defined an hypothesis, the new *One* required is a *method of generating hypotheses: a higher hypothesis*. It is a method of discovery. In natural science historically, there is evidence of various types of relatively valid methods of discovery, but some proving more valid than others. Study of the *Many* alternative, relatively valid choices of methods of hypothesis (higher hypotheses) yields Plato's *hypothesizing the higher hypothesis*.

That latter, hypothesizing the higher hypothesis, is Plato's knowledge of the *Becoming*. The notion of a *One* corresponding to a *Many* is Cantor's notion of a transfinite; he is occupied with examining the general hierarchy of transfinitenesses as a domain defined in the sense indicated by Plato's principle of hypothesis.

This principle of hypothesis implies the necessary existence of the *Good*. Since hypothesis is development in physical space-time, a *Many*, what is the *One* which corresponds to hypothesizing the higher hypothesis respecting physical space-time? It must be intelligence; it must be all space, all time, combined with efficient (creative) intelligence as *One*. That is Plato's *Good*; that is what Cantor signifies by *Absolute*.

On this issue, the London-aligned political party within European science was united in a *maenad's* hateful frenzy, not only against Cantor's notion of the mathematical transfinite, but also the related work of Karl Weier-

strass, Riemann, *et al.* earlier. This is a continuation of Venice Abbot Antonio Conti's war to destroy Leibniz and rehabilitate Galileo; this is a continuation of Paolo Sarpi's use of the "brainwashed" Galileo to guide Bacon *et al.* in their attacks upon Nicolaus of Cusa, Leonardo da Vinci, and Johannes Kepler. This is the issue of 1885-1886, between Cantor, on the one side, and the followers of LaPlace, Cauchy, and Moigno, on the opposing side.¹⁸ This is the mathematical, ontological, and theological issue which permeates the immediate environment of the Cantor-Franzelin exchange.

To identify the axiomatic formalities of the issue between Cantor and such followers of Galileo and LaPlace as Cauchy and Moigno, it is sufficient to focus upon the review of elementary geometry just supplied here. Look at the change in proceeding from the axiomatic basis of theorem-lattice *A* to that of *B*, or *B* to *C*, or *C* to *D*.¹⁹ From the standpoint of Aristotelian formalism, the movement from one such lattice to the higher successor is a formal-logical *discontinuity*, and also a mathematical discontinuity. This discontinuity, separating the axiomatic basis of one theorem-lattice from the next, is the formal reflection of an act; it is the representation of what we term in physics a true *singularity*. That act is the employment of the creative processes of mind, as described by Plato's Socratic method, to discover a solution to a "One/Many" paradox of the type illustrated by the *Parmenides*.

This discontinuity, which has a mathematical size of virtually zero—but not zero, is a correlative of what Plato signifies by "change." This change, this mathematical discontinuity is the root ontological referent for Cantor's notion of the transfinite. Since Riemann's famous Habilitation dissertation of 1854 on hypothesis, such singularities expressed as paradoxes of the formal domain of mathematics are the entry-points for the crucial issues of physics, which can be addressed efficiently only from the standpoint of physics, and not formalist mathematics as such.²⁰

In light of this kind of evidence, it is clear than the "infinite" as conceived by Aristotle and other formalists does not exist. The proof is, that every formal theorem-lattice, within whose terms such a popular misapprehension of the term "infinite" is projected by formal logic, is itself finite or, "*transfinite*"! Every theorem-lattice is bounded externally by a higher-order theorem-lattice, until the very conception of Plato's *Becoming* reaches its upper, external boundary, defined by the *Good*, the location of existence of the Mosaic God of the Apostles John, Paul, *et al.*, which latter bounds everything efficiently. Those are the mathematical, physics, and theological implications of the Cantor-Franzelin exchange, the environment within which the discussion is situated.

The fact that discovery of relatively higher-order theorem-lattices enables us to conceptualize as a single mental object the differences between the respective sets of axioms underlying two compared formal theorem-lattices, permits us to replace the commonplace, but pathological notion of an “infinite” with the notion of the boundedness, hence “transfiniteness” of that set of axioms which defines the theorem-lattice, within which latter the corresponding pathological notion of an “infinite” is situated.²¹

Cantor’s general form of solution to conceptualization of the notion of infinite in a non-pathological way, is to express the Many-ness of very large arrays within a specific theorem-lattice by a One. That One is the unified notion of the set of axioms and postulates underlying the consistency among all possible theorems of that specific theorem-lattice type.

This is the problem which Bertrand Russell, for one, attempts to circumvent by mere word-juggling, using the term “hereditary principle.” I.e., since every possible theorem of a consistent lattice is hereditarily consistent with the imputable set of axioms and postulates underlying it, that set of axioms and postulates must be construed as an “hereditary principle”; once the hereditary principle’s distinctions are understood, as distinct from that of other lattices, the notion of any infinity apparently existing within a formal lattice is expressed adequately by direct reference to the “hereditary principle.” The trouble with Russell’s version of this, and those of his followers, is that his views involve a deliberate fraud, a methodological, formalist’s fraud closely related to that of LaPlace, Cauchy, and Moigno earlier.

To understand the Cantor-Franzelin exchange adequately, one must know these background considerations. To understand Cantor himself adequately, one must return to the clean fresh air of Riemann’s 1854 paper on hypothesis.

Once one steps out of the precincts of the street mathematician, into the realm of theology, the issue between Cantor and Moigno is a replay of the continuing issue between Cardinal Nicolaus of Cusa and Aristotelian apologist John Wenck, back during the 1440’s. Not only does Cantor rightly trace his discoveries to the mathematical discoveries of Nicolaus of Cusa. That is the issue of attacks on Cusa by Pietro Pompanazzi and his students, such as Francesco Zorzi, and the later attacks upon Cusa’s method and influence by the atheists Paolo Sarpi (who deployed Galileo) and Cauchy’s mentor LaPlace.²² To pose such issues within a theological deliberation among public figures, one a cardinal, in the 1880’s, is to raise the specter of possible schism between the followers of St. Augustine (the Platonists) and the

followers of Wenck and Pompanazzi (the Aristotelians). To say the least, Cantor posed a very touchy subject in his correspondence.

Georg Cantor fully in his right mind would never adopt Newton’s “*hypotheses non fingo*,” nor send praises of Theosophist’s hero Francis Bacon to Pope Leo XIII.

The Formalities of the Issue

Now, to conclude, identify as simply as possible the form of the issue between the followers of LaPlace and Cantor, the formalities of the Cantor-Franzelin exchange.

Cantor’s correspondence references symptomatically an issue which is as old as the beginning of modern European civilization, the issues of the principles of the founding of modern science by Nicolaus of Cusa’s *De Docta Ignorantia*²³ and related writings.

Once one situates observation of the act of mental-creative discovery within the formalities of classical geometry, as Cusa did in solving the ontological paradox of Archimedes’ theorems on quadrature of the circle, one has immediately two notable results. First, one has rendered the act of creative mental activity itself a subject available to conscious reflection, has rendered the creative processes of the mind *intelligible*. One is obliged to explore the same principle of intelligible creativity shown in such a geometry setting, to see the same quality of intelligible mental phenomenon in other areas of application.

Since the work of Paolo Sarpi’s tame gnostic, Galileo Galilei, the fraudulent tactic which the followers of Galileo’s method have employed to attempt to evade the kinds of singularities to which we have referred above, is to insist, hysterically, as Venice agent Dr. Samuel Clarke did in the Leibniz-Clarke correspondence, upon the ultimate authority of infinite series. They claim, that since infinite series may approximate all possible values within mathematical functions, mathematical discontinuities do not exist. Often, they even worship such an infinity, insisting that the unfathomable outer reaches of “infinity” are the place of residence of what Harvard Professor William James specified as the universal common root of “varieties of religious experience,” or what Sigmund Freud (or, is it “Fraud”) identified as “the oceanic feeling.”²⁴

That copying of the notion of infinite series inhering in the method of Galileo, is that same standpoint expressed by Venice’s Eighteenth-Century control agent, Abbot Antonio Conti, his accomplice Abbot Guido Grandi of Pisa, and his protégé and Grandi student Giammaria Ortes. This is the standpoint of radical

empiricism, such as that of Jeremy Bentham and his followers in Britain, and also the standpoint of the French Restoration form of radical empiricism, the positivism of the followers of LaPlace and Cauchy.²⁵

Cardinal Franzelin's abrupt termination of the correspondence with Cantor did not cause Cantor's capitulation to British Theosophy during the late 1890's; unfortunately, had Franzelin's rejection of continued discussion not have occurred as it did, Cantor's mind might not have cracked under the pressures of such London assets in Germany and France as Kronecker and his accomplices.

Cantor's work remains a great contribution to mankind, and his efforts to clarify this issue with a representative of the Vatican are an honorable part of that. His collapse under two decades of his enemies' aversive attempts at his behavioral modification, is an important tragedy of modern history, especially for science, but also for mankind. Cantor himself believed that his discoveries would not be properly appreciated until some time during the Twentieth Century. Generally speaking, his insight on that point was prophetic, although we must thank those, including Kurt Gödel, who kept his work alive for us today. To go forward with his contributions, it is sufficient to begin with a slight detour, to situate Cantor's discoveries within the developments flowing through Riemann's 1854 habilitation dissertation on hypothesis.

