

Laputa's President Bush

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When President Bush described Israel's Ariel Sharon as "a man of peace," even much of the Establishment press promptly replied, that the President had "lost it." After the Warsaw Ghetto-like massacres just perpetrated in the Jenin refugee camp, that reckless ejaculation by the President leaves about the same impression as Neville Chamberlain's "peace in our time" comment on the Munich meeting with Adolf Hitler. The aura of unreality radiating from the White House, is, increasingly, frightening, not only to western Europe, but most of the world. The worries are justified.

The question is: What are you, personally, going to do about this situation? For me, Bush's personal blundering is understandable, given his background and present circumstances. Had Gore been President, the result would have been worse, and that sooner. Instead of focussing on the obvious aspects of the President's folly in this matter, we must focus on the fact, that it is U.S. democracy itself—the typical U.S. citizen's repeated inability to prefer a qualified Presidential candidate, as in the outcome of the year 2000 U.S. primary campaign, which really frightens truly knowledgeable, and other people from around our planet.

The cause of the failure, is not President Bush. What has failed is the present state of the U.S. political system, especially its current trends in popular opinion. The fact, that the bizarre configuration of Senator John McCain, Senator Joe Lieberman, and beaten dog Al Gore, have dominated so much of the political scene since the time of Senator Jeffords' 2001 resignation from the Republican Party, points to the core of the rot within the system as a whole. My focus here is that problem.

Sometimes, during the time of a nation's or the world's existential crisis, only the prophet who tells the egregious

truth, represents a moral force of durable relevance. In the present crisis-situation, I must speak to you once again in that capacity, and will probably have to repeat the effort, since there are so few citizens who presently share my degree of developed commitment to verifiable truth, as opposed to the whore-like caprices of perceived public opinion. This will continue to be my obligation, which I accept, cheerfully, and which I must continue to assume, at least until my fellow-citizens finally learn this lesson, on which their own lives, and those of family and friends, now depend.

You should be neither offended nor stricken with a sense of guilt, on account of your need to repeat now the lesson which you should have learned before this time. In all serious matters of education, the relevant conception usually requires repeated discussion, before the relevant concept becomes clear to the majority among those engaged in that discussion. This is the present case, in which most hearers' anxieties and ingrained prejudices impel them to deny as long as possible the existence of the actually crucial problems associated with this deepening world depression. So, most among them sit, buttocks drilled stubbornly into their chairs, even at this late stage of that depression, while they attempt to believe, desperately, contrary to all relevant fact, that a non-existent economic recovery is in progress.

The typical reader's reaction goes something like this.

He, or she, is so terrified by the very idea that an economic depression could occur, that each clings hysterically to the delusion that it will never occur.¹

1. Doubtless, even some psychiatrists are probably victims of that delusion: "Of course, there will be no depression. If there were a depression, my clients could not pay me, and I could never accept that!" This should be compared with, and contrasted to the milder form of the same delusion, widely taught in university economics courses, which afflicted returning World War II veterans and their children prior to the mid-August 1971 crisis. What was

Thus, when you experience the effects of the present depression, most among you deny that it is actually happening. You do that, because you are not psychologically prepared to face the consequences inhering in that trend. You say, "I absolutely refuse to go there. It is not happening. No matter what happens to the economy, no matter how many bankruptcies, layoffs, foreclosures, and collapses of national economies, such as that of Argentina, from around the world, you will not fool me into believing that a depression is actually occurring." You would prefer to say, "You will see; whenever the market hits bottom, as it is doing now, it goes up. Only a fool would not know that. Therefore, the economy is now recovering from the collapse which never actually occurred." If you say that, it is perhaps because you have heard some poor looney on television's market reports who said just that.

The most obvious error with that presently popular line of argument, of course, is that that bottom is still way down, but coming up, fast. Furthermore, there is no law in the universe which forces a depressed economy to recover. As with many empires of the past, economies sometimes simply disintegrate. In fact, nothing can save this present monetary-financial system in the form it has assumed over the course of the recent thirty-five years. All that is now going, and will be soon gone; exactly when, is unimportant. The collapse is systemic in nature, and therefore could be delayed only by actions which make the ultimate result worse than if the delay had not occurred. Systemic crises are like that, as I shall explain that point to you at the right place in this present report. Only the adoption of a new monetary-financial system, which sweeps away all those foolish changes in habits of the past thirty-five years, could permit this nation itself to survive the presently onrushing collapse.

Therefore, the greatest threat to you today, is not the economic depression. The greatest threat is the delusion that the depression is not occurring. That delusion is what might kill you, and this nation, too. Therefore, being freed of that delusion, is the most important of the challenges confronting your neighbors today.

These United States of Denial!

To understand the policies whose authorship may be only superficially attributable to U.S. President George W. Bush today, thoughtful historians might wish to reference *Gulliver's Travels*, Jonathan Swift's famous satire on Britain in the age of Walpole and Hogarth. As I shall demonstrate to you

taught, and widely believed among the proverbial suckers, was, either, that "A depression could occur only if we allowed ourselves to be talked into believing it could occur," or the alternative version, taught as Economics 101, that "The built-in stabilizers will prevent a new depression from occurring in the U.S.A., ever again." There are certain differences between the pathological forms of denial which were prevalent among university graduates, and others, during the 1947-1971 interval, and the relatively psychotic forms of consoling delusions widespread in today's population. However, despite those differences, the axiomatic root of the mental disorder is the same.



The cause of our catastrophic policy failures today is not President Bush. What has failed is the present state of the U.S. political system, especially its current trends in popular opinion.

here, the story of Gulliver's floating island of Laputa,² aptly suggests that Washington, D.C. today is a floating island of political lunatics (as, perhaps enacted in the style of a scene from playwright Peter Weiss's fictive Charenton). This must be recognized as the true nature of what many foreign observers mistake for an actual, current policy-session of either the President's White House circles or the U.S. Congress.

We live in a world wracked by a crescendo of strategic and related crises, most of these a reflection of decades-old, override ideological fruit, with terribly immediate implications, in addition to the merely smelly ones. This imperilled world is ostensibly dominated by a putative strategic superpower, the U.S.A., whose character since the beginning of 2002, has been that of a giant whose head and feet have each been virtually turned into the clay of which Golems are made, a once-mighty power transformed, thus, into a blinded and deafened "Cyclops."

President Bush is all too easily blamed for this. The quickest route to an improved view of the mess in the White House, is, as I have said above, a glance at something far worse lurking in, or behind the Congress, the McCain-Lieberman-Gore cabal, which, were it in the White House now, would have already had the world doomed to a global epidemic of the Brzezinski-Huntington-Lewis "Clash of Civilizations" warfare. However, even the latter cabal, as rotten as it is, is a fruit of the sickness, not the root of the danger it expresses.

The real rot in the U.S. political system flows upward, spilling over from mass-media-orchestrated populist "popular opinion," into the majority of the leadership of all political

2. Obviously, Swift signified "la puta," referencing the relevant British universities of those times.

parties, from the largest of these, down to the minuscule sects. As in ancient imperial Rome, as in the tragic Denmark of Shakespeare's *Hamlet*, the essential "something rotten" lies not in the rulers, but in the lunatic crowds rallied to mass spectator-sports, especially of the bodily-contact sort, such as war. The rot which is our nation's real-life tragedy today, lies in that system, which has evolved over the recent thirty-five years, the system over which today's incumbent President often enjoys the role of official reader of teleprompter scripts.³ The problem in the current White House itself, is not what the President is, but what he is not. It is that system itself, not that President, which is the blinded, roaring Cyclops of this occasion.

Unfortunately, most of the present, foolish governments and leading opinions among nations of the world, especially among the more easily frightened types, still tend to regard that muddle-headed U.S.A., as a virtual demi-god, a mythical Cadmus with legions to match, whose very power seems, to them, to ensure the success of U.S. strategic policies during the short- to medium-term ahead.

Thus, to the actual and prospective victims, that government suggests, as I have noted earlier, Tacitus' account of the bloody tyranny by means of which the Roman Emperor Nero brought about his own end. So, for the edification of the news media, Secretary of State Colin Powell, whatever he actually does behind stage, plays the public role of a reluctantly dutiful "Seneca" to such a collective Nero. That "Nero" is an imperial cabal prominently featuring such miserable representatives of the lackey class as Wolfowitz and Perle, the accomplices of those Nazi-like butchers, Ariel Sharon and the latter's rival Netanyahu.

Typical of the collective insanity of Washington currently, is its policies of practice in the Middle East, in Afghanistan, throughout Asia, and in such instances as Argentina, Colombia, and the recent farcical role of the U.S. in the case



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of Venezuela.⁴ It pursues a military policy which is worse than insane, in defense of a disintegrating monetary-financial system which is long past saving. Meanwhile, chiefly out of fear and resulting intellectual cowardice, the sages of the world, like scholars from Laputa, or, perhaps more like fear-stricken inmate-spectators hanging from the ceilings of Peter Weiss' Charenton, are debating proposed indications of some mysterious work of evil genius, some coherent U.S. policy for itself and the world. There is no such genius, but only a maelstrom-like spin of increasingly wild-eyed homicide, confusion, and blundering.

Meanwhile, a certain impulse toward sanity appears from Europe and elsewhere. While the U.S. continues to exert a menacing overreach among its selected victims in the Americas, Africa, and Eurasia, each new act of bullying, pushes Europe and other parts of the world toward the limits of their capacity for tolerating the ever-more desperate, lunatic impulses from Washington. The submission to the perceived power of an imperial Rome along the Potomac, is then re-

3. Here lies the significance of the passage from Hamlet's famous Act III soliloquy: ". . . /But that the dread of something after death,—/ The undiscovered country, from whose bourne/ No traveller returns,—puzzles the will./ And makes us rather bear those ills we have/ Than fly to others that we know not of?/ Thus conscience doth make cowards of us all;/ And thus the native hue of resolution/ Is sicklied o'er with the pale cast of thought;/ And enterprises of great pith and moment./ With this regard, their currents turn awry/ And lose the name of action. . . ." Such, at their least worst, are the relatively best leading figures of our government and political parties today. Such, at its least worst, is the generality of the people of the U.S. today, as Shakespeare's tragic Denmark, then.

4. The recent events in Venezuela echo the famous corruption of the "Iran-Contra" days under Vice-President George H.W. Bush, Oliver North, et al. Virtual private armies, operating out of efficient control of the U.S. government, bungle in their filibustering ways, in anticipation of what the filibustering privateers wish to believe their U.S. government should be doing, and are therefore out of control of the government's responsible institutions. Thinking that President George W. Bush were "our man," they do as they please, and leave the resulting mess on the doorstep of the actually responsible institutions. Such messes, most typical of the British East India Company tradition and contemporary U.S.A. and Israeli practice, are the outcome of the resort to privately financed "special warfare" operations, whose existence government would prefer to deny, and therefore could not efficiently control.

newed, but the satrapies are becoming, recurrently, more and more unruly as their tolerance is strained yet once again.

In those other nations and regions of the world, the sundry fearful types in such high places, profess themselves afraid of what might be the still deadly, sheer physical overreach by the U.S. government. Wishful cowards among them employ that fear as a kind of consoling illusion, an illusion which shields their eyes from the more powerful, actual threat, the risk posed by the combined moral, intellectual, and financial bankruptcy of a self-doomed, but still thermonuclear-armed U.S. power.

What these types, as in western Europe, fear the most, is not so much the residual physical power of the U.S.A., as the thought that real history has now overtaken their own, habituated, long-standing illusions. Thus, the leading onlookers from sundry nations cling fearfully to the delusion, that if they keep their heads bowed, they will come to other side of this present crisis, perhaps not in the best of condition, but, at least, to be able to say, "We have survived this, too." Like the German generals who permitted Hitler to be made Chancellor in 1933, and allowed the decisive 1934 "night of the long knives," they seek, hysterically, to concoct a fictional assessment of current U.S. policy, which may be absurd, but might help them to sleep the next night through: "Let us not anger this beast unduly, and we will probably outlive him, or, at the worst, survive to live another day." So, they drift into slumber.

However, Europe's ability to sleep through such delusions, is being repeatedly alarmed by the clamor of such increasingly insane, increasingly more desperate actions against them by that U.S. which claims to be their partner-or-else. It is the clinging to those delusions which is, therefore, the chief source of the greatest of all threats to European civilization at large today.

This brings me to the crucial point of this report: how do I help you free your neighbor from the now potentially fatal grip of his, or her habituated, recurring delusions, in these, and also related other matters?