NOTES

1. Georg Cantor, *Beiträge zur Begründung der transfiniten Mengenlehre* (1897), in *Georg Cantors Gesammelte Abhandlungen*, ed. by Ernst Zermelo (Hildesheim: Georg Olms Verlag, 1962), pp. 282-351. The readily available English translation is that of Cambridge University-trained Philip E.B. Jourdain: *Georg Cantor, Contributions to the Founding of the Theory of Transfinite Numbers* (1915) (New York: Dover Publications, 1955). For reason of that precedent, the Jourdain English translation of the title has been employed here. The reader is cautioned that Jourdain's notes for the 1915 edition are rendered obsolete by Kurt Gödel's "On formally undecidable propositions of *Principia Mathematica* and related systems I" ("Über formal Unentscheidbare Sätze der *Principia Mathematica* und verwandter Systeme I"), in *Kurt Gödel: Collected Works, Vol. I*, ed. by Solomon Pfeferman et al. (New York: Oxford University Press, 1990), pp. 144-199 (including appended note by editors).
2. On Cardinal Franzelin's termination of the correspondence, see *Georg Cantor Briefe*, ed. by Herbert Meschkowski and Winfried Nilson (Berlin: Springer-Verlag, 1991), pp. 256-257. On the subject of this correspondence and also Cantor's depression of the 1890's, see the same source, pps. 11-16, 252-258, 282-285.
3. *Op. cit.*, p. 282.
4. *Grundlagen: über unendliche lineare Punktmannigfaltigkeiten*, in *Gesammelte Abhandlungen*, *op. cit.*, pp. 139-246.
5. *Op. cit.*, pp. 378-451 (including appended notes from Dedekind correspondence).
6. See Meschkowski and Nilson, *op. cit.*, *passim*. The Anglophile

phase of Cantor's depression erupts visibly during the approximately two-year span of time from the 1895 break in his already deeply strained intellectual relationship with Professor Felix Klein, through such 1897 events as the publication of the *Beiträge* and the death of Cantor's former mentor, Karl Weierstrass. During that interval, Cantor has developed a close acquaintance with Rudolf Steiner, a member of the British Theosophist movement, a founder of the Vienna-based Theosophist periodical, *Luzifer*, and later founder of the German (Waldorf) spin-off of the Theosophists, the Anthroposophic movement. (The legend is that Steiner concluded that the radicalism of Bertrand Russell's crony, the Theosophical leader and satanist Aleister Crowley, was a bit strong for customary German Kantians, and produced the altered dogma of the anthroposophs with this thought in mind.)

It was in this setting, of the association with Rudolf Steiner's British Theosophism, that Cantor adopted the cultish view that "Theosophy-saint" Francis Bacon had actually written Shakespeare's dramas. It must be taken into account, that all of Cantor's creative work was grounded in the deepest rejection of everything for which Francis Bacon's followers stand. It is clear that Cantor's change of heart toward Bacon could have occurred only as a result of a persisting "behavior modification by aversive conditioning," supplied by Iago-like Leopold Kronecker, *et al.*

Note the relationships with British agents such as Cambridge University's Jourdain (the translator of the *Beiträge*), Grace Chisholm-Young, and even Cantor's own mortal intellectual adversary, Russell himself. See also Section 4 from Professor Ernst Fraenkel's biographical sketch, "Das Leben Georg Cantors," in *Gesammelte Abhandlungen*, *op. cit.*, pp. 469-475 on Cantor's honors and connections in Britain from the period of his close acquaintanceship with Rudolf Steiner. The dating of Cantor's first contact with Rudolf Steiner's circles is not clear; what is clear is the horrifying implication of Cantor's February 13, 1896 letter to Pope Leo XIII: "Permitte, Pontifex Maxime . . . tria volumina operum Francis Baconi addam." The Cantor of that letter is no longer the Cantor of the *Grundlagen* or the earlier correspondence with Cardinal Franzelin.

7. *Impossibilité du nombre actuellement infini; la science dans ses rapports avec la foi* (Paris: Gauthier-Villars, 1884). See Cantor, "Über die verschiedenen Standpunkte in Bezug auf das aktuelle Unendliche," in *Gesammelte Abhandlungen*, *op. cit.*, pp. 370-377.
8. *Ibid.*
9. Meschkowski, *op. cit.*, pp. 252-253.
10. *Ibid.*
11. *Op. cit.*, pp. 254-257.
12. *Op. cit.*, p. 258.
13. *Op. cit.*
14. *Op. cit.*
15. Cantor's repeated insistence on this during his writings of the 1880's is indispensable for avoiding the commonplace blunders of the proverbial "usual generally recognized authorities" in their reading of both the *Beiträge* and these earlier writings.
16. There is a presentation of this in numerous of this author's writings, including Section 2 of the current "How Bertrand Russell Became An Evil Man," *Fidelio*, this issue, pp. 33-73.
17. Kurt Gödel, *op. cit.*
18. LaRouche, "Evil Man," *op. cit.*; Section 2, *passim*.
19. *Ibid.*
20. *Ibid.*
21. *Ibid.*
22. *Ibid.*
23. Nicolaus of Cusa, *De Docta Ignorantia (On Learned Ignorance)* (1440) [trans. by Jasper Hopkins as *Nicholas of Cusa on Learned Ignorance* (Minneapolis: Athur M. Banning Press, 1985)].
24. LaRouche "Evil Man," *op. cit.*; Section 2, *passim*.
25. *Ibid.*



Lyndon LaRouche speaks at the Russian Academy of Sciences.

EIRNS/Rachel Douglas

Physical Economy Stressed

LaRouche Lectures at Moscow Academies

Lyndon H. LaRouche, Jr., the American economist and pre-candidate for the Democratic presidential nomination, was warmly welcomed in Moscow by members of the Universal Ecological Academy (U.E.A.) and many others, during a six-day visit to the Russian capital during the last week of April. Joining LaRouche at several speeches and seminars at scientific institutions were his wife, Helga Zepp-LaRouche, founder of the Schiller Institute, and Prof. Taras Muranivsky, president of the Schiller Institute for Science and Culture (Moscow).

LaRouche was invited to Russia by the U.E.A. and by other scientific organizations. During the visit, LaRouche was notified by U.E.A. president Dr. Wolter Manusadjan, that his academic standing in the Academy had been

elevated from corresponding to full membership on March 17.

Economics Academy

LaRouche's first presentation in Moscow took place April 25 at the Economics Academy of the Ministry of Economics of the Russian Federation, before an audience of fifty. He was introduced by the Academy's director, Academician V.K. Senchagov. Here, LaRouche introduced the themes he would develop throughout his discussions in Moscow. The economic crisis in Russia, he said, is just one diseased limb of a world economy attacked by a cancer—the greatest speculative financial bubble in history—which is already collapsing and will experience cataclysmic collapse in the not-too-distant future. The solution to this crisis is known, LaRouche stressed, but the question is

whether nations will be prepared to implement it, to create a new monetary system, at the time of that collapse. Since the physical economy of the world is increasingly interdependent, there must be preliminary coordination of efforts.

LaRouche developed for his Russian listeners the essentials of the Golden Renaissance revolutions in scientific method and statecraft, which made possible the unprecedented growth of the potential population-density of the human species during the past 500-600 years. Economy, he said, is not located in relationships among objects, but in the mind of man. He gave examples of successful organization of creative scientific work and economic and technological progress in tandem, such as France's Ecole Polytechnique at the beginning of the Nineteenth Century. LaRouche

stressed that in Russia, it is essential to save the science-rich machine-tool and aerospace sectors—both their physical plant and equipment, and the educated people, the intelligentsia, who made them work.

Thus theme was repeated when Mr. and Mrs. LaRouche toured the Ordzhonikidze Moscow Machine-Tool Factory, the only producer in the former Soviet Union of assembly lines for the auto industry. Here, plant director Anatoli Panov briefed them on his fight to preserve this unique facility, and to keep its skilled workforce together, during its privatization.

In several seminar presentations, LaRouche also referred to the example of the post-World War II generation, which in Russia, as in Germany, despite all the hardships they experienced, reconstructed a powerful economic capacity out of a wasteland. He invoked the spirit of that “era of reconstruction,” which lasted until the political crises, destabilizations, and assassinations of the 1963-68 period opened the door to the more recent twenty-five-year slide into a dark age.

Scientific Seminars

LaRouche addressed seminars at three institutes of the Russian Academy of Sciences: the Africa Institute, the Institute of Oriental Studies, and the Insti-



EIRNS/Richard Magraw

At “President” session (left to right): Dr. R.M. Suslov, Dr. Pobisk Kuznetsov, Lyndon LaRouche, translator Rachel Douglas.

tute of Scientific Information on Social Sciences, with approximately thirty persons participating in each. In addition, on April 28 he was the featured guest at the monthly session convened by Dr. Pobisk Kuznetsov on his “President” initiative for applying the experience of the Soviet space program on life support systems for spacecraft, to “life support systems for the planet Earth”—which Kuznetsov insists be based on

concepts of physical economy, along the lines developed by LaRouche.

LaRouche Ideas Circulate

The circulation of the Russian translation of LaRouche’s 1984 book *So, You Wish To Learn All About Economics?*, has brought LaRouche’s ideas under intense discussion in Moscow during the past fifteen months. One participant at Dr. Kuznetsov’s session reported his use of LaRouche’s book in space-exploration youth clubs in Moscow, where he had 5th-8th graders develop geometrical constructions based on the book’s pedagogical approach to teaching elementary geometry.

Following his presentation at the Economics Academy, LaRouche was interviewed briefly by a reporter and camera crew whose material airs on Channel 4 of Russian State Television. On Thursday afternoon, April 28, he met representatives of the press, including a correspondent from the daily *Pravda* and a member of the editorial board of *Oppozitsiya*, a weekly newspaper. Transcripts of LaRouche’s public presentations and seminar discussions are available in *Executive Intelligence Review*, Vol. 21, No. 20, May 13, 1994, and in *The New Federalist*, Vol. 8, No. 17, May 16, 1994.



EIRNS/Rachel Douglas

Plant director Anatoli Panov (second from left) gives LaRouche a tour of Ordzhonikidze Machine-Tool Factory.

Helga Zepp-LaRouche Addresses Parliamentarians Against Bosnia Genocide

Helga Zepp-LaRouche, founder of the Schiller Institute, spoke in Brussels April 29 to the Conference of International Parliamentarians Against Genocide in Bosnia and Hercegovina. The conference, held at the European Parliament, drew over two hundred representatives of parliaments and high-level delegations from around the world.

The gathering was opened April 28 by Dr. Egon Alfred Klepsch, president of the European Parliament. Speakers on the first panel included the Hon. Stjepan Kljucic, a member of the Bosnian presidency; Stipe Mesic, president of the Croatian Parliament; and Msgr. Dr. Zelimir Puljic, Roman Catholic Bishop of Dubrovnik, who was sent as a representative of Cardinal Kuharic of Zagreb; among others.

Delegations came from Bosnia-Hercegovina, Croatia, Jordan, Egypt,

Sudan, Morocco, Lebanon, Malaysia, Philippines, Pakistan, Japan, South Korea, Ukraine, Slovakia, the Czech Republic, Mexico, Venezuela, Brazil, and Canada. Also, of course, a large number of European Parliament members participated.

The second panel, on April 29, focussed on economic development. Chaired by the Hon. Nareo Laroni of the European Parliament, it featured Zepp-LaRouche as a main speaker.

Excerpts from her speech follow:

“An effective peace policy for the Balkans today must fundamentally consist—in addition to pushing the Serbs back within the borders as they were before the war broke out—of a program for economic development such as my husband, Lyndon LaRouche proposed in November 1989 when the borders of Europe opened. The central feature of the program of the so-called ‘Productive

Triangle Paris-Berlin-Vienna’ as the centerpiece of a Eurasian infrastructure program, is based on the fact that this region, which encompasses parts of France, Germany, and Central Europe, represents the greatest concentration of industrial capacities and highly skilled labor power in the world.

Principles of the Triangle

“It would have been very simple to apply principles similar to those of the reconstruction of Germany after World War II, to create project-linked credits to bring about technological improvement of existing industries and achieve productive full employment by means of new investments.

“The increase in production and productivity, which would have been achieved by such dirigistic methods in the tradition of Friedrich List, not only could have become the motor of the



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Conference of International Parliamentarians Against Genocide in Bosnia and Hercegovina. Second from right is Schiller Institute founder Helga Zepp-LaRouche.

transfer of improved technologies into eastern and southeastern Europe, and ultimately Asia, but it could have become the locomotive for the entire world economy, which was already in depression at that time.

“The Balkans were to be completely integrated into this Eurasian infrastructure program as a bridge to the Northeast, and, particularly after completion of the Rhine-Main-Danube canal, shipping on the Danube would have taken on a crucial function for the economic development of the states of former Yugoslavia.

“There is documentation in great detail—not least in the memoirs of Margaret Thatcher—which demonstrates that Thatcher and Bush, for political reasons, were ready to do everything to prevent such a development of the Eurasian continent. Part of the Thatcher-Bush policy included giving the Serbs the green light for their Greater Serbia plans of conquest, a policy maintained since then by Great Britain and the United Nations, by which they have made themselves complicit in the Serbian genocide. This policy also included imposing shock therapy upon the states of the former Warsaw Pact, and initially Yugoslavia, and today Croatia.

“Instead of developing the East and the Balkans economically, the policies of shock therapy, International Monetary Fund conditionalities, and the so-called free market economy led to a disastrous collapse of production, so that today productive capacities have been reduced to levels thirty percent of what they were at the time of the end of communism. This policy has not only led Russia to the brink of economic standstill, it has produced a dictatorship of organized crime and a profound embitterment of the population. Since Russia is, moreover, a nuclear power, this development can quickly explode into a catastrophe. There is only one way that a drift into an apocalyptic crisis can be prevented: the policy which Bush and Thatcher determined in 1989 toward the Balkans and toward Russia must be given up entirely, and it must be replaced by a policy of economic development.”

Seeds Planted for National Music Conservatory Movement

The seeds for a “National Conservatory of Music Movement” in honor of Marian Anderson were planted in Washington, D.C. by the Schiller Institute, with a concert on May 27, followed by an all-day conference on Saturday at Howard University’s Rankin Memorial Chapel.

The two-hour concert featured four of the nation’s leading African-American artists performing a unique combination of African-American Spirituals, German *lieder*, oratorio, and opera arias at the “Verdi” or “scientific” pitch of middle-C = 256 Hz. The conference was keyed by Lyndon LaRouche, and included several hours of master-class vocal coaching by the artists, as well as discussion of the principles of *bel canto* singing and the effects of the lower, “Verdi” pitch on musical performance.

The first National Conservatory of Music, which is the inspiration for this movement, was conceived and initiated one-hundred years ago by Jeanette Thurber, working with the great Czech composer Antonin Dvřak, who sought

to create in the United States a school of Classical music composition, combining *bel canto* singing with American themes, to recreate here the scientific counterpoint of Beethoven and Brahms.

As the program for the weekend’s events indicates, the new National Conservatory of Music is proposed—not as a building—but as an idea, whose purpose is to “rid the arts of the rule of the cultural (and countercultural) Philistines” through a movement composed of mass choruses, educated through seminars, concerts, and symposia, “intended in these troubled times to bring back into focus the need to re-establish the arts as the center of our lives.”

Performing works by Handel, Schubert, and Verdi, as well as numerous Spirituals, were baritone Robert McFerrin, who in 1955 was the first Black male artist to perform at the Metropolitan Opera; baritone William Warfield, past president of the National Association of Negro Musicians (1985-90); tenor George Shirley, the first Black tenor at



EIRNS/Stuart Lewis

Schiller Institute children’s chorus opens the conference for a “National Conservatory of Music Movement.”



EIRNS/Stuart Lewis

Master class conducted by George Shirley, Sylvia Olden Lee, and William Warfield (seated, right to left). Kathy Wolfe of the Schiller Institute is at the far left.

the Met, now professor of voice at the University of Michigan in Ann Arbor and an internationally celebrated performer; and Sylvia Olden Lee, pianist and vocal coach, the first Black professional musician at the Met.

Music Is Scientific

“Music is a serious business, a scientific business, not recreation,” Lyndon LaRouche said in his keynote address. LaRouche started by discussing how his interest in music had been a byproduct of his work beginning in 1947 to refute Norbert Wiener and the exponents of information theory. Wiener *et al.* wanted to reduce the content of ideas to statistical procedure, to dehumanize people.

Refuting Wiener, LaRouche continued, required proving that he was wrong in a field other than economic science. So, said LaRouche, he chose music. He began a broad-based study of composers, beginning in the 1780’s through to Brahms, including the best composers as well as competent bad ones, like Reichert and Hugo Wolf.

Music and scientific principles are identical, he concluded. “Music and science complete you. Music is intelligible, communicable. If the student is taught to sing beautifully, then the music is communicated.”

Schiller Institute Ad Says: ‘Stop the U.N.’s Killer Conference’

A full-page ad appeared in the Washington Post on June 29 under the title “Stop the U.N.’s Killer Conference.” The ad, whose text appeared in the last issue of *Fidelio*, demands that the United Nations International Conference on Population and Development (I.C.P.D.), which is to take place in September in Cairo, Egypt, be stopped, “because it is part and parcel of a larger gameplan to make the United Nations the centerpiece of a new world empire.”

The goal of the I.C.P.D., states the ad, “is to set the stage for an intensified campaign to drastically reduce population levels, especially in the developing sector. The Cairo conference is also designed to further consolidate the United Nations’ emergence as a global government, a new Roman imperium that will rule with savage brutality over the shards of former nation-states, and reduce their living standards to the level of animals.”

The ad carries the endorsement of hundreds of leaders worldwide, including dozens of top leaders of

Christian and Muslim religious bodies from around the world. From the Roman Catholic Church, whose Cardinals have separately denounced parts of the I.C.P.D. draft document, twenty-one Archbishops and Bishops have endorsed the Schiller Institute’s statement; dozens of Muslim leaders have endorsed, including Dr. Abdul Alim Muhammad, National Spokesman for Minister Louis Farrakhan of the Nation of Islam, and Imams of several American mosques; and dozens of leaders in the Protestant churches have endorsed, including the acting president of the Lutheran Confession Evangelical Church of Brazil.

From the political realm, endorsers of the ad include the former President of Argentina; the former Deputy Prime Minister of post-communist Czechoslovakia; eight members of the Armenian Parliament; three Venezuelan Congressmen; and dozens of state and local officials from the United States and around the world.

Art Gives an Intimate Look At the Great Men Who Built France

This article deals with two museums on opposite sides of the United States, and seemingly very disparate art objects. What unifies them is the history of a great nation-state, France, and its contribution to universal culture.

One object is the chalice of the Abbot Suger, which was shaped under the guiding mind of this Twelfth Century nation-builder who gave Gothic cathedrals to the world. The other is the *Hours of Simon de Varie*, a precious manuscript of c.1455 with five miniatures from the hand of Jean Fouquet, France's great Renaissance painter,

which is now divided between two collections, the J. Paul Getty Museum in Malibu, California, and the Royal Library in The Hague. This manuscript's history is closely tied to the creation of the modern French nation under King Louis XI and his allies.