1. Why Your Neighbor's Insanity Is Harassing You

To free people from such delusions, we must show them how the mechanisms of the delusion work. As the old soak in the bar said to Hickey, in Eugene O'Neill's *The Iceman Cometh*, reality takes "the life out of the booze." It needs a shock of reality, to bring those characters in that play, suddenly, to their senses. Offstage, that is what is needed by most Americans, collectively and individually, today.

The problem is not that your neighbors have adopted one or two bad ideas. The question you must also ask yourself, is: What controlled their minds, that in such a perverse way, that they became susceptible to adoption of such pathetic,

currently popular ideas? You can not remove the ideas which are steering them to destroy your nation and yourself, simply by attacking those particular ideas by themselves. You must discover and uproot the causes of their susceptibility to such deadly infections. What was the deep character-flaw built into their development, from childhood on, which rendered them susceptible to infection with such particular delusions?

They insist that they are not brainwashed? They had better think again!

Think back to an experience from days you were sitting next to one of them, in a secondary school mathematics class. As you look back to that scene, see exactly how you observed their brainwashing in progress then and there; as I, in my time, watched so many of my young classmates being victimized in that way. Once you have understood how the brainwashing worked to control the minds of most of them in that classroom, see the same mechanisms of control, operating to control most U.S. popular opinion, not only on the subject of mathematics, but on nearly all subject-matters commonly discussed today. If you can think through the way your neighbor was being brainwashed in such ways in the past, as in secondary or university mathematics class, you can see how they might be freed from the grip of analogous, other sorts of delusions today.

Therefore, now think of what used to be taught in typical secondary classrooms as a Euclidean geometry.⁵ Come to understand how the definitions, axioms, and postulates of a traditional secondary school geometry, or the commonplace, deluded belief in the self-evident existence of the counting numbers, contributed to the mass-insanity in which so many victims participated during the 2000 Presidential campaigns. From studying the way those delusions were induced in the classroom, you should recognize the mechanisms underlying other kinds of exhibitions of insanity typical of most of your neighbors today. Today, sharing that neighbor's lunacy might be suicidal, for you and for the rest of your family, too.

For the currently most recent two generations of matured, and young adults who have entered private secondary schools and universities, it is the general rule today, that the real value of the education received by the present university populations, is in inverse proportion to the annual fees their parents pay for that education.

This does not mean that there is an utter lack of competence among the individual faculty members in those institutions. The problem is, that, throughout the past century, education in the U.S. has been controlled, top-down, by a kind of Babylonian priesthood which controls the policies of universities, for example, through the funding spigots provided by

5. What is taught today, under such radical-positivists' rubrics as "the new math," is rabidly insane, as compared to the relatively milder delusions of the 1950s and earlier classrooms; but the worst features of the former classroom have been maintained, with a vengeance, in the present classroom and related custom.

government and the financier establishment, a priest-caste which shapes policies of education, top-down, to conform to the doctrines specified by that financier establishment.

The qualitative, worsening downshift in secondary and higher education, in particular, today, reflects a mid-1960s shift of the ruling financier establishment, from the conception of the U.S. economy as a producer society, to the past thirty-five years devolution of the U.S. into the pathological condition known as a “consumer society.” Under these trends, the goals of education have been shifted to a kind of one-size-fits-all secular religion, a meaningless game, resembling a childish computer game, or a psychopathological “Harry Potter”-style fantasy, but one played as a savage competition among would-be winners, according to more or less capriciously concocted and dictated rules. Sometimes such childishness, played in the adult world according to capriciously concocted rules, is praised as not merely the Alice-in-Wonderland sort of “fair play,” but even “the rule of law”!

To understand why private secondary and university education are in such a degenerated, ideology-soaked state today, one must look back to earlier decades, to recognize those flaws in earlier states of education which set the stage for the past three decades of moral and intellectual degeneration of education and so-called “informed,” “professionally informed” popular opinion to occur. One must understand that it was not the traditional politicians, of the pre-1966 varieties, who have failed us; it is the brainwashed public, including the majority of the recent two generations of “Brave New World’s” university graduates, which has preferred to select those kinds of political leaders which have misled our own and other nations into the global state of catastrophes of today.

Now that I have placed the subject within its relevant functional context for today, focus attention upon the most immediate aspect of the subject, the classroom itself.

In the case of physical science, the proof of my point concerning education, is truly elementary. Recognize those connections, and then see how the same kinds of mechanisms control the childish way most of our adults often react to the crucial issues of real life in general. Now, see how that works.

Science versus Sense-Certainty

The basis for the credulity of the all too typical secondary student of the early 1950s and earlier, was a religious-like blind faith in sense-certainty. In science, the technical term for this mental disorder is reductionism. The typical symptom of that deluded state was the utterance, “Let’s be practical,” or, “Come down to Earth.” By sense-certainty, is meant the delusion, that what our senses suggest to be the world outside our skins, is a nearly perfect image of that outer world. As a reflection of that kind of popular delusion among the ordinary sort of ignorant church-goers and other people, two kinds of radically anti-scientific fetishism are rampant in ordinary mathematics education.

The first such source of that delusion is, that, contrary to

the advice of Plato and of the Apostle Paul writing in *I Corinthians* 13, people delude themselves into believing that they actually see a real world outside their skins. Contrary to that widespread, ignorant view, what our senses show us, is, at best, a relatively faithful sort of trained (e.g., learned) reaction of our biological sense-perceptual processes to the stimulus caused by the unseen world outside those senses. If, and when that reaction can be verified experimentally, we know that the reaction itself is a valid reaction; but, as the Apostle warns, even if the stimulus itself is a real one, we sense the “outside world” only as if “in a mirror darkly.”

The entirety of the corpus of Plato’s Socratic dialogues, is premised on a concept which he popularized as the allegory of “Plato’s Cave.” What our senses show us, is not the reality which impacts our senses, but, rather, the shadows which that impact casts on the mind, as if shadows cast on the irregular wall-surface of a fire-lit cave.

Second, the victim of blind faith in that reductionist’s illusion, lacks efficient comprehension of the fundamental difference between knowledge and mere learning, just as the notorious Immanuel Kant does, in his anti-Leibniz Critiques. The pseudo-scientific cult of so-called “information theory,” is typical of the systemic quality of ignorance which is the outcome of mental disorders such as that of Kant’s Critiques.

That being the case, as the experimental methods of successful scientific discovery prove this fact, how can we know the nature of the real “objects” expressed by the mere shadows called sense-perception?

For those and related reasons, ignorant people, a category which includes most university graduates today, tend to regard the superficial effects associated with such “shadows,” as self-evident reality. The so-called definitions, axioms, and postulates of a commonly taught form of what is done in the name of “Euclidean geometry,” were distilled from such blind religious faith in the same kind of ignorance intrinsic to Kant’s method.

However, there are proven methods for successfully overcoming those types of ignorance. These methods have been proven on the level of secondary education, as the detailed curriculum of the great Eighteenth-century Classical educator Abraham Kästner demonstrated, in a thorough way, in his 1758 *Anfangsgründe*.⁶ All of the greatest scientists in the history of modern, globally extended European civilization, such as Gauss and Riemann, relied, to a greater or lesser degree, on those proven methods of what became known during the Nineteenth Century as the Classical Humanist education policies of Friedrich Schiller and Wilhelm von Humboldt and Germany’s great science-organizer of that century, Alexander von Humboldt.

The known ancient origin of successful such methods of

6. See note below. Kästner’s 1758 book, with a few updates added to its extant text, would provide the best model for a general secondary-education program in science and mathematics education, to the present day.

education, is the work of Plato and his followers, through, most notably, Archimedes and Eratosthenes. To provide a method for escape from such commonplace delusions, Plato's Academy employed some elementary examples which prove that those assumptions of sense-certainty are, indeed, often delusions. Plato's Socratic dialogues, as a collection, address precisely that problem of scientific method. The *Meno*, *Theaetetus*, and *Timaeus*, are notable for the attention to specific such problems arising in an elementary way from within mathematical physics.

These issues can be efficiently posed in many ways within the body of experimental physical science as a whole. I have employed various combinations of these on many, sundry occasions. However, I have concluded, from decades of wrestling with the problems caused by popular mis-education in schools and universities, that the simplest, most direct, and most pedagogically appropriate example, which might be used, is presenting the case of Carl Gauss' discovery of the complex domain, if that discovery is presented in the context of the Classical Greek-based knowledge within which Gauss worked. I reference that choice of demonstration here.

The work on the doubling of the cube, as addressed from Plato's contemporary and associates such as the Pythagorean Archytas, through the *Platonicus* of Eratosthenes, is exemplary of the relevant work, and Pythagorean stem, of the continuation of Plato's scientific method by his Academy. The *Platonicus* has a central importance for our discussion here, as the implications of the doubling of the cube have crucial bearing on Carl Gauss' original 1799 work defining the role and meaning of the complex domain.⁷

7. Carl Friedrich Gauss, *Werke*, III (Hildesheim, New York: Georg Olms Verlag, 1981), pp. 1-103. This is Gauss' original report of his discovery of the fundamental theorem of algebra, one of the most crucial discoveries of axiomatic principle in the development of geometry. There is a special importance in the original, 1779 (Latin) dissertation, since it features Gauss' explicit exposure of the relevant follies of Euler and Lagrange (among others) on this and related subject-matters (pp. 1-31). After Napoleon's rise to power, and the triumph of Metternich's right-wing faction at the Vienna Congress, Gauss grew politically cautious, distancing himself from the founder of the German Classical movement, Lessing's mentor, and Gauss' deceased former teacher, Abraham Gotthelf Kästner, who had the most explicit influence in directing Gauss toward what were, in fact, those contributions to an anti-Euclidean geometry represented by the 1799 dissertation, and, to the later, related work of Lejeune Dirichlet and Bernhard Riemann. The ancient matter of the development of the solution for the problem of the doubling of the cube, from Archytas through Eratosthenes, is the crucial point of reference for Gauss' proof of the axiomatic mathematical-physical nature of the complex domain. This is to be studied from the standpoint, on background, to both Kästner's and Gauss' discoveries, of the collaboration between Gottfried Leibniz and Jean Bernouilli, in defining the underlying role of the catenary, as a principle of physical geometry, in defining that Leibniz calculus which proved beyond the comprehension of Euler, Lagrange, and Cauchy. On the relevant work of Kästner, see his *Anfangsgründe* (Göttingen: 1758) and *Geschichte der Mathematik* (1796). These works would serve today as an excellent replacement for presently standard secondary-school texts in mathematics, for those who wish to know science, rather than merely learn to pass the course. One can easily see why the Enlightenment mathematical

The same quality of delusions attacked by Gauss for the case of physical science in general, has been promoted as the foolishness concerning politics and economics, which is typical of the majority of the U.S. population today. Therefore, the way in which the ignorant mind adopts the delusions of a crude classroom Euclidean geometry, or the "bean counter's" counting-numbers arithmetic, are among the simplest examples of the kind of mental disorders controlling the behavior of the U.S. government and most public opinion, respecting physical science, history, politics, art, morals, and so forth, today. The most common feature of those induced mental disorders is the denial of the existence of a body of knowable truth, contrary to mere opinion.

The root of the present problem is the legacy of the ancient Rome, whose moral and intellectual mediocrity continued to curse European civilization until that Italy-centered, Fifteenth-Century Renaissance which began modern European civilization. It is the echoes of that Roman influence, and the related attempt, by the Sixteenth-Century pro-feudal reactionaries, to undo the work of the Renaissance, which are the principal "genetic" source of the intellectual and moral afflictions which are rampaging in modern European civilization again today. It is only from that historian's standpoint, tracing all of European civilization from its birth by the hands of an Egyptian mid-wife, that the roots of the mortal internal threat to the U.S.A. and other parts of global civilization, can be efficiently identified, and remedied.