The *Hours of Simon de Varie* was featured in a special exhibit honoring Fouquet at the Malibu Getty Museum from April 26 to July 10, while Suger's Chalice is on permanent display at the National Gallery of Art in Washington. Both are described and lavishly illustrated in two new books: *The Hours of*

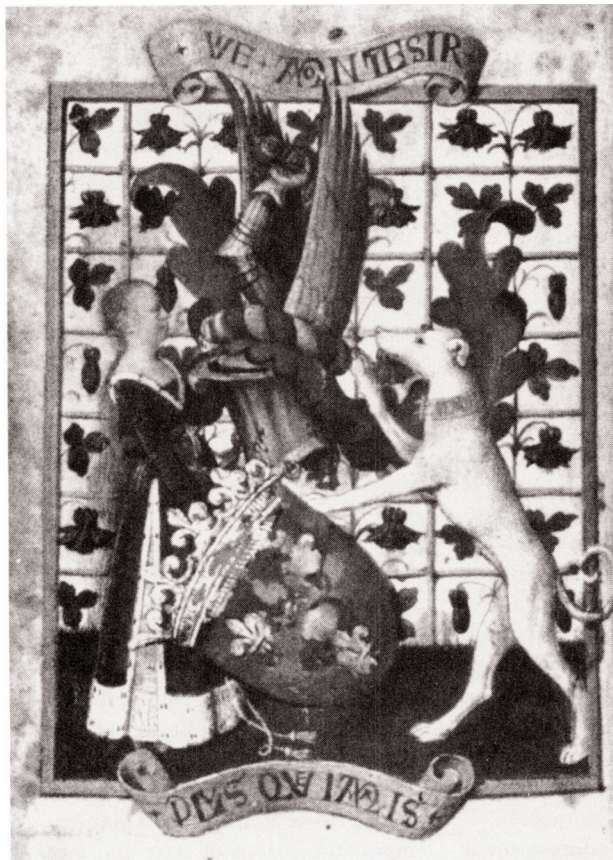
Simon de Varie, by James H. Marrow with a contribution by François Avril (Getty Museum Monographs, The J. Paul Getty Museum, Malibu, in association with Koninklijke Bibliotheek, The Hague, 1994) (slip-cased, 249 pages, \$95.00); and *Western Decorative Arts, Part I* (The Collections of the National Gallery of Art Systematic Catalogue, National Gallery of Art, Washington, D.C., and Cambridge University Press, London, 1993) (cloth-bound, 331 pages, \$160.00).

The entry on Suger's chalice in the new catalogue is written by Pamela Vandiver of the Smithsonian Institution's conservation and analytical

laboratory, and dwells heavily on technical details. According to Vandiver, the chalice is one of nine liturgical vessels that Suger added to his Abbey church. This one was reserved for use on the altar dedicated 850 years ago to St. Denis, the martyr and protector of France.

The cup of the chalice, a semi-precious sardonyx, was chiseled and polished into a fluted cup in antiquity, presumably in Alexandria in the time of the Ptolemies, c.200 B.C. The flutes impose a regular pattern over the marbled veins of the red, black, and white stone. We do not know who the original owner was, but by A.D. 1140 it had found its way into the hands of Suger, an avid collector of antique gems, who had it reset as a chalice, adding unusual double filigrees of gold notched wire, precious stones, and double pearls (the jewels were replaced long since with paste glass).

The chalice would have quite a tale to tell if it could speak. In 1567, during the Catholic-Huguenot religious wars, the Royal Abbey of St.-Denis near Paris, where the chalice had been part of the treasury for over three centuries, was sacked. In 1791, in fulfillment of the law nationalizing the monastic orders, it was taken away from St.-Denis and deposited at the National Cabinet of Medals and Antiquities, part of the French state collections. The French Revolution not only deposed the monarchy, but its anti-clerical wrath led to the devastation of many churches, looting and disursing religious artifacts. The chalice was stolen and smuggled out of the country by an Englishman in 1804, and remained hidden from view in an English private collection until it was finally sold to a dealer sometime before 1922, and purchased by the Pennsylvania millionaire Joseph Widener, who



J. Paul Getty Museum, Malibu

Jean Fouquet, "Coat of Arms Held by a Woman and a Greyhound," from the "Hours of Simon de Varie."



The National Gallery of Art, Washington, D.C.



Left: *The chalice of Abbot Suger, on display at the National Gallery of Art. Top:* *This 1633 drawing of the chalice shows the hyperbolic curve of the original foot, prior to a modern-day restoration.*

bequeathed his art collection to the National Gallery.

Suger, as the remnants of the Royal Abbey of St.-Denis which date from his lifetime reveal, had an keen sense of negative curvature. In the setting of his chalice, the foot originally extended out in an elegant hyperbolic curve, such that a perpendicular line drawn from the outer rim of the foot would have been tangent to the internal curl of the cup handle above it. We know this from a watercolor drawing made of the chalice in 1633 [SEE illustration]. The present-day, simple-conical form is the result of a restoration made in modern times.

Suger Refused To Be Small

Suger became abbot of St.-Denis in 1122. During the Second Crusade he was a Regent of France. At his death this man, who had spent his life as a monk and abbot, was declared a Pater

Patriae. His epitaph reads: “Small of body and family, constrained by twofold smallness, / He refused, in his smallness, to be a small man.”

Suger was an able administrator, an acute businessman, one of the first medieval historians, and an outstanding patron of the arts. Art historian Erwin Panofsky was the first to first prove we owe the launching of “Gothic architecture” to this extraordinary man’s rebuilding of the Royal Abbey of St.-Denis. His influence over King Louis VI led to the creation of France as a centralized power, capable of subduing the various feudal lords whose armies, wealth, and dominion often matched those of the titular monarch.

The Royal Abbey was the home church of the French monarchy, where all the royal crowns and coronation robes were kept, and the kings of France were buried. Tradition said

that the patron saint of France, Dionysius (Denys), and his two companions, Sts. Eleutherius and Rusticus, were martyred on the site of the Abbey. Denys was believed to have been a Greek disciple of St. Paul, converted by the great missionary apostle in Athens in the first Christian era, and later sent from Rome to evangelize Gaul; and to him were attributed the theological works of a Platonist who actually lived in the fifth and sixth centuries, Denys the Areopagite.

Suger read deeply in this Pseudo-Dionysius, who was the source for his metaphysics of light, but he was most intensely influenced in theology by the greatest of Christian Platonists, St. Augustine. The inscription which he had placed on the golden doors of the west facade introduces his thought: “Marvel not at the gold and the expense but at the craftsmanship of the work. / Bright is the noble work, but, being nobly bright, the work / Should brighten the minds, so that they may travel, through the true light, / To the True Light where Christ is the true door.”

Inside the sanctuary, the resplendent liturgical vessels and other altar furnish-

ings were just as important as the stained glass and pervasive light. “We profess that we must do homage also through the outward ornaments of sacred vessels,” Suger wrote. “Thus, when—out of my delight in the beauty of the house of God—the loveliness of the many-colored gems has called me away from external cares, and worthy meditation has induced me to reflect, transferring that which is material to that which is immaterial, on the diversity of the sacred virtues: then it seems to me that I see myself dwelling, as it were, in some strange region of the universe which neither exists entirely in the slime of the earth nor entirely in the purity of Heaven, and that, by the grace of God, I can be transported from this inferior to that higher world in an anagogical manner.” [Quoted from E. Panofsky, *Abbot Suger on the Abbey Church of St. Denis and Its Art Treasures*, 2nd ed. (Princeton, 1979).]

Louis XI and Private Devotion

When Suger’s nation-building project was resumed in the Fifteenth Century by the Dauphin of France, later known as the “Spider King” Louis XI, a new factor had entered, and this was the rise of a merchant middle class and the notion of the unique role of the individual. Private devotions, rather than the public liturgy, inspired the greatest art.

As the Getty Museum’s elegant volume on *The Hours of Simon de Varie* explains, “The book of hours was the characteristic private prayer book of the late Middle Ages, containing standardized texts used especially by the laity.” It “contained only material for private devotions: its contents did not have to be recited and its standardized texts could be used selectively according to personal need. “The needs in question were those shared by the majority of believers in the late Middle Ages. There were reasons both practical and spiritual for individuals to reckon dates and follow the course of religious feasts, to review the biblical texts that outline Christ’s redemption of humankind, to praise and beseech Mary, Christ, or the Holy Spirit (each believed capable of interceding in essential ways in the lives and fates of individuals), to



J. Paul Getty Museum, Malibu
Jean Fouquet, “Simon de Varie in Prayer,” from the “Hours of Simon de Varie.”

pray for the dead or dying, and to ask for forgiveness from sins or for the intercessions of saints.”

Often, a book of hours was the first and only book a person possessed. The texts were usually complemented and enhanced by handcrafted decoration and illustration. Never cheap, and often very costly, they could be afforded only by a small group, primarily royalty, nobility, and wealthy members of the emerging merchant and bureaucratic classes.

Fouquet and Louis XI

Historical research on Jean Fouquet’s patron reported in Francois Avril’s essay “Simon de Varie, Patron of the Hours,” sheds light on Fouquet’s role both in his work on this manuscript and more broadly. For although he was royal painter to Charles VII, yet it seems plausible to associate Fouquet’s advanced art with Louis XI, the son who schemed against his foolish and wicked father in order to rebuild the French nation-state. The checkered

careers of the de Varie brothers, the patron Simon and Simon’s brother Guillaume—both of whom became leading financial and commercial advisers and agents to Louis in Languedoc at his accession to power—show how numbers of individuals involved in Charles VII’s court were actually working for the Dauphin.