Classical Greek civilization was the highest level of culture achieved in the region of the Mediterranean, out of what Plato reports as the original birth of Athens, until the adoption of that wonderful legacy by the Fifteenth-Century Renaissance of such leaders as the founder of modern experimental physical science, Cardinal Nicholas of Cusa.⁸

Unfortunately, from about the same time as the end of the Second Punic War, Rome's subjugation of southern Italy, the conquest of Greece, and subsequent developments to similar effect, the great achievements of Greek and Hellenistic culture were either destroyed or bowdlerized through the long sweep, circa 212 B.C. to A.D. 1400, of the region of the Mediterranean and its vicinity by the morally and intellectually corrupting impact of the decadent, eclectic system of Rome. This corruption generated that which came to be known as the Latin legacy, or, by the modern technical term Romanticism. Romanticism signifies, now, as then, the view of the nature of man which is contrary to the Classical legacy of the impact of the best of the ancient Egyptian influence on such as Pythagoras, Thales, Heraclitus, Solon, Plato, and the Classical tradition as expressed by the followers of Plato and his Academy through Archimedes and Eratosthenes. The Ro-

empiricists of the late Eighteenth Century, such as Euler and Lagrange, feared, and therefore hated Kästner, so bitterly.

8. e.g., Cusa's work founding modern experimental physical science, *De Docta Ignorantia*.

mantic tradition has been, for example, the chief threat to Christianity within globally extended European civilization, to the present day.

Thus, under the moral and other decline of the Roman Empire, except for important trickles of influences from the Middle East, such as the connection of the Baghdad Caliphate's Haroun al-Raschid to Charlemagne, the Iranians typified by Ibn Sina, the Arab influence on the Hohenstaufen Emperor Frederick II, and the Moorish and related Jewish cultural contributions to pre-Inquisition, pre-Hapsburg Spain until the eruption of what became known as the Italy-centered, Fifteenth-Century Renaissance, the great achievements of the Platonic tradition in science and in culture generally were lost to Europe.⁹

Typical of the long-enduring damage which the Romantic influence did to European science, is the case of the wretched hoaxster Claudius Ptolemy, whose Aristotelean fabrications in the matter of astronomy, typified the dark age of the intellect which descended upon Europe from about 212 A.D. until the Fifteenth-Century rebirth of Classical knowledge. All of the progress in European science and artistic culture since the end of the Fourteenth Century, have been not only the benefit of a revival of the pre-Roman Classical tradition, but the founding of the modern form of sovereign nation-state, which began during that century, with the successive monarchies of France's Louis XI and England's Henry VII.

Since that latter time, until the war-torn Twentieth Century, modern European civilization's chief misfortune has been the fruit of the terrible, Sixteenth-Century anti-Renaissance campaign which was launched with Spain's post-1511 role as a cat's-paw for what was then the imperial maritime power of Venice's rentier-financier oligarchy. The domination of the interval 1511-1648 by the Habsburg/Hapsburg role in religious warfare, produced what has been described by some historians as a "little new dark age," echoing the "New Dark Age" of the mid-Fourteenth Century. For our discussion now, the relevant feature of that Sixteenth-Century anti-Classical reaction against the Renaissance, was a rampant resurgence of religious and other obscurantism, from whose effects globally extended European civilization has not adequately recovered to the present day.¹⁰

The present, utopian schemes for eliminating the sovereign nation-state, in favor of a Romantic world-government,

9. The Christian tradition was, as the work of the Apostles John and Paul underline this fact, essentially a Christian reading of Plato's method. That method is, for example, the basis of Christian theology to the present day. It was the driving impulse, the intention associated with the image of the passion of Christ, which pushed European culture to the Fifteenth-Century emergence of a modern European civilization based upon the notion of a sovereign nation-state self-governed by the principle of the general welfare or common good (agapē).

10. Typical are the official pagan cults of France's Louis XIV and the first modern fascist, the Emperor Napoleon Bonaparte, the model for Napoleon III, Benito Mussolini, and Adolf Hitler.

are typical of the fruits of the Sixteenth-Century obscurantist reaction organized by Venice with aid of Habsburg arms. The defects in the teaching of science, such as the follies of the method of Euler and Lagrange, are also a direct outgrowth of that same pro-obscurantist (e.g., gnostic) reaction which impacts both the mathematics classroom and the popular misconception of science, in the names of Aristotle, empiricism, Cartesianism, positivism, and existentialism today. The problem in mathematics on which we are focussed for this moment, is not only a consequence of, but expresses the way in which the obscurantist method of Venice and Hapsburg and pro-Carlist Spain, produces the brainwashing effects commonly expressed in classrooms still today.

The Catenary

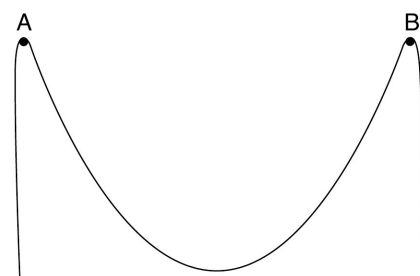
The catenary, or "hanging chain" curve, is the most important curvature in formal mathematics, because, when compared with the cycloid, it expresses immediately the essence of the notion of a physical geometry, as distinct from all of the "ivory tower" geometries of generally accepted classroom notions of Euclidean geometry and counting-numbers arithmetic alike. Study of the way in which Leibniz and his collaborator Jean Bernouilli addressed the combined formal-mathematical and physical implications of this curvature, brings the cross-over from "ivory tower" mathematics, to mathematical physics most simply and directly into view, that in a comprehensive way.

This catenary-cued approach to the physical, rather than "ivory tower" definition of geometry, is starkly contrasted to the fraudulent astronomy which Claudius Ptolemy derived dogmatically from the work of Plato's most famous adversary, Aristotle, the latter the putative father of all Romantic "ivory tower" system-builders, such as the empiricists, Cartesians, Physiocrats, utilitarians, Kantians, Hegelians, positivists, and existentialists. The demolition of Aristotle's claims to science, by the discoveries of Johannes Kepler, combined with the implications of Fermat's replacing the "ivory tower" doctrine of shortest distance by quickest time, led Leibniz to the original discovery of the calculus, and, thence, to the exploration of the crucial position of the family of catenaries in the formal generalization of the truly infinitesimal calculus.¹¹

11. The significance of the use of the term "infinitesimal calculus" here, is that Leonhard Euler, a radical empiricist member of a network of salons, founded by Paris-based Abbot Antonio Conti, forming the Eighteenth-Century cult of Isaac Newton, attacked Leibniz's "Monadology," in particular, and infinitesimal calculus, in general, by arguing against the existence of true infinitesimals. Euler delivered a popular version of his argument in a 1761 writing, *Letters to a German Princess*, in which he argued that all mathematics could be derived from the method of connecting the dots with straight lines. Euler was followed by his leading protégé Lagrange. The argument of Euler was later systematized by the influential plagiarist and hoaxster Augustin Cauchy. As we shall indicate later, here, Gauss, beginning 1799, refuted Euler and Lagrange as incompetent; Gauss' refutation was rounded out by the work of Dirichlet and Riemann.



FIGURE 1
The Catenary



Filippo Brunelleschi (left) applied the physical principle of the catenary to solve what had been estimated as the impossible task of putting the required cupola on the Florence cathedral of Santa Maria del Fiore. The surfaces between the ribs of the dome are families of catenaries.

The “ivory tower” schools of Aristotle, the empiricists, Cartesians, positivists, and existentialists, have limited their focus to insisting that man must limit himself to describing the observed universe of sense-perception according to so-called “self-evident,” “ivory tower” assumptions, as typified by the usually attributed definitions, axioms, and postulates of a generally accepted classroom reading of Euclidean geometry. Notions of an efficient physical reality, such as notions of “force” and “action” as agencies operating upon the real universe behind the sense-perceived one, if their existence were acknowledged, were treated as observed objects within the terms of a purely fantastic notion of abstract time and space, occurring within that space, but arbitrarily subject, everywhere and forever, to the arbitrary set of definitions, axioms, and postulates of an “ivory tower” system whose model of reference was the Aristotelean notion of abstract Euclidean space-time.¹²

12. The literature on the subject of *Euclid's Elements* and its origins, is extensive. To sum up the points which are probably relevant for the present reader's reference, the gist of the point to be made is the following. The *Elements* is a composite, dating from the Roman period, which reflects the cumulative work of chiefly Classical Greek and Hellenistic scientific progress, with some liberties taken by the compiler. The prevalent modern reading of the compilation is Aristotelean, and thus systemically contrary to the method employed for the crucial among the original discoveries represented. On this account, the *Elements* as presented to the modern reader incurs some of the same kinds of flaws seen in Claudius Ptolemy's fraudulent construction of a radically Aristotelean astronomy. The resulting problem with the reading of the *Elements* as a whole, is reflected most poignantly in Books Ten through Thirteen. Nonetheless, any careful effort to reconstruct the discovery of any crucial features reported there, forces one to recognize the lack of any coherence of the actual discovery with the Aristotelean or related method. The discussion of the crucial significance of the doubling of the cube for Gauss' 1799 presentation of his fundamental theorem of algebra, presents typical evidence of the nature of the Euclid problem.

Kepler changed all this fundamentally, by the way in which he crafted his original discoveries in astrophysics. By choosing as his subject nothing less than that universe implied by the lawfulness of our Solar System, he laid the basis for the development of a universal mathematical physics whose central feature is experimentally demonstrated proof of the efficient action imposed by a provably existent, but sense-invisible universal principle, on the visible aspect of the universe. This combined work of Kepler and Fermat, led, through Fermat's emphasis on the efficient principle of quickest time, to Leibniz's calculus, and to locating the significance of a family of catenaries as underlying the physical geometry of that calculus. Through the successive work of seminal figures such as Leibniz, Kästner, Gauss, and Riemann, this led to the modern notion of a Riemannian universe, one of some yet-to-be-determined, functionally characteristic curvature, a universe which is finite as a whole, and yet without the bounds of notions of any space and time existing external to it.¹³

The family of catenaries, because it incorporates an experimentally demonstrable “force” of efficient action within the determination of the curve itself, exemplifies the notion of a physical geometry, rather than an ivory-tower “Euclidean” or so-called “non-Euclidean” one. This discovery is crucial for understanding the actual Leibniz calculus, and appreciating Kästner's emphasis on the need for an anti-Euclidean geometry, rather than a non-Euclidean reassessment of the parallel postulate. The notion of “force” implicit in the generation of the catenary, is the same notion which Kepler terms “inten-

13. If we accept that definition of “universe” supplied by the standards of a strictly experimental mathematical physics, nothing exists outside a universe, as implicitly defined by Kepler's discoveries, or before it or after it. The universe is, therefore, as Albert Einstein came to concede to Kepler and Riemann combined, “finite” and, yet, “unbounded.”

tion” in his *New Astronomy*. This use of “intention” is another way of stating “universal physical principle,” a physical principle experimentally validated as universally efficient.

Following Gauss’ precedents explicitly, Riemann, who had been a student of both Gauss and Alexander von Humboldt’s Lejeune Dirichlet, carried Gauss’ 1799 definition of the complex domain and Gauss’ related notions of the general notions of curvature, to the implied conclusion set forth in Riemann’s 1854 habilitation dissertation.¹⁴ The outcome of this development by, chiefly, Gauss and Riemann, and aided by Riemann’s adoption of what he identified as “Dirichlet’s Principle,” was the replacement of the infinite extensions of ivory-tower mathematics, by the notion of an efficiently extended magnitude, the latter the class of magnitudes which erupts from Gauss’ 1799 statement of the case for the complex domain, which Gauss presented then and there against the ivory-tower delusions of the empiricist “bean counters” Euler, Lagrange, et al.

All of this and related work was rooted in the modern revival of the Classical Greek scientific legacy from times prior to the deaths of Archimedes and Eratosthenes. The most notable connections, bridging the span from ancient Greece, to Gauss’ 1799 paper on the fundamental theorem of algebra, are the exemplary cases of the doubling of the square and the cube.¹⁵

The reports focussed upon the case of Gauss’ discovery as such, are being supplied by Dr. Jonathan Tennenbaum, Mr. Bruce Director, et al. What I omit from my account here, is to be found in those reports and their included illustrations. I make reference to the subjects of those reports immediately below.

Imaginary or Existing

Although it is necessary that I now include, immediately below, certain remarks on crucial features of what is reported by Tennenbaum, Director, et al., the focus of my report is the underlying, epistemological, and consequent political-historical implications of the case. In that implied division of labor, my task here is to define the connections between those issues of mathematics and political strategy. Therefore, bearing in mind the availability of the work of those collaborating specialists in that field, I make a few explanatory remarks showing the connection between the issues of Gauss’ referenced 1799 paper and the political issues which are the targeted topic here. I pivot this summary on the relationship between Gauss’ cited 1799 discovery, and the millennia-long history of the matter of doubling the cube by methods of construction, as this was developed by Plato and those who followed his

14. Über die Hypothesen, welche der Geometrie zu Grunde liegen, in *Bernhard Riemanns gesammelte mathematische Werke*, H. Weber, ed. (New York: Dover Publications Reprint edition, 1953).