Fouquet had spent key years of his youth in Florence and Rome, from the end of the Council of Florence in 1444 through part of the pontificate of Nicholas V, the first real Renaissance Pope (1447-55). He was surely in the orbit of Fra Angeli-

co while in Florence, and he brought back to France his own, highly original variants on the Florentine style, including his own spherical perspective and a personal technique of using gold, previously employed by artists to create a flat, decorative effect, as a means of generating spatial illusion.

Like all the best northern European and Italian artists of the era of the Council of Florence that unified the Greek and Latin churches, Fouquet “westernized” typical motifs of Byzantine icon painting. The highly original “Madonna and Child” from The Hague portion of the *Varie Hours*, in which the Child’s head is covered by part of the Virgin’s robe, is just such an adaptation of a Byzantine model [SEE inside back cover, this issue]. And to the Getty portion belong two dazzling Fouquet pages, the first “new” Fouquet works discovered since the beginning of this century: a seated Virgin and Child, and the facing page portrait of Simon de Varie kneeling with his family coat of arms.

—Nora Hamerman

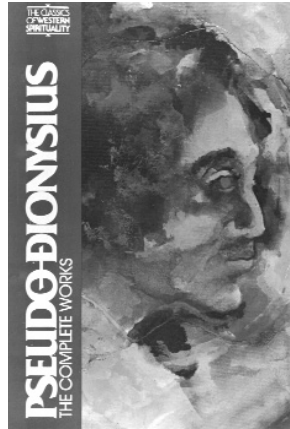
The Pseudo-Dionysius and Christian Platonism

The *Complete Works* of the Pseudo-Dionysius is necessary reading for any serious student of the fight within Christianity against the philosophy of Aristotle. The importance of the *Commentary* written by Paul Rorem, is limited to the light it sheds on the influence of Platonism on St. Thomas Aquinas, who is falsely portrayed as an Aristotelian, and on the historical influence of the writings of the Pseudo-Dionysius on Christian aesthetics. Otherwise, Rorem's commentary reflects the fact that, as he writes, he is "a theologian within the tradition of the Lutheran Reformation."

The story behind the Pseudo-Dionysius is one of the most interesting in the history of Christianity. It was long thought that the writings attributed to him were those of the Dionysius, whom the Apostle Paul converted through his speech on the Unknown God in Athens at the Areopagus (Acts 17:34). However, as Rorem points out, by the Sixteenth Century it was discovered that Dionysius was a pseudonym adopted by an unknown Christian Platonist who lived sometime in the Fifth or Sixth Century A.D.

Interestingly, in his speech Paul refers to the opening lines of the poem "Phaenomena" by Aratus of Soli. "From Zeus let us begin; . . . full of Zeus are all the streets and all the market-places of men; full is the sea and the havens thereof; always we all have need of Zeus. For we are also his offspring. . . ." This poem is based upon the prose work bearing the same title by Eudoxus, a pupil of Plato who pioneered the method of negative proof through exhaustion.

Although Rorem fails to note the above connection, perhaps the most important contribution his book makes is to further expose the lie that Thomas Aquinas was an Aristotelian. This reviewer has documented elsewhere that Aquinas was a Christian Platonist in the tradition of St. Augustine and



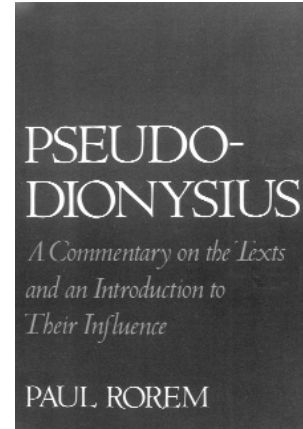
**Pseudo-Dionysius:
The Complete Works**
by Colm Luibheid
Paulist Press,
Mahwah, N.J., 1987
312 pages, paperbound, \$12.95.

Dionysius (SEE "Why St. Thomas Aquinas Is Not an Aristotelian," *Fidelio*, Vol. II, No. 1, Spring 1993).

Rorem points out that, from 1246 to 1252, Albert the Great lectured on the entirety of Dionysius' writings, first in Paris and then in Cologne. Thomas Aquinas was his student and scribe. Thomas' lecture notes (the earliest work from his hand) were transcribed and became Albert's written commentaries. Aquinas himself later wrote a full commentary on Dionysius' *The Divine Names*. Rorem further reports that one student counted 1,702 explicit quotations from Dionysius spread through Aquinas' works.

Rorem concludes, "Until recently, Thomist scholarship has tended to emphasize the impact of Aristotle upon Aquinas, an emphasis that has unnecessarily minimized the Neoplatonic and Dionysian influence." He also writes, "In general, there were more, and more significant, avenues of Neoplatonic influence upon Thomas than most scholars, especially Thomists, have been willing to acknowledge."

Rorem correctly emphasizes the



**Pseudo-Dionysius:
A Commentary on the Texts
and an Introduction
to Their Influence**
by Paul Rorem
Oxford University Press,
New York, 1993
267 pages, hardbound, \$39.95.

influence of Dionysius on St. Bonaventura and also on Ruysbroeck, a close associate of Gerard Groote, the founder of the Brotherhood of the Common Life. However, the most disappointing weakness of his commentary is that it gives only passing reference to the influence of Dionysius on the founder of modern science, Nicolaus of Cusa. A more thorough treatment of the influence of the Dionysian works on Cusanus would have rendered his commentary more substantive.

Impact on Cusanus

Anyone serious about studying the works of Dionysius would be well advised to begin by reading Cusanus' *On the Not-Other*, which includes extensive quotes from *The Celestial Hierarchy*, *The Ecclesiastical Hierarchy*, *The Divine Names*, *The Mystical Theology*, and the *Letters*.

The influence of Dionysius on Cusanus is also evident in the latter's early work, *On Catholic Concordance*, where he develops the idea of national

sovereignty and government by the consent of the governed.

In Chapter VII of the *Hunt for Wisdom*, Cusanus traces the basis for his discovery of the species of transcendental numbers through the problem of the quadrature of the circle, to the ninth chapter of Dionysius' *The Divine Names*. Cusanus writes, "the great Dionysius asserts in the ninth chapter of *On Divine Names*, that that first eternal is inflexible, inalterable, unmixed, immaterial, most simple, not indigent, inaugmentable, irreducible, has not become, is always existing."

He then says: "I take two of these, namely, the inaugmentable and the irreducible, and hasten with them to the hunt, and I say that the inaugmentable cannot be greater; therefore it is the maximum. The irreducible cannot be smaller; it is therefore the minimum. Hence, because it is equally the maximum and the minimum, it is in no way smaller, since it is the maximum, and in no way greater, since it is the minimum, but rather the most precise, formal, and exemplary cause and measure of everything great or small."

Cusanus then applies this isoperimetric, minimum-maximum conception of the infinite, as transcending that which can be described as lesser or greater, to the domain of aesthetics: "As I have shown in the booklet *On Beryllus*, in the enigma of the angle, the maximum and at the same time minimum angle is necessarily the most adequate formal cause of all angles which can become. And it is not only the formal cause, but also the efficient and final cause (as Dionysius shows, where he writes concerning beauty). For Beauty, which is that which it can be, is inaugmentable and irreducible, since it is at the same time the maximum and the minimum, is the actuality of all potential-to-become-beautiful, effecting everything beautiful, and as far as its capacity admits, conforming and converting it to itself."

In his commentary on *The Celestial Hierarchy*, Rorem documents the influence of this Dionysian work, as well as the writings of St. Augustine, on Christian aesthetics. For example, he points out that during the Ninth Century Hilduin, abbot of St.-Denis, had identified the Pseudo-Dionysius with the

legendary Denys of earliest Christian history in France and had completed a Latin translation of the Dionysian writings around 835. Suger, abbot of St.-Denis from 1122 to 1151, based the birth of Gothic architecture upon the Dionysian concept expressed in *The Celestial Hierarchy*, that "the appearances of beauty are the signs of an invisible loveliness."

The key scientific concept developed by Dionysius is that emphasized in Lyndon LaRouche's essay "On the Subject of Metaphor" (*Fidelio*, Vol.1, No. 3, Fall 1992). Knowledge can only be transmitted between two human beings, not linearly, but rather metaphorically through paradox. In *The Celestial Hierarchy*, Dionysius emphasizes that "incongruities are more suitable for lifting our minds up into the domain of the spiritual than similarities are." The purpose of beautiful art, therefore, is to lift our minds above the incongruities of the visible domain to the invisible domain of God, Who, as Beauty itself, is the self-similar cause of all incongruous dissimilarities.

—William F. Wertz, Jr.

Murder Will Out

There are no doubt many more cover-ups locked away in the dusty closets of Her Majesty's Government, and in the musty attics of Britain's landed aristocrats. Here's one that has been brought to light after the passage of a mere four hundred years. The death of playwright Christopher Marlowe, Shakespeare's contemporary, author of the biting dramas, *The Jew of Malta*, *Doctor Faustus*, and *Tamberlaine* among others, is now proven beyond doubt to have been murder, and not the casual accident of a "bar-room brawl" which was the standing cover story until now.

Charles Nicholl's book is thoroughly researched, from sources in England and Continental Europe, and very well documented. For one who has known for years that murder was, so to speak, the name of the game, the book is a real delight to read. One to put away for the

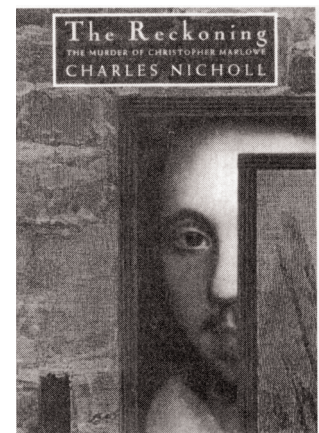
autumn, as the daylight hours draw shorter, and evening becomes the time to relax with a good book that is a bit unusual.

Not one for the beginner perhaps, but well worth the effort.

Nicholl is not satisfied with clearing up the question, "murder or not?" He also takes a stab at getting to the proverbial bottom of things.

There he finds—no surprise for anyone who has been around over the last couple of generations—Her Majesty's Privy Council and the intelligence network put together by the Venetian *eminence grise*, the thug Elizabeth I called "my Moor," Francis Walsingham.

Yes, it seems that Marlowe's murder was sanctioned by Elizabeth's Privy Council; his presence in the town of Deptford, one mile up river from the Queen's favorite palace at Greenwich, arranged from within the Privy Coun-



The Reckoning: The Murder of Christopher Marlowe
by Charles Nicholl
Harcourt Brace, New York, 1994
413 pages, hardbound, \$24.95

cil; his companions at Mistress Bull's house (Frizer, Skeres, and Poley), all part of the shadowy underworld of Walsingham's plots and counter-plots. And, Mistress Eleanor Bull herself,

uncommonly well-connected into the heart of the Queen's household through her Whitney-family bedchamber ties.

No need here to go through all the details. Get ahold of the book, and I'm sure you'll follow along quite happily.

But, take a moment on the broader matter. Elizabeth's "Moor" is known to this day as the "founder" of the British Secret Intelligence Service. What a genesis is here portrayed? What unnatural coupling could ever have produced such a monstrous brood of whelps?

Well, Nicholl gives us half the story, the blackmail, the forgeries, the slanders, the frame-ups, the murders, and

the under-legal-cover executions. Want an enemy removed? Have Walsingham's secretary Thomas Phelippes forge some incriminating correspondence, and plant it on him. So exits Mary Queen of Scots. And all of the others who were in any way involved in the matter of the succession to Elizabeth.

Clear it is that Marlowe was bound up in all this, knowing matters that others wished he didn't.

Unclear, unasked, is the matter of for whom Elizabeth's Moor worked. No difficulty—with 20/20 hindsight—to say that, like his namesake Shakespeare's Othello, he was Venice's Moor,

doing Venice's dirty work.

That oversight can be readily forgiven once the digging that went into ending the "bar-room brawl" cover-up is appreciated.

And, with the blood of the Lockerbie passengers, Alfred Herrhausen, Jürgen Ponto, Aldo Moro, John F. Kennedy, still crying from the streets and sidewalks for justice, it is worth asking once again, how, now, four-hundred years later, oaths of loyalty to the British crown, and life-long secrecy, still provide the wraps which enshroud the grimest of crimes.

—Christopher White

The Uses of History

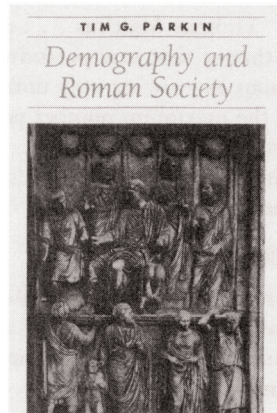
We study history to make the world better. This is the maxim of Schiller's celebrated *Universal History*, and of Condorcet's: *History is the history of human progress*. Thus, writing history presupposes both a moral purpose, and an intelligible (i.e., causal) representation of the subject matter; and these aims should be the motivation of those who write it, as we use their work to *make history* ourselves.

In our time, and with his usual profound simplicity, Lyndon LaRouche has distinguished as key yardsticks for the intelligible representation of history, the study of *demography* (i.e., the parameters of the human population) and *physical economy* (which, by subsuming scientific development under the category of *technology*, shows us how the human population reproduces itself materially through its spiritual activity).

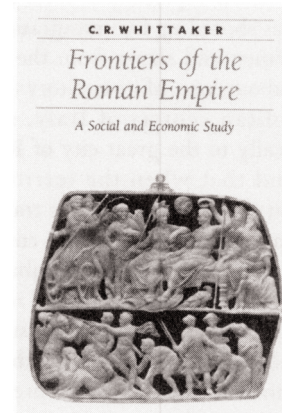
Unfortunately, the history of Rome has often been written for a different, perverse purpose: to guide the oligarchic administration of empire. Such was the case of the British Lord Shelburne's journalist scribbler Edward Gibbon's *Decline and Fall of the Roman Empire*, and of the Rockefeller-Harriman eugenicist coterie's opus, Tenney Frank's 1935, five-volume *Economic Survey of Ancient Rome*. And thus today, at the endpoint collapse of the Twenti-

eth Century, the Roman example is dredged up by such touted think-tankers as Jean-Christophe Ruffin in his *The Empire and the New Barbarians*. And certainly, all the elements of comparison are present: systemic economic disintegration, continuous warfare in the hinterlands, population crisis, plagues, and the vast social dislocations and population migrations they engender.

It is against this background that these two useful specialist studies in the Johns Hopkins "Ancient Society and History" series should be read. Both



Demography and Roman Society
by Tim G. Parkin
Johns Hopkins University Press,
Baltimore, 1992
225 pages, hardbound, \$32.50



Frontiers of the Roman Empire: A Social and Economic Study
by C.R. Whittaker
Johns Hopkins University Press,
Baltimore, 1994
330 pages, hardbound, \$39.95

books present elements which may be used to assemble an intelligible representation of the Roman Empire's decline, from which we may draw our own moral assessments. Whether the authors understand *history*, or prepare us to *make history* ourselves, is another matter.

Demography

Tim Parkin's *Demography and Roman Society* began as the author's doctoral

research at Oxford. His short treatise is a model of clarity, providing both a primer in demographic concepts, and an extensive current survey/summary of the relevant scholarly literature on Roman population and society. Part I (“Ancient Evidence”) reviews and exposes the assumptions inherent in the treatment of the various sorts of primary evidentiary data, hence questioning the validity of previous population models; Part II is his demography primer, to which are attached the life-tables and figures he believes to be his own contribution to the subject; and in Part III, Parkin presents his conclusions.

Any student of Roman society—that is, of both the Republic and the Empire—learns at the outset what the Romans knew themselves: that their population was in a continual state of collapse, below replacement levels, and that it was shored up by immigration of both freemen and slaves from the less-developed outskirts of its territory to the metropolitan centers of Italy, most emphatically to the great city of Rome itself; and that when the territorial expansion that allowed for this transfer of population ended, the system entered a slow but irreversible autocannibalization we call “the decline and fall of the Roman Empire.” Thus, notwithstanding Parkin’s student exercise in debunking the methods used to interpret the limited primary data available to us, no effort to produce a quantitative historical model, Parkin’s included, disputes this general impression. As Parkin writes, “[T]he consensus of scholarly opinion . . . has been that the overall population of the empire was in decline from the late second century A.D. . . . [T]he crisis . . . [led] to the state enforcement of labor . . .” (The “state enforcement of labor” referred to here, was the establishment of universal fascism by the Codes of the emperors Diocletian and his successor Theodosius, who responded to the manpower collapse by forcing hereditary employment and outlawing any form of scientific development in the technologies of agriculture and production, thus creating the virtual slavery of serfdom which was the backbone of the subsequent feudal economy that reduced the vast

majority of Europe’s population to the status of cattle until the emergence of the nation-state in the Renaissance.) Parkin continues, however, “The cause of manpower shortages and of depopulation is another question again. . . . [T]he relationship between the economic and demographic realities, *presuming that there was such a relationship* [emphasis added], is difficult to judge.”

Because Parkin knows nothing of the fundamental relationships of population and physical economy—and therefore of the lawfulness in the correlation between renaissances of human civilization and periods of rapidly expanding population—he not surprisingly falls back upon that popularizing ideologue of recently restored credibility among the politically correct cheerleaders of one-world government, the malevolent Parson Malthus, as he concludes: “Thomas Malthus . . . developed a theory that saw preindustrial populations as growing only until they reached the maximum number possible as dictated by economic factors. . . . [I]t is certainly something that needs to be taken into account . . .”

Social Characteristics

Notwithstanding Parkin’s failure to treat the “economic factors” which determine population development, he does summarize a useful and accurate picture of the governing ideology of the oligarchic, “bread and circuses” society which was Rome, as when he concludes that “a general mentality advocating the advantages of bachelorhood and childlessness seems to underlie [the decline in fertility], a mentality that was put into effect consciously through practices of abortion and exposure, and to some extent contraception . . .,” or that “the small size of families cannot be explained by mortality rates alone, but also by the limiting of fertility both by intention and circumstances: . . . not only contraception, abortion, and exposure and infanticide as part of an apparent aversion to matrimony and child rearing, but also natural sterility. Other social factors, such as homosexuality and extramarital relationships, may also have had a part to play.”

Thus, although he does not trace the

Romans’ hedonistic ideology to the looting economy which made human life in Rome a brief, inconsequential, and meaningless experience, Parkin—living as he does at a similar moment of social deterioration—has the good sense to recognize the signs of “aversion to matrimony and childrearing . . . homosexuality . . . extramarital relations” that infect any society vectored away from the task of improving mankind’s condition of life, which task gives meaning and scientific necessity to the role of the family in nurturing the human potential needed for this undertaking. But because Parkin pulls back from drawing the comparison with our own age—so far as capitulating, in fact, to removing mention of the issue of homosexuality from his ultimate summary conclusions, no doubt for fear of the wrath of the politically correct—his efforts leave us not with *history*, but with the data from which *history* is to be assembled.