15. Compare Kästner, *Anfangsgründe* pp. 86-122.

anti-reductionist (e.g., anti-Aristotle) method.¹⁶

As the reader should discover from the contributions of Tennenbaum et al., the pivotal feature of Gauss’ announcement of his discovery of the fundamental theorem of algebra, is the evidence supplied by Gauss’ reexamination of the ancient Platonic solution for the doubling of the square and cube. The crucial conception, both as stated and illustrated by Plato in his writings, such as the *Theaetetus*, and as employed by Gauss in the case of the fundamental theorem of algebra, is the concept of powers. As that dialogue illustrates that specific point, Plato’s use of powers signifies a series of cases, as a class, which is typified by a very elementary kind of ontologically paradoxical challenge, that of defining the relationship among a line, an area, and a solid. This turns up as the crucial feature of Gauss’ definition of the complex domain.

The implication of this paradox, as stated by Plato and solved by Gauss and Riemann in succession, is that since the line, area, and solid are equally existences in the world of sense-perception, there must be some functionally efficient connection among these ostensibly immiscible categories of common experience. If this condition does not prevail in the domain of sense-perception, it must be sought within the anti-Kantian domain of cognition. The rejection of the Classical scientific method, that of Kepler, Leibniz, et al., leads to the folly of the pro-Newton fanatic, Euler, and to that of Euler’s follower Lagrange, et al., in relegating the complex domain to the category of “imaginary” numbers. The essence of Gauss’ proof of the incompetence of the reductionist method of Euler and Lagrange, is the demonstration of the efficiency of an indispensable, intermediate conceptual step, by means of which the cube may be doubled by construction. That intermediate step, thus touches an underlying real physical universe, in respect to which the simple, paradoxical appearances of learned sense-perception, are merely shadows like those of Plato’s allegorical “Cave.”

Pause here for a moment. The line, the area, and solid, are really distinct, learned experiences within the biological domain of the mental-sense-perceptual apparatus of the individual. These distinctions, as sense-perceptual experiences, are verifiable by aid of learning, and otherwise. Yet, what do we really know about those objects, beyond merely learning to recognize them as respectively distinct categories of learned experience? We are able to come to know actually two principal facts about them as a collection. First, that they are qualitatively distinct with respect to one another; second, that there are discoverable, cognitively knowable relations among them. Second, the latter relations are relations of principle, of a type not learned through sense-perception as such, but only through cognitive insight. The doubling of the

16. Neither the Platonic approach to doubling the cube, nor any other essential feature of Plato’s own work, have anything notably in common with the seemingly infinite duplicity of our notorious contemporary Leo Strauss.

square, as addressed by Plato in the *Theaetetus* dialogue, leads us to recognize a distinct quality of power which sets the category of line apart from the category of area. The effort to double the cube, takes us beyond the mastery of the square, and lodges us wholly within what Gauss defines as the complex domain.

Unless the pupil were brain-damaged, in effect, that in the way most empiricists and the like are, it is immediately obvious from these explorations of the relationship among line, area, and solid, that the representation of the space of physical experience as composed of three independent primary but ontologically simple senses of boundless spatial direction, is an insane one. That simplistic notion implicitly denies any transformation in the notion of extension, in shifting attention from a line to an area, and, thence, to what the individual experiences as sense-perceptual space.

Thus, in Gauss' reviving Plato's conception of power, as the substrate of perceived spatial relations, he has shown that even seemingly self-evidently simple counting numbers, are by no means self-evident in reality.¹⁷ Counting numbers, as used to count, are subjects of the organization of the reality underlying that which learned sense-perception counts. This reality is, as Gauss shows, organized in terms of the relationships among qualitatively distinct (Platonic) powers.

In modern history, the earliest influential attack upon the physical implications of the mathematical distinction between the area and the solid, was the *Ars Magna* of the early-Sixteenth-Century Girolamo Cardano. From that time, through the work of Gauss, those paradoxical features of attempted computation of the algebraic roots of a cubic function were treated by notable scientists, notably including Kästner's *Anfangsgründe*, as the Cardan problem. Even today, the juxtaposition of Cardano's efforts to the work of Plato, Kästner, and Gauss, is the most plausible pedagogical approach for use in secondary education.

To leap ahead to a deeper expression of the same consideration, consider the emphasis which Plato, Luca Pacioli, Leonardo da Vinci, and Kepler place on the distinction between two kinds of physical space-time: the one of experimentally defined abiotic space-time, the other experimentally defined as that of living processes, as Vladimir Vernadsky and I have emphasized in somewhat different, if converging ways.¹⁸ The uniqueness of the characteristics underlying the constructive determination of the five Platonic solids, is a higher order of power, using power in the same sense Plato employs the term, and, as Gauss, in 1799, attacks the exemplary relations among the line, area, and

solid, in his fundamental theorem of algebra.

Like Plato, Gauss identifies the qualities which distinguish a line from an area, and both from a solid, as powers. This is the meaning of powers in Gauss' fundamental theorem of algebra. The step from Gauss' doctoral dissertation, *Disquisitiones Arithmeticae*, and the 1799 fundamental theorem, to the universal physical geometry of Riemann, is a crucial step, but also a rather short one. If we must attribute the notion of powers to the case of the line, area, and solid, what is the physical significance of still higher mathematical powers than those which the cubic roots reflect? This led Gauss himself to his general theory of curvature, which, in turn, prompted Riemann, aided by Dirichlet's "Principle," to set forth the theses of his revolutionary 1854 habilitation dissertation.¹⁹

About five decades ago, I studied briefly, with considerable profit, a short treatise on some topics of number theory by the notable Russian mathematician Khinchin. In introducing that work, he made a memorable statement, emphasizing that really important challenges in number-theoretical work are "elementary, but not necessarily simple." Good pupils, in a good secondary school, might require two or three years of concentrated work, to reach the conceptual level typified by Gauss' discovery of the fundamental theorem of algebra, but, then, they would have graduated with the sense of serenity unique to the individual who, rather than having merely passed a series of multiple-choice, computer-scored examinations, would, instead, really know something elementary in Khinchin's sense of that term.

Instead, in today's cultish "information society," opening the closet in which the typical young person's collection of information is stored, is like the experience from the old popular U.S. radio show, and later television series, "Fibber Magee and Molly," which featured, on each episode, the ritual opening of Fibber Magee's closet. What came out of that closet, on each occasion, was a great clank and clatter of accumulated, more or less useless, discarded objects. A society which deranges a young person's mind in a way suggesting the opening of Fibber Magee's closet, has virtually destroyed that person's soul.

For the purposes of the subject of this present report, the immediately relevant outcome of the direction of development, from Plato through Leibniz's notion of Analysis Situs, Gauss, and Riemann, has been my own unique contribution to science, my adoption of Riemann's standpoint as the con-

17. The broader basis for this conclusion by Gauss at that point, is supplied by his *Disquisitiones Arithmeticae*. Note, especially, his treatment of the Classical paradoxes of biquadratic residues in that and later locations.

18. Lyndon H. LaRouche, Jr., *The Economics of the Noösphere* (Washington, D.C.: EIR News Service, 2001).

19. Notable is Dirichlet's attack on follies inhering in Euler's attempt at defining the domain of prime numbers, and Riemann's carrying Dirichlet's attack a step further. To this day, many trained scientists who should know better, attack Riemann's solution as defective, on the presumption that it does reach those illusory goals which Euler sought, and which Dirichlet and Riemann showed to be axiomatically absurd. The implied issue of Abelian functions, above, as addressed by Riemann, must be merely noted for its relevance here, but otherwise left to more suitable other occasions.

ceptual framework within which to situate my development of the conceptions of a science of physical economy. The point to be emphasized, is the practical political significance of the concept of powers, as we have just traced this, in outline, from Plato through Gauss and Riemann.

Usually, and correctly so as far as that goes, the notion of powers, as traced from mathematics through applied physical science, is associated with the equivalence of the discovery of a new such power, defined mathematically in terms of the complex domain, to the existence of a usable, experimentally defined, universal physical principle. The focus of my discoveries has been, that through consciously applying such new principles to the universe, mankind's power in and over the universe is increased. It is by means of the discovery and adoption of such principles for practice, that the potential relative population-density of society is increased, per capita and also per square kilometer of the Earth's surface-area.

I have carried the development of my work in that direction, since my initial formulation of the relevant discovery, about fifty years ago, into the general analysis of the long-term, systemic features of economic processes in the large, and into the application of those notions of the systemic characteristics of economies into defining a healthy modern economy as essentially a science-driver economy, in which the forced-draft development of principled scientific breakthroughs, is the characteristic policy of healthy forms of modern economy.

The leading implications of that for our present discussion, are chiefly the following.

The ability of the individual to generate realizable contributions to economically progressive scientific progress, depends upon the state of mind of the individual member of society, both as a producer of scientific knowledge, and in terms of the ability of the individual members of society to cooperate in fostering and utilizing the benefits of fundamental and related scientific and technological progress. On this account, knowledge relevant to our discussion here, falls chiefly under two great categories, two phase-spaces. First, we have what we usually recognize as the manifold of experimental physical science. Second, we have the general category, typified by principles of Classical artistic composition, which pertain to the cognitively defined principles of social relations as such. It is the functioning and development of these two, interacting capacities, which is the pivotal consideration in this present report considered as a whole.

This requires, among other things, that the generality of society no longer be treated as virtually human cattle, as the Physiocratic *laissez-faire* dogma of the neo-Cathar François Quesnay demands, and as does Adam Smith's plagiarism of *laissez-faire* as "free trade." Contrary to the U.S. traditions of chattel slavery and policies of "tracking" in education tailored "not to educate the youth above their predestined station in life," human beings are not merely trainable monkeys to be

educated in those routines which are pre-prescribed as their assigned destiny in society. It is the rich development of the cognitive powers of the infant, child, and youth, which must be required, universally, of and by society. A famous French film from the experience of my youth, *À Nous La Liberté*, and Charlie Chaplin's parody of it, *Modern Times*, typify the bestializing practices to be abhorred in any civilized society.

There is a reciprocal relationship between the development of the average productive powers of labor in society, and the development of the mind and conditions of individual and family life in that society. A society whose orientation in the teaching and practice of science and art is that of the anti-Renaissance reaction, whether the Spanish Hapsburg feudalistic tradition, or the Venetian rentier-financier dogma of empiricists Paolo Sarpi, his lackey Galileo Galilei, and their Sir Francis Bacon and Thomas Hobbes, tends to block fundamental scientific progress, by degrading the name of "science" to the equivalent of a cognitively sterile Aristotelean or neo-Aristotelean "explaining of nature" at the stultifying level of current knowledge, or worse. Science becomes either what the ruling rentier-financier interests wish to exploit, and, on the other hand, what they are determined to keep out of illicit use by the population in general. The distinct human quality, cognition, which sets the human species apart from the beasts, is a quality of the individual mind, which they treat as most urgently to be suppressed. Under the circumstances of a shift from a productive, to a consumer's society, they have succeeded marvellously, during the recent thirty-five-odd years, in this destruction of the mental potential of most of the population today.

Thus, oligarchical societies teach either what is called "tradition," or counterfeit forms of tradition, not only as a substitute for actual knowledge, but as method of inoculating the subject population against demanding access to real knowledge. They proffer, instead, the mere "information" prescribed by the relevant Babylonian priest-castes which regulate education, standards of professionalism, and popular opinion generally. In this way, as the evil Aldous Huxley, among others, proposed, the goals of slavery are realized in the cheapest way: the slaves put the shackles upon their own minds, more or less daily, and, thus, let them find addictive, psychedelic qualities of so-called "pleasure" in doing so.

A healthy society, is one committed primarily to the promotion of the general welfare, as our Federal Constitution prescribes. That society aims to educate each and all of its population to the highest level of scientific and cultural development possible, thus increasing the per-capita potential for both generating scientific-revolutionary and related progress per capita, and for assimilating that progress as realized increases in the average, science-driven physical-productive powers of labor. This reciprocal relationship defines a working political approach to a branch of science known as epistemology.

2. The Meaning of Epistemology

The contrast between the two types of geometry I have emphasized here so far, the Euclidean, or quasi-Euclidean, versus the physical geometry explicitly elaborated, successively, by Gauss and Riemann, is to be regarded as the Classical working-model for the discussion of a branch of science known as epistemology, which is often translated into “the theory of knowledge.” As I shall emphasize now, epistemology also includes the study of the way in which human minds are turned into virtual Korean kimche, and thus, must therefore also be considered as including the subordinate subject of a general psychopathology of non-knowledge. This contrast is the point of reference from which it becomes possible to render transparent the nature, and cure of the ideological disorder which is now sending the people of the U.S. on their adopted trajectory toward the yawning abyss awaiting them, just ahead.

So far, I have indicated a principal division between two kinds of thinking, the one reductionist (as in mere learning), and the other cognitive (as in knowledge). I have pointed to the evidence which shows, that, just as the set of definitions, axioms, and postulates of a typical classroom Euclidean geometry, typifies reductionist learning, so we have an alternative to such definitions, axioms, and postulates, an alternative typified by the implications of Gauss’ elementary definition of the complex domain. The chief similarity of the two, otherwise mutually opposed systems, is found in the relationship between ground-principles and acceptable theorems within each of the respective systems. On this account, each appears to be, superficially, a parody, as much as opponent of the other, as we may see in comparing the marsupial to the placental repertoires among mammals (or both with truly radical reductionists such as the monotremes).

In a reductionist culture, for example, the society operates on the basis of explicit or implied policy-decisions, decisions which are rooted in implied theorems of which most members of society are, at most, vaguely conscious, whereas the more deeply underlying axiomatic presumptions are not considered as anything but “self-evident.” Sometimes, an outburst of the type, “But, all my friends will agree with me,” serves as a synonym for “self-evident,” among such illiterate strata of the population.

“Single-issuism”—an irrationally ordered array of “do’s and don’t’s,” a concoction cooked up in defiance of *I Corinthians* 13—is typical of the pathological forms of mass-behavior among those relatively ignorant classes common to societies dominated by a reductionist system. The types of fanaticism associated with “single-issuism,” are usually the quickest and most self-destructive way to Hell among cultures of this type. The precipitous moral and other decline of Sixteenth- and Seventeenth-Century Spain under the self-

destructive, “integrist,” religious-warfare fanaticism of the Hapsburg rule, illustrates that point.

The practice of epistemology may find it convenient to use the model of Euclidean geometry as a standard of comparison, for tracing the relationship among the hierarchy of axiomatics, theorems, and conventional pragmatisms. These comparisons focus upon the contrasting ways in which the apparent collective will of a culture or a nation, steers that society, as if toward some often more or less calamitous, ostensibly fateful destination. The process of collapse of the U.S. economy, over the course of the recent thirty-five years, in contrast to the general improvement accomplished over the preceding 1933-1965 interval, is typical of patterns among successive, long-wave developments which become, in each case, built-in, virtually inevitable destinies of a society which has adopted a corresponding, more or less axiomatic course of direction in shaping the evolution of its policies of practice. That serves as a rule of thumb for indicating what I signify by applied epistemology.

The type of problem on which to focus, is that presented in a famous poem of Heinrich Heine, *Die Grenadiere*, one of the many important Heine poems set by Robert Schumann.²⁰ In this poem, Heine, a brilliantly insightful opponent of the waves of that Romantic movement engulfing Europe following the crowning of the first fascist dictator Napoleon Bonaparte as Emperor, captures the essence of Napoleonic fascism in particular, and Romanticism in general. Schumann, an ally of Heine in this matter, captures the folly of the Romanticism underlying Napoleon’s reign. Schumann employs the same principles for that, as he does in the richly ironical *Dicht-erliebe* and other Heine settings. In the case of *Die Grenadiere*, Heine aims directly against the same kind of present U.S. trend toward fascism, called military “utopianism,” which is modelled upon Hitler’s Waffen-SS, the universal fascist utopians expressed by *The Soldier and the State* of Nashville Agrarian William Yandell Elliott’s Harvard protégé Samuel P. Huntington. This is the same universal-fascism commitment expressed by Elliott’s Henry A. Kissinger, Zbigniew Brzezinski, and many others of that Harvard brood, as by the more dangerous British intelligence collaborator of those creatures, Middle East specialist Bernard Lewis.

That example is appropriately an historically specific one, since fascism is an expression of the Romantic reaction against the threat which the American Revolution and 1787-1789 drafts of the U.S. Federal Constitution represented to the Habsburg, Anglo-Dutch, and kindred species of relics of the old, pre-Renaissance, Romantic order in Europe. The revival of the Rome of the ancient Caesars, in the parody led by Napoleon Bonaparte, was the model of fascism copied by the France of Napoleon III, Benito Mussolini, Adolf Hitler,

20. Set as *Die Beiden Grenadiere*.

and the Carlists. Heine, as in the first edition of his *Religion and Philosophy in Germany*, foresaw the threat of Napoleonic-like (e.g., fascist) insurgencies in a future Germany, a threat rooted in the influence of Romantic Immanuel Kant.

That said on background, look at the poem's closing stanza: Then, my Emperor will ride over my grave as many swords clash and spark; then, I will arise armed from my grave to defend my Emperor! My Emperor!²¹ The fascist legions of Cadmus revived from their dragon's-teeth graves! The legions of imperial Rome! The multinational Grand Army of Bonaparte, marching into the trap of strategic defense which the Prussian reformers and Russia's Czar had set for it in the interior of Russia! So, among Romantics and their like, often, an irrational, even criminal idea, is upheld as the noblest cause, by the mere reiteration of a slogan, a catch-phrase, just as the Nazi anti-semitic propaganda worked to promote Hell, all for a cause for which no rational evidence existed. So, the introduction of such notions as that captured in *Die Grenadiere*, or President Bush's repeated reference to his utterance, the "axis of evil," may doom a society to act under a lunatic compulsion, like Heine's Grenadier waiting to rise even from the grave, an automaton, like one of Samuel Huntington's professional, Waffen-SS-style soldiers, to fight a perpetual meaningless war, yet once again, and yet again.

In a sane and moral society, by contrast, no one is allowed to hide behind the recitation of some mere slogan or "single-issue" litany. The standard of Socratic truthfulness must be enforced: Why do you say that? What is your evidence? What are you thinking which impels you to believe that that is honest evidence? Typical populist psycho-babble includes: "All my friends agree"; "I read and follow the press; I know what's going on"; "Believe me, I have my sources, but I can't tell you what they are."²² These litanies are typical of the frauds employed by the morally depraved today. What is said, is a ruse employed to conceal the actual motives of the speaker, sometimes, even often, to conceal the speaker's ac-

21. As Schumann sets the closing stanza: "Dann reitet mein Kaiser wohl über mein Grab/ Viel Schwerter klirren und blitzen/ Dann steig' ich gewaffnet hervor aus dem Grab—Den Kaiser, den Kaiser zu schützen."

22. This latter argument is typical of the way in which the U.S. Department of Justice spreads its lies against this author, Lyndon LaRouche ('He's a Bad Guy, But We Can't Say Why,' *EIR*, March 10, 2000) and his associates. Notable are the remnants of the old "internal security" gang, which continue their fascistic dirty work, thinly camouflaged, under a combination of the type of interlocked governmental and private organizations set into motion under 1977-1981 National Security Advisor Zbigniew Brzezinski, operating in cooperation with private institutions such as the H. Smith Richardson Foundation, the Mont Pelerin Society/Heritage Foundation, the American Family Foundation, and the Anti-Defamation League (ADL) still today. The influence of these operations illustrates the manner and degree to which most Americans today are literally brainwashed into reciting the ritual psycho-babble of such corrupting institutions. That recitation often occurs as a conditioned-reflex knee-jerk reciting of a brainless "recorded message," like a recording turned on automatically at the mere mention of my name! I have, therefore, very few sane critics in the U.S. today.

tual motives from himself.

A Classical example, the case of the dubious Physiocrat Dr. François Quesnay, should help to clarify the argument. The following example largely explains itself.

An Example: The Physiocratic Syndrome

Strange things happened in France with the accession of the adversary of Mazarin's Jean-Baptiste Colbert, "Sun King" Louis XIV. Typical among the despicable influences exerted from within Louis XIV's France, were the convergence of the work of the Cartesians and an implicitly ultramontane, Anglo-French, feudal military faction known as the Fronde. At the center of the Cartesian cabal was a Venice agent, Abbot Antonio Conti, who emerged from those decades as the central figure of an international network of salons which represented what is often identified, generically, as the Eighteenth-Century British-French "Enlightenment." Although Conti died in 1749, his network of salons, and his participation in the Venice-based effort to destroy the influence of Gottfried Leibniz,²³ continued through such products of that network as Euler and Lagrange, the latter as seeds of Conti's poison, planted in Berlin.²⁴ During the middle of that century, the leading opponents of the Conti network in Germany were the defenders of the legacy of Gottfried Leibniz and J.S. Bach. Leibniz and Bach were defended chiefly by Abraham Kästner, by Kästner's student and collaborator Lessing, and by Lessing's partner against Euler's Isaac Newton cult, the celebrated genius Moses Mendelssohn.²⁵

23. Around the matter of the Este family history.

24. As a matter of relevance for the continuing problems of science today, the role of Lagrange in Napoleon's France is of crucial importance for understanding the persistence of the problems of science addressed above. The aging Lagrange's corrupting influence in France, coincided with Napoleon Bonaparte's dispersal of the leaders of Gaspard Monge's Ecole Polytechnique, and using Lagrange to set forth the reductionist dogma through which France's leading role in science was destroyed to such a degree that, by about 1828, world leadership in science had passed from France to the circles of Alexander von Humboldt and Gauss in Germany. There have been some happy exceptions to this destruction of France's science. The achievements, and tribulations of Louis Pasteur and Curie typify the best cases of the survival of science in France, while the defeat of the Newtonians Coulomb, Poisson, et al., by the pro-Leibnizian faction of Arago, Fresnel, and the young Ampère, the case of Dirichlet, and the continued work, in exile, of Lazare Carnot, typify the residue which lived on despite the Newtonians Lagrange, Laplace, Cauchy, et al., and despite the monstrously corrupt Restoration monarchy.

25. Kästner was thus the originator of the late-Eighteenth-Century birth of the German Classic of Lessing, Mendelssohn, Goethe, Josef Haydn, Wolfgang Mozart, Friedrich Schiller, Beethoven, the Humboldt brothers, Franz Schubert, Felix Mendelssohn, Robert Schuman, Verdi, Johannes Brahms, et al., the Classic which was the continued adversary of the Napoleon-inspired Nineteenth-Century Romantic decadence of Hegel, the neo-Kantians, Liszt, Berlioz, Wagner, et al. This German Classic intersected the circles of the followers of the Winthrops, Mathers, Logans, and Benjamin Franklin in North America and throughout Europe. As my associates have documented the role of the Leipzig-based extended family of Moses Mendelssohn in the development of the work of Mozart, Beethoven, Schubert, et al., the Classical Jew of Germany and the Yiddish Renaissance were the leading target of



The case of François Quesnay “has special clinical significance, of revealing most clearly the underlying common axiomatic assumptions of empiricism, positivism, and existentialism.”

Among the pivotal figures associated with Conti’s network of salons, during a span of history from the accession of Louis XIV, to the coronation of Napoleon, was Dr. François Quesnay. Quesnay’s Physiocratic dogma, played a central role in bringing about the later destruction of France’s monarchy. That dogma is of continuing epistemological significance for understanding much of the sweep of the recent thousand years of globally extended European civilization. Without understanding that epistemological point, it were impossible to understand how the U.S.A. and Europe, in particular, have been destroying themselves, culturally and economically, over the course of the recent thirty-five-odd years.

The proximate origin of the Physiocratic hoax, is the settlement, in France, of a Byzantine-sponsored, neo-Manichean cult, known variously as the “bogomils,” “Cathars,” and, in English slang, “the buggers.” The most notable settlements among those, were centered on the Garonne and Rhône, the so-called Languedoc, but settlements of this characteristically gnostic cult extended into adjoining regions. Despite the notorious Norman crusade called the Albigensian, the influence of these gnostics has persisted, in various guises, including various and sundry avowedly Christian, or gnostic churches, to the present day. This queer doctrine, combined with the radical positivism of medieval William of Ockham (Occam), persists as the central epistemological characteristic of the English empiricism of Sir Francis Bacon, Thomas Hobbes, John Locke, and Isaac Newton, and the British and French

hatred by the Nazis and their existentialist co-thinkers, down to present-day Europe and right-wing Zionism.