It is worth noting, however, that Parkin rightly identifies fertility as having a mere secondary effect on population development, subsidiary to that of mortality. This is extremely important in today’s so-called population debate, because efforts to reduce the rate of population expansion can succeed, not as a result of a decrease in the secondary effect (fertility), but only as a consequence of an increase in the primary factor, namely, mortality; that is, *more people have to die faster*. Thus, Nazi-like policies of euthanasia, death camps, and genocide through disease, war, and social dislocation—and not condoms—are the absolutely required tools for population control, *as is well understood by today’s depopulators* [SEE Lyndon LaRouche, “How Bertrand Russell Became an Evil Man,” this issue].

The Roman Limes

The Johns Hopkins *Frontiers of the Roman Empire: A Social and Economic Study* by C.R. Whittaker is not the work of a beginning, but of an experienced scholar. It represents a mature synthesis of an enormous range of detailed historical and archaeological investigation of the local-area conditions at the boundary territories between the Roman Empire proper and the peoples who lay beyond this dividing line

between “civilization” and the “barbarians.” It arrives, again perhaps not accidentally, at precisely the moment when ideological popularizers have begun to reach back to Roman history for a model of relations between the “advanced” (read Europe-North America) and “underdeveloped” (read Third World) sectors. Their ideological thesis is succinctly summarized by the title of Ruffin’s tract: *The Empire and the New Barbarians; North-South Rupture*, and the issues clearly intersect those of population demography, both ancient and contemporary.

Whittaker’s study is useful in this context not for its fine points, which no doubt represent for the author the fruit of his exhaustive research, but for the overall model of the economic and social process of the Roman Empire which underlies his essential thesis. For Whittaker demonstrates that the Roman frontier (*limes*) was never conceived of by the Romans solely as a defensive boundary thrown up to isolate Roman territory from the marauding external populations, but rather, that it represented a zone of mutual trade, economic activity, and acculturation, in which the external populations benefited from and relied upon the level of material culture and governance transmitted by the slave-based Roman Empire from the high-point of the Classical Mediterranean culture bequeathed by the Golden Age of Greece; and that the so-called “barbarian invasions” were not, by and large, invasions at all, but the slow and desirable resettlement of external peoples into the territories abandoned by the Romans owing to the shrinking of the Roman population. Thus, for Whittaker, the “fall of Rome” resulted not from external pressure, but from internal decay—precisely the opposite picture to that of Ruffin *et al.*, who fear the “hordes” of the Third World without realizing that it is the collapse of their own advanced sector economies and society, and hence of the great project of global development, which has made the rest of the world appear to them as threatening “new barbarians.”

The Frontier Zone

Whittaker points out that the historiography of the Roman frontiers was

shaped by the empires of the Nineteenth Century: “[W]e must have some awareness of the influence of imperialism on British writing. . . . C.C. Davies, author of the classic *Indian* [emphasis added] study in the 1930’s . . . found it proper to pronounce his verdict on Rome. ‘Rome fell,’ he said, ‘because her dykes were not strong enough to hold back the flood of barbarian inroads.’ ”

For Whittaker, rather, “[t]he myth of frontiers as iron curtains must be abandoned.” In its place, Whittaker presents a picture of the *limes* as a “process of acculturation”; as he says, “[O]verall, and on every frontier, there developed increasing social and economic ties between trans- and cis-frontier populations. . . . [T]hey resembled each other more than they did their own upper classes. . . . [I]n the end it was unclear who were the barbarians and who were the Romans.”

It is in its portrayal of the process of population migration to resettle abandoned territories that *Frontiers of the Roman Empire* is especially useful. As Whittaker points out, “The Romans had encouraged immigration as a political tactic over a long period of history; settlement, that is, of border peoples within the empire” Whittaker reviews the extensive enlistment of Goths, for example, in the army, as arising from Roman policy shifts toward the manning of the frontier fortifications, shifts which were driven by Rome’s inability to supply adequate manpower to maintain the troop strength of the legions. The picture of the ultimate resettlement of deserted areas is clear: “[H]uge numbers were moving across and settling in the Roman Empire under negotiated terms in the fourth century along the Rhine and Danube. . . . at a guess well over one million foreigners along a frontier of some ten thousand kilometers.”

As an economic study, however, *Frontiers of the Roman Empire* is wholly inadequate, as its author appears to be ignorant of economics as the study of society’s self-reproduction of its material existence—that is, the study of *physical economy*. His familiarity with economic processes goes no farther than local

trading relationships, or an occasional allusion to “marginal utility theory” as it pertains to agricultural cultivation. Like his colleague Tim Parkin, Mr. Whittaker suspects that “economic factors” are at work at the Roman frontier; but his insistence on examining phenomena in the small rules out, from the get-go, any means of addressing the operation of the economy of the empire as a whole, which was determining the process of territorial depopulation and abandonment assumed in his analysis. But it is precisely there, in the overall organization of the slave-based agricultural economy of Rome, and the voracious looting policies of the Roman imperium which taxed the agricultural base out of existence, that the history of the process of the “fall of the Roman empire” must be located. Because Whittaker never addresses the engine that drove the frontier developments, we are left again to assemble *history* out of the data which he presents to us.

Moral Assessments

If we look to the study of Rome for insight into today’s world crisis, we will certainly find it; but the picture we assemble is opposite to that of the depopulators and scribblers of the Ruffin variety. The Roman Empire—the “advanced sector” of its time—suffered a continuous and catastrophic population collapse, which led ultimately to the collapse of the empire itself. European civilization entered a dark age, from which the world recovered only a thousand years later by way of the Golden Renaissance.

These two books help fill out the details of this picture, although we cannot call them *history* in a scientific sense. They can be usefully contrasted to “Ethical and Pastoral Dimensions of Population Trends,” a short but condensed study recently issued by the Pontifical Council for the Family in preparation-response to the upcoming United Nations Cairo population conference. In this study of contemporary global population trends—growth in the Third World, collapse in the advanced sector—and their social ramifications, we find a better and more profound method of analysis to be applied to

Rome, than is to be found in the works of these academic historians. In its insistence that a full and truthful picture be assembled, this short study shines forth,

like the works of Schiller and LaRouche, as a call to action in defense of the common interest of all mankind, at a moment when the world stands

poised for the imposition of universal fascism on a scale beyond the imaginings of Diocletian and his *epigoni*.

—Ken Kronberg

Shall We Get To Mars?

This exciting book spans the twentieth century—that century in which mankind took the giant step into space and then retreated.

Hermann Julius Oberth was born on June 25, 1894. Certainly, America's Robert Goddard and the Russian scientist Konstantin Tsiolkovsky also envisaged the possibility of space travel, but it is to Oberth that we owe the greatest debt. His was the vision of manned space flight which led us directly to the moon.

In 1957, Oberth wrote *Man into Space*, which expressed the goal of his entire life: "To make available for life every place where life is possible. To make inhabitable all worlds as yet uninhabitable, and all life purposeful." He lived to witness the Apollo moon landing.

Oberth was the teacher of the generation of German scientists who actually made space travel practicable. Best known to Americans from among these is, of course, Werner von Braun, whom Mrs. Freeman describes, not inappropriately, as the "Columbus of Space."

From 1960 to 1970, von Braun was the director of the Marshall Space Flight Center in Huntsville, Alabama, where the Saturn V moon rocket was created. Without him, President Kennedy's grand design to land an American on the moon in the space of only one decade, would have been a noble but empty dream.

Von Braun's vision reached Mars, and indeed, as early as 1953, he was trying to awaken Americans to the possibilities of flight to that planet.

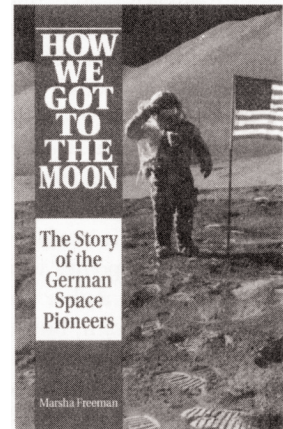
By the 1970's this dream was turning into an American nightmare. This was the era of the counter-culture, which fostered the rise of a rabidly anti-science mob. Environmentalists used the tactics of terrorists to sabotage nuclear development. Rather than man taking his right-

ful place in the stars, the refrain was sounded that man did not even belong on Earth, because he was displacing animals from their natural habitats.

For Oberg, Von Braun, and their younger associate Krafft Ehrlicke, the turn toward cultural pessimism in the United States could only bring back unhappy memories of the Nazi period in their native Germany. Cultural pessimism was something to be fought.

In 1982, Krafft Ehrlicke wrote *The Extraterrestrial Imperative*, yet to be published, which is a stirring affirmation of Western civilization. Ehrlicke directly counterposed space exploration to the evil of Malthusianism, and attacked the *Global 2000* report, which pretended to give scientific arguments why an increasing population could not be sustained on the biosphere. Ehrlicke wrote: "The *Global 2000* report, a warmed-over version of the original limits-to-growth nonsense, contains outright misinformation and, like its infamous predecessor, totally ignores the human capacity for limitless growth. Growth, in contrast to multiplication, is the increase in knowledge, in wisdom, in the capacity to grow in new ways."

At a 1985 Schiller Institute conference honoring Krafft Ehrlicke, Schiller Institute Chairman Helga Zepp-LaRouche opened the conference with a very stirring tribute: Krafft Ehrlicke, she said, "was convinced, and so am I, that only through space travel, only when man lifts his eyes away from the Earth, looks into the stars and actually thinks what his role can be, can he achieve what Schiller called the dignity of men. And only if we start to think about space, and the colonization of space, will the Age of Reason that the great humanists of European civilization were thinking of accomplishing be possible. That was the belief of Schiller,



How We Got to the Moon: The Story of the German Space Pioneers

by Marsha Freeman
21st Century Science Associates,
Washington, D.C., 1993
363 pages, paperbound, \$15.00

that was the belief of Krafft Ehrlicke: the fact that man is capable of reason even under the most horrible of crises."