Eighteenth-Century Enlightenment. The case of Quesnay has special clinical significance, of revealing most clearly the underlying common axiomatic assumptions of empiricism, positivism, and existentialism. For example, all of today’s faithful followers of Adam Smith’s doctrine of “free trade,” are spiritually, in principle, “buggers.”

The nub of the epistemological matter, is the following.

The economic core of Quesnay’s argument, is his assertion that all of the net proceeds of the feudal estate’s fruits of nature, are brought into existence, as such “gross profit,” solely through the magical powers awarded to the landlord, awarded through the allegedly divine donation to him of the feudal title to that estate. The only significant point of difference between Quesnay and the British East India Company’s plagiaristic Adam Smith, is that Smith awards those same kinds magical powers to the persons and financial practices of the Venice-modelled Anglo-Dutch financier oligarchy. This is not original with Quesnay; it was the core of the Cathar doctrine of the elect. This is also the essential basis for the empiricist dogmas of Sir Francis Bacon, Thomas Hobbes, John Locke, Isaac Newton, the “free sin” doctrine of Friedrich von Hayek’s Bernard Mandeville, the theology of U.S. Justice Antonin Scalia, and the “free trade” dogmas of the Mont Pelerin Society, American Enterprise Institute, and so on.

There is no accident in any among these connections. The problem here is an elementary case in epistemology. It is an example which is extremely appropriate for understanding the mechanisms underlying the currently worsening crisis of the Bush Administration and of the present leadership of the U.S. Congress.

To the majority of readers, some of this may appear to be too exotic to be relevant to the case of the breakdown in progress in the Bush Administration. But, stay the course; you could not possibly understand the how and why of that Bush Administration, without taking the lurid forms of mysticism associated with Locke, Quesnay, and Adam Smith into account. It may seem weird, but weird is the way the collective mind of the Bush Administration, among others, works, or, if you prefer, does not really work. We fellow-Americans, have a really sick mess in Washington on our hands, and it is neither centered in, nor originated with the January 2001 inauguration of President George Bush.

Now, I shall describe the role of empiricism as such, and then show the axiomatic nature of the conflict between empiricist hoaxsters, such as Euler, on the one side, and scientists such as Leibniz, Gauss, and Riemann, on the other. Focus upon that specific quality of connections, will lead our attention back to the axiomatic roots of the present U.S. existential crisis.

From the standpoint of epistemology, all of the pathological systems congruent with Quesnay’s dogma, are premised on the doctrine known as empiricism, which was introduced by one-time lord of Venice Paolo Sarpi. Essentially, Sarpi advocated the simplification of Aristoteleanism through the

application of “Occam’s Razor,” the irrationalist doctrine of medieval figure William of Ockham. All of the irrationalities inherent in Aristotle, and worse, are continued with the spread of empiricism by Sarpi and his household lackey Galileo Galilei, the latter the hoaxster who taught bad mathematics to worse Thomas Hobbes. Although Quesnay’s argument largely reverts to the sordid medievalism of the neo-Manichean Cathars, the totality of Quesnay’s argument could not have developed, except in the context of the resurgence of empiricism associated with the central role of Antonio Conti. Compare the frauds of Aristoteleans such as Claudius Ptolemy with the distinctively weird type of gnostic mysticism characteristic of all of the empiricists, and among such of their followers as the Kantians, positivists, and those really dangerous goof-balls known as the existentialists. These existentialists have been the principal, if not the only current leading into the influence of fascism under Hitler and under the leadership of utopians such as Brzezinski, Ariel Sharon, et al., today.²⁶

Empiricism has the form of a synthesis of three, ostensibly mutually exclusive, categorical elements, as follows:

1. First, the empiricist assumes that no experimentally verifiable knowledge exists outside the bounds of simple sense-certainty.
2. Secondly, therefore, every cause-effect relationship which can not be located explicitly in a sense-observed agency, is related to a domain of such forms of attributed bias in statistical behavior of observable events, or to some anonymous agency to which neither sense-certainty nor cognitive reason provides access.
3. Thirdly, the second element leaves available a niche for creating the illusion of the existence of purely magical spiritual powers, operating entirely outside the reach of access by sense-certainty, but able to make arbitrary interventions, even capriciously, into the domain of sense-certainty.

Quesnay’s argument for the magical spiritual power bestowed by the existence of the aristocrat’s land-title, is an entity of that third class. Such was the agency which the Cathars considered to be responsible for the capricious distribution of unearned benefits to the Cathar elect.²⁷ As I shall show,

26. The relevant existentialists are, predominantly, the neo-Kantians typified by Hegel, Schopenhauer, Savigny, Nietzsche, Heidegger, Jaspers, Theodor Adorno, Hannah Arendt, Heidegger’s Jean-Paul Sartre, Martin Buber, et al. But for their nominally Jewish credentials, Adorno and Arendt, like one-time professed Hitler admirer, the fascist Vladimir Jabotinsky, would have tended to follow Heidegger into the role of leading philosophers of Nazism, and showed that trait in such among their later U.S. productions as *The Authoritarian Personality*.

27. Here we meet the implicitly satanic character of the “Harry Potter” fad spread among children currently. Belief in magic, outside the real universe,

Quesnay’s case is relatively crucial once other grounds are taken into account.

Apart from Quesnay, the gnostic spirituality of the empiricists and their derivatives wavers from one of the two types to the other.

The ghastly “invisible hand” appears as virtually an ectoplasmic hermaphrodite, in the later writings of the Amos Cottle²⁸ of British political-economy, Adam Smith; this dubious “invisible hand” wavers, never quite settling the question whether it belongs, ontologically, to the second or third quality of supernatural existence. In his writings such as his 1776 anti-American propaganda-tract, *The Wealth of Nations*, Smith, as an agent of Barings’ Lord Shelburne, appears to the statistician to locate the relevant supernatural agency, the “invisible hand,” within the second category. In his earlier 1759 *The Theory of the Moral Sentiments*, he, as a follower of the irrationalist David Hume, had veered decidedly to the third, crafting what he describes there as his imaginary god, designed to fit his personal fancy.

In the case of a predecessor, the Bernard Mandeville favored by the Mont Pelerin Society’s Friedrich von Hayek, the supernatural principle is predominantly the force of evil, something akin to the Mephistopheles of Christopher Marlowe’s Dr. Faustus. John Locke, with his doctrine of “Life, Liberty, and Property,” or gnostic Justice Antonin Scalia, with his Lockean doctrine of “shareholder value,” is frankly satanic on points where even the evil Mandeville is not absolutely opposed to doing good (on condition that it were not done willfully). Hume’s long-standing German disciple and empiricist Kant, sought to make himself respectable (salonfähig) among church-going German Protestants, in the latter years of his life, by blending empiricism and Aristotle. G.W.F. Hegel, the first state philosopher of fascism, prudently referred to Satan by the seemingly innocuous name of World-Spirit. The existentialists, such as the Nazi philosopher Martin Heidegger, and Heidegger’s Jewish philosophical co-thinkers and former close associates, such as Theodor Adorno and Hannah Arendt, contented themselves to serve evil by demanding the extirpation of the idea of truth from social processes. Radical empiricists H.G. Wells and Bertrand Russell saw no reason to continue to waver between the two choices of the ontologically unreal as the empiricist’s god; in joining hands on the sword of Wells’ 1928 *The Open Conspiracy*, they proclaimed themselves, with their crony Aleister Crowley, the central figures of a collective Satan, and considered the issue of the identity of the supernatural as thus resolved.

Otherwise, the most significant characteristic of empiri-

is the essence of satanism. The Delphic Apollo cult, based upon the satanic substrate of Gaea and the snake-god Python, is typical of that satanic tradition of so-called “mystery religions.”

28. The pitiable British poet laureate of that time, of whom Byron wrote: “Amos Cottle. Phoebus! What a name, to bear the weight of future’s fame.”

cism is its typical motive, its intention. Where science seeks to discover those universal principles, by aid of which results beneficial to the general welfare can be lawfully achieved, the empiricist intends to cheat. If he does not wish to be exposed as a thief, he invokes the privileges of Locke's principle of "Property" ("shareholder value") as his legal right to steal, and to defend that theft against any protesting victims. So, Senator Hayakawa once said, semantically, of the Panama Canal, "We stole it fair and square." Typically, the empiricist aims, for example, to gain an unearned statistical advantage in gambling with dice, or by manipulating the emotional susceptibilities of his intended human prey. This matter of intention is better understood, by examining the empiricist's religious belief. To discover this, it were sufficient to observe Quesnay's view of the nature of man.



"Quesnay's argument for the feudal variant of 'shareholder value,' is the claim that the serfs on the aristocrat's estate are, in fact, 'human cattle.'" Here, Pieter Bruegel's "The Harvesters."

Economy and Human Nature

To understand the literal insanity of that so-called "monetarist" doctrine, which has controlled, and ruined the former U.S. economy and its policies, increasingly, during the recent thirty-five years, it is necessary to trace the source of our nation's leading economic and related afflictions to those present-day monetarist and related dogmas taken at their point of inception. Those notions of political-economy are so situated within the bounds of the development of that Anglo-Dutch definition of "political economy," which was transmitted to present world-wide practice from its origins among the leading figures of the British East India Company's Haileybury school, Adam Smith, Jeremy Bentham, Thomas Malthus, David Ricardo, et al. For specific historical reasons, the origin of British political-economy is to be traced backwards, through Lord Shelburne's agent, Adam Smith, to the antecedent French sources from which Smith more or less plagiarized crucial features of his own *The Wealth of Nations*, the Physiocrats Quesnay and Turgot.

In effect, British political-economy, the principal root of today's monetarist dogmas, is the outcome of a French-speaking feudal sperm fertilizing the egg of a different, British liberal species. The resulting interspecific intellectual sterility should, therefore, not surprise us. Thus, understanding the case of Quesnay must be pursued as an essential way of uncovering the something "rotten in the state" of Transatlantic civilization today, which is key to our national tragedy unfolding now. As to the dismal result currently being experienced in our nation's capital, the relevant observation might therefore be, "breeding will tell."

Quesnay's argument for the feudal variant of "shareholder value," is the claim that the serfs on the aristocrat's estate are, in fact, "human cattle." That assumption, is expressed in the assertion that it is sufficient that the aristocrat provides for the needs of his "human cattle," permits them to graze, as any prudent farmer cares for his herd. He houses them, feeds them, and so forth, to the extent that the size of the herd is sufficiently numerous, but not too numerous, that the required number of cattle are fed, and given adequate amounts of other needed care.²⁹ Therefore, this amount of care, that minimum of the share of the total product, and no more, is represented by the Physiocrats as the entirety of the share of the product of the estate owing to the serfs. The remainder of the product, including that derived from the looting of nature, is claimed to be the contribution to society by the mere existence of the property-title embodied magically in the social status of the aristocrat.

This argument, or anything equivalent to it, such as the

29. This crucial aspect of Quesnay's argument for laissez-faire, touches upon one of the most significant pages in the history of modern European political-economy and related statecraft, the history of Malthusianism, beginning with Giovanni Botero's *Della Ragion di Stato*, which was incorporated, in a 1606 English publication of his 1588 *Delle Cause della Grandezza e Magnificenze della Citta*. The significance of Botero was emphasized by Joseph Schumpeter, *A History of Economic Analysis* (New York: Oxford University Press, 1955). Botero's argument was reflected in both the argument of Quesnay, and later, in Thomas Malthus' generous "adoption" of the chunk of the same argument from the 1790 London translation of (*Reflections on the Population of Nations in Respect to National Economy*) of Giammaria Ortes' *Reflessioni*.

adoption of John Locke's "Life, Liberty, and Property" by the fascist slaveholder interest of the Confederate States of America, and the pro-Carlist, fascist doctrines of the bonapartist dictator of Mexico, the Emperor Maximilian, poses, as the most fundamental issue of the matter, the issue of the definition of a human being. In all comparably nasty cases, the same underlying axiom is determining. There are several other highly relevant, exemplary, principled implications of the Physiocratic doctrine, but the issue of the practiced definition of human nature, is of absolutely fundamental importance. Therefore, I address this first, and then supplement that with a few other points of direct relevance to the presently catastrophic situation of the U.S. government.

For the competent economist today, everything he or she argues proceeds from the implied premise, that there is a specific fundamental (axiomatic) difference between the individual member of the human species and all other forms of life. That the human individual, and only the human individual, is capable of willfully increasing its species' potential relative population-density, as measured in per-capita and per-square-kilometer terms. To a large degree, that much was said by the founder of an actual science of ecology, Russia's Vladimir I. Vernadsky.³⁰ The primary source of this increase in the power of the human species to exist and develop, is the discovery and use of experimentally valid universal physical principles, and of the new technologies generated as by-products of those discovered principles.

Vernadsky divides the known physical universe among three interacting phase-spaces, defining each, and its functional distinction from the other two, from the standpoint of experimental physical science. The first, is the set of experimentally demonstrable universal principles which meet the standard for an abiotic universality. He terms the second phase-space, the Biosphere: processes whose physical effects can not be accounted for in terms of an abiotic phase-space; these he defines as either expressions of living processes, or as fossils of once-living processes. He terms the third phase-space, the Noösphere: signifying processes and effects whose characteristics can not be attributed to the Biosphere, but only to either ongoing specifically human mental powers of discovery of universal principles, or to "fossil" products of that activity.

Whereas, Vernadsky's argument focuses on the latter changes as a matter of the relationship of the individual person to the universe, I, while accepting his view, as far as his published work goes, point out the significance of another subclass of discoveries, typified by principles of Classical modes of artistic composition, which determine the ability of society to foster the discovery and effective employment of discover-

30. I include here a brief summary of the indispensable aspects of my published work on that matter, which must be included for an adequate understanding of the relevance of Quesnay's kookish doctrine for understanding the pathological mind-set of U.S. popular opinion today. Op. cit.

ies of universal physical principle.³¹

Therefore, the productive powers of labor, as expressed by either individual productive activity, or group activity locally, can not be explained in simple accounting terms. The ability of society to progress, depends upon useful, categorical improvements in the general, regional, national, and worldwide conditions in which local human life and production occur. Therefore, the variability of relative productivity in the individual local enterprise, depends upon the quality of development of the largely government-managed basic economic infrastructure in the relevant region and nation at large.

The crucially determining factors of physical productivity, therefore include both "hard" and "soft" basic economic infrastructure, ultimately that of the nation as a whole. These include, as "hard infrastructure," a national system of transportation and communications; a national system of development of the management of water, its resources, and the general sanitation which that implies; the production and distribution of power; and the organization of basic urban infrastructure. It includes as "soft infrastructure," interlinked national, regional, and local health-care systems, and the quality of educational institutions, including scientific research programs, needed to bring about the human preconditions of scientific, technological, and demographic progress. It also requires efficient national-banking systems, through which public credit is generated and regulated, to provide, as an addition to private, regulated banking institutions, the crucial margin of net economic growth. There is no way in which those general requirements can be met, except by either government economic responsibility for the development, maintenance, and operation of this infrastructure, or, as a proven alternative, the supplementing of the government's role in this promotion of the general welfare, by aid of government-regulated, but privately owned and managed utilities, operating in relevant smaller regions of the nation as a whole.

The value of this requirement can not be decided by resort to reductionist forms of accounting methods. The source of growth is the creative cognitive powers of the individual human mind, as the case of Carl Gauss illustrates the point. To produce another Gauss, who was a poor boy in Germany, one must provide the opportunities and conditions under which that development were likely to occur. This means family and community conditions, and also attitudes toward the individual, which tend to foster such fortunate outcomes for society as a whole. Nor can we rely on producing only isolated geniuses, who are disengaged from the daily life of the generality of the population. Ideas, to become fruitful, must be shared. The power of the individual genius to contribute to society's benefit, requires a sharing of the conditions of creative scientific and Classical-artistic progress within the generality of the population. All of these considerations have

31. Ibid.

physically defined costs.

Taken all together, the direct costs of production and distribution, must not be estimated in such a way as to shun the burden for the development and maintenance of the basic economic infrastructure on which the continuation and productivity of that local production depends. Regulation of tariffs, and taxation is an integral part of the actually incurred costs of local production. The man who thinks that things would go better without taxes, is not merely a fool, but implicitly a suicidal one.

Therefore, the cost of labor is the cost of producing entire families afforded the development and circumstances suited to those relatively high rates of scientific and cultural progress upon which we depend for not only the increase of mankind's potential relative population-density, but even to prevent the physical collapse of civilization through the attrition brought about through negligence in meeting these costs of continuing development.

It is precisely the savage cut-backs, since the period of the 1966-1968 Presidential election-campaign of Richard Nixon, in maintenance and development of basic economic infrastructure, Nixon's 1971 authorship of the wrecking of the international monetary and financial system, and the wild-eyed lunacies of deregulation and other recklessness taken in the name of "fiscal austerity," by a Zbigniew Brzezinski-steered Carter Administration, which have set into motion the approximately thirty-five-year process by which the real economy was transformed from a powerful producers' economy, to a modern parody of a Roman imperial style of decadent consumer society. It is to the rampage of the lunatic doctrine of so-called "fiscal austerity," that the greatest part of the afflictions of our nation, and of the majority of our people, are to be credited.

We must carry the argument a qualitative step further. We must ask the question: What is the purpose of individual human life? In what aspects of our daily activity are we able to satisfy that purpose in simply living? How must national economies, and international cooperation among sovereign nation-states be organized, and directed, to fulfill that adopted mission?

The elementary answer to those questions lies in the notion of human mortality, as distinct from animal mortality.

The answer is, essentially: The characteristic distinction of the human species, is the generation and transmission of discovered, and experimentally demonstrable, universal principles, by the sovereign cognitive processes of individual minds, and the distribution of those and related discoveries widely, and from past to present, and present to future generations. Therefore, in the degree we are speaking specifically of human relations, as distinct from a person's imitation of bestial relations: The sovereign individual mind's creative potential, and the relationship of that to past, and to future generations, and, laterally, to surrounding contemporary society, are the irreducible essence of the strict meaning of "human

relations." It is from that standpoint, and only that conceptual vantage-point, that a person sees himself, or the other persons to be truly human. That is the practical definition of human nature.

For the matured, sane individual mind, a mind sensible of the fact of mortality, these immortal, cognitive relations among otherwise mortal human individuals and societies, are the proper intention of individual existence. In the extended magnitude of cognition, one lives efficiently in the past and future, in that way, and lives also as an integral, social part of contemporary society's shaping of its future. Thus, the proper motive of society, and of the individual in it, is to bring one's own and one's society's actions and relationships into congruence with that intention. It is that intention, as expressed in the 1776 *U.S. Declaration of Independence*, and the 1787-1789 Preamble of the *Federal Constitution*, which must be a ruling, underlying principle of natural and constitutional law, under whose governance the lawful course of the nation's life must be ordered.

On the subject of "shareholder value," a wise man once said: "I don't care how many law degrees that big monkey has, or on what bench he sits; he is still a monkey!"

The Axioms of Evil

The idea of a comprehensive mathematical physics is clarified by comparing the common, disastrous flaw of the astronomy of Ptolemy, Copernicus, and Brahe, with the crucial correction detailed by Kepler's 1609 *New Astronomy*. This comparison establishes a relevant bench-mark for comparative studies of the effects of opposing axiomatic models of opinion-making on the medium- to long-term destiny of nations and cultures.

Although the referenced, former three pre-Kepler schemes differ wildly in their results, they all share the common fallacy inherited from Aristotle. They presume, falsely, axiomatically, that regularity in the universe is defined by uniform circular action; they squeezed the data they employed into a scheme which fits that a priori, "ivory tower" presumption. Their results differ in form, but the fatal error, the unscientific method employed by each and all, has the self-same axiomatic root: Aristotelean, or kindred forms of reductionism.

Kepler's different approach follows, as he has written; the basis is to be derived from the principles of modern experimental physical science introduced by Nicolaus of Cusa's *De Docta Ignorantia*, and also the work of Cusa's followers Luca Pacioli and Leonardo da Vinci, in addition to that of the important English scientist Gilbert's *De Magnete*. By more precise measurements, Kepler shows that the observed orbit of Mars is elliptical, and that the planets of the Solar System follow elliptical orbits, with the Sun, around which they orbit, situated at a common "point," one of the two foci of the ellipse. Thus, by careful normalization of available observations, Kepler measured the pathway of the planetary orbit as of

constantly non-uniform motion, but, nonetheless, always in such a way that the sector of the ellipse defined by the orbit around the Sun is governed by a rule of equal-areas, equal-times. This latter discovery prompted Kepler to relegate the development of a calculus to “future mathematicians.” That challenge led to Leibniz’s original development of such a calculus.

The crucial point to be emphasized now, is that Kepler employs that work to define the first universal physical law discovered in modern mathematical physics, the principle of universal gravitation. There was no possible way, in which the actual planetary orbits could be determined according to the doctrine of Aristotle; one must derive the orbital trajectory from a universal physical principle, rather than an “ivory tower” scheme such as that of Aristotle. Since Kepler’s work was done largely in the universal domain of astrophysics, he became the founder of the process of elaborating a universal mathematical physics. Thus, he gave crucial impetus to the development of the practical notion of universal physical, and other principles, as the referenced work of Vernadsky, and my own work, typifies the larger result of that method

This comparison of the failed followers of Aristotle and the like with the revolutionary achievements by Kepler, presents us with two, mutually exclusive axiomatic systems: Aristotle’s “ivory tower” method and system, and that of the kind of real-life, experimental physical science typified by the pioneering work of Kepler. Which method would you prefer, in designing a vehicle and system of navigation for a long-range space-voyage? Or, for reason of kindred considerations, which axiomatic system were better suited to crafting a trajectory of long-term survival of the U.S. economy, over a period dating from about 1966, to, at a minimum, a point presently lying in our nation’s relatively near future?

To restate that pivotal point. How you will react to any set of perceived circumstances, will be determined by a set of axiomatic-like assumptions embedded in the development of your mind. To the degree that set of assumptions is fixed, your response will be like that of any poor beast, blindly following choices of pathways constrained by the poor creature’s genetic and related heritage. Only to the degree that you are not only human, but functionally a cognitive human being, are you likely to challenge the axioms, even under circumstances your life, and that of your family and friends, might depend upon such a change in your axioms.

That is precisely the way that that issue of method, has been determining in the way great empires and long-standing cultures have been rather abruptly destroyed, swept off the pages of history. They were self-doomed, because they could not change their axioms, the axioms which pre-regulated their responses to crisis. They could not do that, even at the point that the continued existence of that empire, that culture, depended upon adopting and implementing an axiomatic sort of change in its behavior. Even if some part of a culture so imperilled would tend to make the needed change, or at least

consider defining and adopting it, other parts of the same culture would fight against change even with bloodied weapons, to defend the tradition which dooms them. Such is the challenge which menaces the continued existence of the U.S.A., and other nations, today. That is the burden of this present report.

So, in the case of World War I, despite that liar U.S. Secretary Lansing, it was the British monarchy of Edward VII, both in his capacity as monarch, and “Lord of the Isles” earlier, who led in organizing that war. It was that monarchy which was, contrary to the lying Lansing, chiefly responsible for organizing the destruction which unfolded during 1914-1917, and through the subsequent imposition of the Adolf Hitler regime upon Germany.

Edward VII put his nephews, the Czar Nicholas and Kaiser Wilhelm, at each other’s throats on behalf of Britain’s adopted interest in destroying the development of the Eurasian continent. However, if that great fool, Kaiser Wilhelm, had not reacted like a silly gushing adolescent, to the whining of a much greater fool, the Hapsburg Kaiser, and if the Czar had not been the silly fool he was, the war plotted by the circles of Edward VII would not have happened. If the nations involved, such as Germany, had not been fool enough to allow its Kaiser to play the fool, that war simply would not have happened on that occasion. Similarly, the U.S. President’s teleprompter, when it succeeded in commanding the President to utter the psycho-babble phrase “Axis of Evil,” unleashed a piece of folly from the President’s mouth which threatens to unleash a political-strategic chain-reaction which could sink all of global civilization today.

Even today, most of the world’s influential strategists are still babbling the same nonsense-term, geography teacher Halford Mackinder’s “geopolitics,” which was used as the pretext for World War I: “Real-estate agents of the world, unite! You have already lost your brains!” Silly school-boys, calling themselves “strategists,” playing war-games in a sandbox, when not masturbating in other ways!

“Free trade” falls into the same category, of catch-phrases which are a blending of sheer nonsense with obsessive and malicious intent, which have assumed axiomatic authority over the mouthings and wills of that super-abundance of fools whose babble has shaped most of U.S. economic and related policy during the recent thirty-five years.