Freeman quotes these words, and then writes a short epilogue to her book in which she asks the poignant question: "Where would we be today if we had adopted and followed the space exploration schedule put forward by the German space pioneers during the past fifty years?"

Clearly we could be seeing an era of abundance, in which there might be an industrial colony on the moon and man would already have landed on Mars. We would have seen a new industrial revolution, but best of all, cultural optimism would be recognized as the birthright of all young people. To quote the last line of this important new book, "This was the goal of the German space pioneers—to make all worlds habitable, to disprove that there are limits to growth, and to open the Age of Reason. Although there have been decades of lost time, it is not too late."

—Carol White



‘The Magdalen Reading’: The Word of Life

The Magdalen Reading (c.1440-50) was painted by Rogier van der Weyden (1399-1464), a contemporary of Cardinal Nicolaus of Cusa (1401-64), whom the latter refers to in his *On the Vision of God* as the “pre-eminent painter Rogier.” The leading Netherlandish painter of his time, van der Weyden was apprenticed to Robert Campin from 1427 to 1432, and was active at Brussels beginning 1435, where he was the Town Painter.

The depiction of the Magdalen, who is identified by the jar of ointment in the foreground, with which she anointed the feet of Christ, is a fragment cut from a larger altarpiece that is now lost. Behind the Magdalen is a headless figure identified as St. Joseph. On the left are the toes of St. John the Evangelist. A late 15th-Century drawing shows the complete altarpiece, in which St. John is portrayed as kneeling, holding an inkwell and a book for the Christ Child, who is on the Virgin’s lap, to write on.

The significance of this painting is perhaps best understood by reference to Nicolaus of Cusa’s 1433 *On Catholic Concordance*, in which he writes: “And this is our fundamental premise—that the Word is the wisdom of the Father, and wisdom is life (Proverbs 8). Thus every rational creature that has been or will be on earth must adhere to the Word, and sin which was the cause of death both among the angels and men was contrary to the wisdom of God.”

This emphasis upon the development of the creative capacity of the human mind as a living image of God, as the source of eternal life, is reflective of the educational method of the Brotherhood of the Common Life, which was the driving force behind the rapid expansion of schooling and literacy in the Netherlands at that time, a process crucial to the development of the nation-state in the Renaissance.

In the Gospels, Mary Magdalen is uniquely associated with Christ’s triumph over death. In the *Gospel of John*, she is referred to as the sister of Martha and of Lazarus, the man Christ raised from the dead. In the *Gospel of Luke*, Christ says that Mary has chosen the better part than her sister Martha in that she sat beside him at his feet listening to him speak.

It is she who anoints Christ’s feet in Bethany in preparation for his passion, despite the protests of Judas. She is among the women who witness his crucifixion; she is present at his burial; she is the first to discover his empty tomb; and finally, she is the first person to whom the resurrected Christ appears.

As opposed to the oligarchical interests behind today’s United Nations’ drive for a genocidal, one-world dictatorship—who argue that the “empowerment of women” is necessary in order to reduce the world’s population, and that population reduction is necessary for the “empowerment of women”—Lyndon LaRouche emphasizes that “nations which foster the creative-mental development of their populations produce a people which will not tolerate oligarchical forms of rule indefinitely.”

The Magdalen Reading is among the greatest portrayals achieved of the creative-mental development of the human individual. It is an image of what LaRouche refers to as a “person-species” of the revolutionary discovery of not-entropy, effected by Mary Magdalen. As LaRouche writes: “By looking into the mind of others, through reliving their acts of axiomatic-revolutionary discovery, and their experience in reliving, in their turn, the axiomatic-revolutionary discoveries of others, we are able to look similarly into our own minds.”

—William F. Wertz, Jr.

Building the French Nation

Seemingly disparate art objects on display on opposite sides of the U.S. give an intimate look at the history of the French nation-state and its contribution to universal culture. The Chalice of Abbot Suger, shaped under the guiding hand of the Twelfth-Century nation builder who gave Gothic cathedrals to the world, is at the National Gallery of Art in Washington, D.C.; while at the J. Paul Getty Museum in Malibu, California, is the *Book of Hours of Simon de Varie*, with miniatures by France’s great Renaissance painter Jean Fouquet, a manuscript whose history is closely tied to the creation of the modern French nation under King Louis XI and his allies.

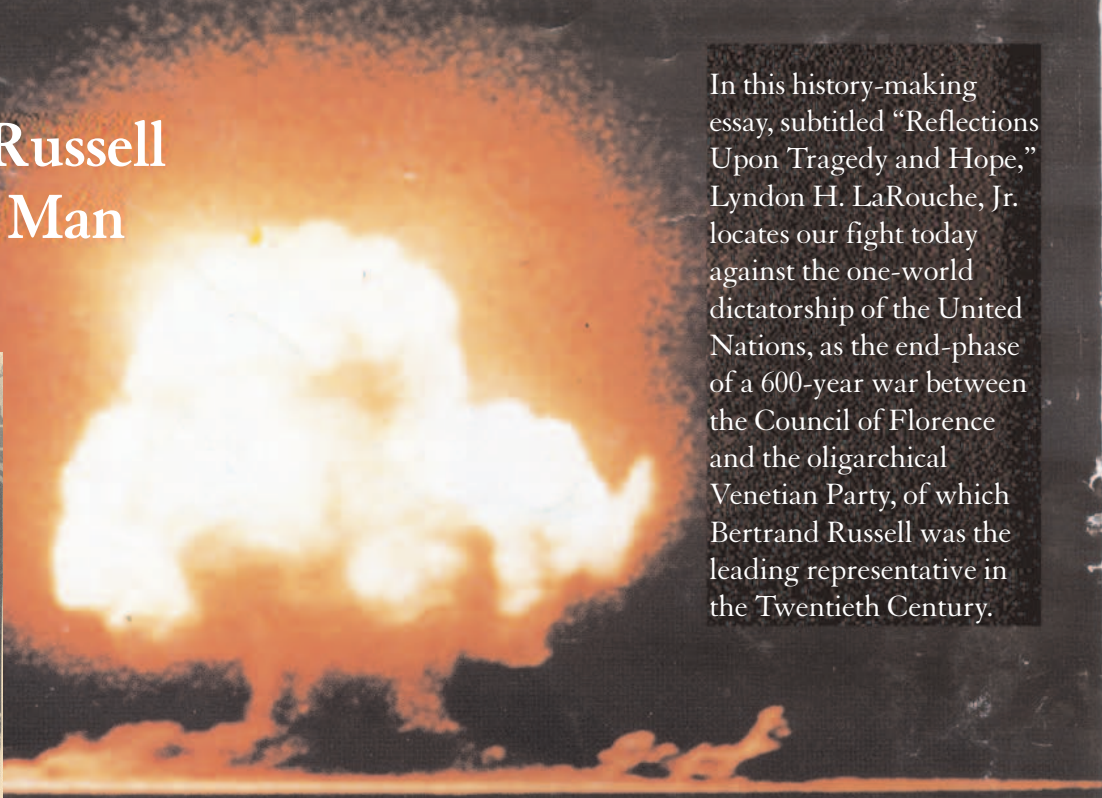
Right: Jean Fouquet, “Madonna and Child,” from the *Hours of Simon de Varie*.



How Bertrand Russell Became an Evil Man



UNESCO/C. Bablin



In this history-making essay, subtitled "Reflections Upon Tragedy and Hope," Lyndon H. LaRouche, Jr. locates our fight today against the one-world dictatorship of the United Nations, as the end-phase of a 600-year war between the Council of Florence and the oligarchical Venetian Party, of which Bertrand Russell was the leading representative in the Twentieth Century.

U.S. Army

The Taoist Perversion of Twentieth-Century Science

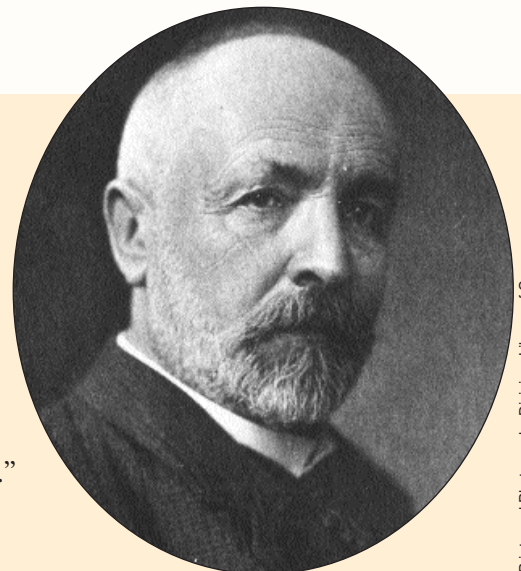
Political prisoner Michael Billington documents how the anti-Confucian mysticism of Chinese Taoism was deliberately used by the Russellite circle of Niels Bohr to undermine the notion of causality central to the Western scientific tradition of Plato, Kepler, and Leibniz.



Inst. International de Physique Solvay, Courtesy AIP Emilio Segré Visual Archives

Georg Cantor and Cardinal Franzelin: Correspondence on the Transfinite

The first English translation of the complete correspondence between Georg Cantor and J.B. Cardinal Franzelin, Cantor's essay "On the Various Standpoints With Regard to the Actual Infinite," and an Afterword by Lyndon H. LaRouche, Jr. entitled, "Georg Cantor: The Next Century."



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