What is “free trade,” after all? It is used to mean, in effect, what Locke meant by the dictatorship of “shareholder value” (Property, per se). It means what Mandeville signified as a Mephistophelean policy of seducing the corruptible with the lure of “private vices,” while promising exoneration for such vicious offenses for the sake of consequent “public virtues.” It signifies the lunacy which that disgusting Shelburne flunky, Adam Smith, adopted as an English parody of the doctrine of Quesnay and the “buggers” before him. Yet, how many laws and pompous tirades, are either simply foolish or effectively evil ones?



Observe the obscene passion with which the government, including the Congress, “and all too many of the people travelling below, in the steerage of the ship of state,” cling to the ruling axioms of our nation’s self-destruction. Here, Senate Minority Leader Trent Lott, with Sen. Joe Lieberman and other Senators, holding forth on the “threat” from North Korea.

Thus, the existence of two axiomatically opposing mental systems, presents us, in effect, with three universes. Two of these universes are the conflicting systems defined by minds which are governed by axiomatic systems; the third universe, is the universe itself. The questions thus posed, are, chiefly: “Which of the two mental systems, if either, is congruent with the actual universe”; and, “What is the cumulative effect, relative to man’s practice upon the real universe, of the axiomatic divergences of the mental systems from axiomatic notions which are, or could be consistent with the real universe”?³²

This puts the finger on the needed working definition of “axioms of evil.” Look at those doomed empires or cultures which went down over a relatively long-term cycle, solely as the result of clinging to customs and policies which, in effect, represented “axioms of evil.” Look at the lurking doom of today’s U.S.A., for example, from the standpoint of those “axioms of evil” which have been the predominant, increasing influence on the nation’s culture during the recent thirty-five years, and see thus, how we came to the situation in which this

32. The term “congruence” is used here in the sense implied by both Gauss’ fundamental theorem of algebra and Riemannian physical geometry.

nation is presently trapped. Focus upon the crucial change, the change from a society axiomatically dedicated to scientific and technological progress in productive power, into a degenerate form of society, which like ancient Rome, doomed itself to die under the sodden weight of an empire which had doomed itself, over the long term, through the persistent action of “the axioms of evil.”

Then, look at the government, including the Congress, today, and observe the obscene passion with which that government, and all too many of the people travelling below, in the steerage of the ship of state, cling, at this present moment, as if in desperation, to those supposed “values,” those vices, which continue to be the ruling “axioms” of our nation’s self-destruction.

Such is the import of the science of epistemology, as I have applied this with an unrivalled degree of success, to long-term economic forecasting today.

3. Free Will: Why Astrology Is a Fraud

“Why do you keep on talking about long-range forecasting?” angry people demand of me. “Are you predicting, or are you not!?” I reply: “Only an ignorant or desperate person would ever bet on a prediction.” I enjoy a detailed, and essentially unblemished published record as the world’s most consistently successful among published long-range economic forecasters of more than three decades. No competent professional predicts; I stand steadfastly by my personal, richly proven expertise, long-range forecasting. Unfortunately, that distinction is rarely understood, or even known among even relevant officials of our government, or university-trained professionals. I now explain that crucially important distinction.

I have repeatedly warned: modern popular astrology is a fraud.³³ The proof is elementary. True “free will,” otherwise sometimes known as what I shall explain as “the voluntarist factor” in history, the freedom of man to effect, and to act upon a valid discovery of universal principle, thus to willfully change the trend of events, exists as a fully efficient principle in the universe. What is popularly understood as “prediction,” is feasible only within the bounds of fancifully “ideal” fixed systems, so-called “ivory tower” systems, such as Aristotelean ones. Simple, or so-called statistical predictions of human behavior, are not feasible in the real universe of Kepler’s discoveries, a universe affected by valid forms of willful human interventions.³⁴ That being the case, where does a foolish,

33. If your uncle believes in astrology, either you have kept him locked away in the attic much too long, or, should not let him out unattended.

34. Predictions of the “. . . should . . .” form have a precise form of proper usage in their application to mechanical systems, or in the “should” form of defining an ontological paradox in respect to physical systems generally. It

but stubborn demand for prediction, instead of forecasting, lead, except, perhaps, into bestiality?

It would have been careless of me, knowing what I know, to tolerate the use of the term “prediction” as a description of any of my forecasts. When a person employs what is putatively a technical term of scientific practice, a qualified professional must not blindly make concessions to the sensitivities of audiences which he, or she knows will insist on misinterpreting that use of that term, such as “prediction.”

The popular misunderstanding of the implied intent of that term, which implies predicting within the terms of an “ideal” fixed system, often goes to the extremes of hysteria. When ignorant people use the term “prediction,” they mean such a fixed system, in which the horse-race is fixed in advance, and someone has advance knowledge of that fix. It is their determination to reject anything which suggests a different universe than their ignorant fancy wishes to believe exists, which prompts the hysteria often met in the usage of the term “prediction.” For example, the absolutely irrational prediction by Mandeville and Adam Smith, that “free trade” will absolutely predetermine “the right price,” is an example of this.

Therefore, I shall emphasize the existence of that problem of today’s prevalent, misguided popular and other opinion, again, at several relevant points below.

It is usually possible, to forecast the options which will confront a nation over the medium- to long-term, and one could often forecast, at least potentially, the likely kind of decision which will be preferred by this or that relevant interest of influence.

Sometimes, it is possible to forecast highly probable developments in the short term, as I, in June 1987, warned of the near-certainty of a devastating financial-market crash to hit by mid-October of that year. Some people saw that success of mine mistakenly, as a prediction. It was not a prediction, but, rather a forecast. I based that warning on my knowledge of increasing control being exerted over U.S. domestic and foreign policy by the circles of then-Vice-President George H.W. Bush; since those circles would not allow sensible remedies to be adopted, the October crash was virtually inevitable. In other words, the “crash” occurred as chiefly, the immediate result of the axiomatic, “free choice” policy-shaping assumptions of political and financier circles allied with then-incoming Presidential candidate Bush. I had estimated the mental state of those circles accurately, and had accurately forecast the probable choice they should have made. All that I forecast was the extreme likelihood that the U.S. government would make a foolish decision, during the months leading into approximately October 10th. That government proved itself the fool I feared it was; in fact, no U.S. government since, has improved on account of economic and related policies, from

is also proper to say, “He predicted,” for example, as a matter of reporting “his” actual intent.

then, up to the present date. In fact, those policies have become consistently worse, up to the present date.

I have never played “Merlin the Magician.” I was not playing “Merlin” in the case of the October 1987 crash. I made the forecast as part of a warning that, precisely because of that October risk, the U.S. government must give up its foolish resistance to seeking a constructive understanding with certain important, senior circles in western continental Europe. In other words, the U.S. had a choice. I pointed out that choice, and also warned what the penalty would be if they did not change their current posture toward the Europeans accordingly. In that case, the Europeans were not right, but they were much less wrong than the Americans; in such a case, a dialogue is the right decision.³⁵

There are chiefly two reasons why most ostensibly educated, even professional people, still today, are virtually babbling idiots when discussion turns to the matter of the difference between scientific forecasting and those notions of “prediction” which are the lure set out as a trap for the credulous, by today’s astrologer or gambling casino.³⁶

In the first case, we are confronted by the victim’s susceptibility to the idea behind the popular, pathological use of the word “prediction.” Such is the kind of belief in magic typified by the widespread use of the idea of “free trade.” Such is the notion, as expressed by Mandeville, that private vices are justified by the public good to which they are predicted to lead. This as expressed in the promotion of legalized gambling, as a source of tax-revenue or other income to sustain public education, or to bring investment funds to a native-American reservation, is typical. Pensioners piling on a bus which carries them to a gambling casino, is an example of the same lure of wild-eyed witchcraft which turned actual human beings into the Cathar cult’s “buggers.” The spread of governmental sponsorship of “legalized gambling,” TV game shows, like the forest-fire of addiction to various expressions of gambling mania in the population, such as playing the financial markets, “believing in” the “new economy,” and similar expressions

35. Even telling a fellow that walking across the bridge which does not exist, could prove fatal, comes close to the form of predicting, but, except for purposes of expressing irony, is not usefully described as “making a prediction.” Since I had taken adequate steps to warn him, if he walked in defiance of my repeatedly proven expertise in such matters, that is his fault, and not mine. If he did not heed my warning, he was behaving like a stubbornly foolish beast, not as a human being in the possession of his relevant faculties.

36. From ancient European history, the most notorious cases of the use of cults to control the destiny of peoples through the methods of the astrologer, are the Delphi cult of the Pythian Apollo and ancient Rome. The worst practices are of the type known as “the delphic method,” otherwise known in today’s Washington, D.C. as the work of the “the spin doctors.” Astrology, as practiced in the U.S. today, is among the most important devices of mass mind-control of both business executives and infinitely credulous homebodies, alike. The mechanism used for purposes of social control through such brainwashing practices, is the same belief in the magical powers of “the little green men under the floorboards” expressed by the “buggers,” the Physiocrats, and the dupes of Adam Smith.

FIGURE 2

LaRouche's Typical Collapse Function

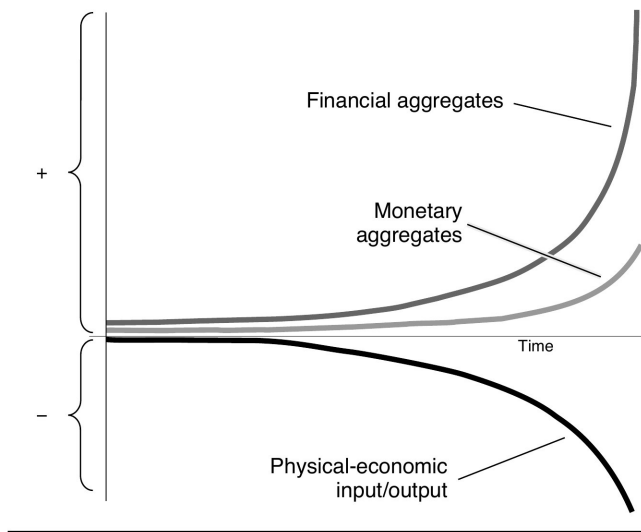
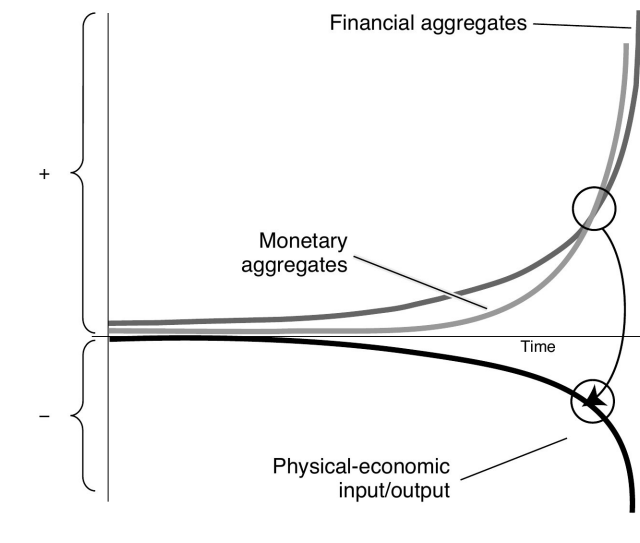


FIGURE 3

The Collapse Reaches A Critical Point Of Instability



of the same general gambling-mania, is an obsession which has become increasingly characteristic of our nation's decadent slide toward the lower depths of an imperial "consumer society."

On this matter, it is fair to say, that not only have the economic, and related policies of our governments become progressively more insane, over the 1988-2002 interval to date, than they were in 1987. The generation which was in leading positions of public life in 1987, has been replaced by a younger generation of "Baby Boomers," of which most never had an adult experience of relatively sane habits in national economic policy-making, a "Baby Boomer" generation of university-trained influentials, which has been, for the greater part, deeply indoctrinated in the decadent "white collar" cultural syndrome of a consumer, rather than a productive, "blue collar"-oriented society. The increasingly perilous state of 401(k) accounts, is but one notable reflection of the pervasiveness of that shift, even among putatively "blue collar" strata.

In the second case, the problem is the galloping rate of spread of general scientific illiteracy of the recent two adult generations of our population. The general expression of this illiteracy, is utter incomprehension of the significance of the paradoxical juxtaposition of the notion of a lawful universe, on the one side, and "free will," on the other. All these problems have been, once again, greatly aggravated by the increasing lunacy, on the subject of economics, within a population characterized by a slide into the presently decadent depths of belief in a "consumer society."

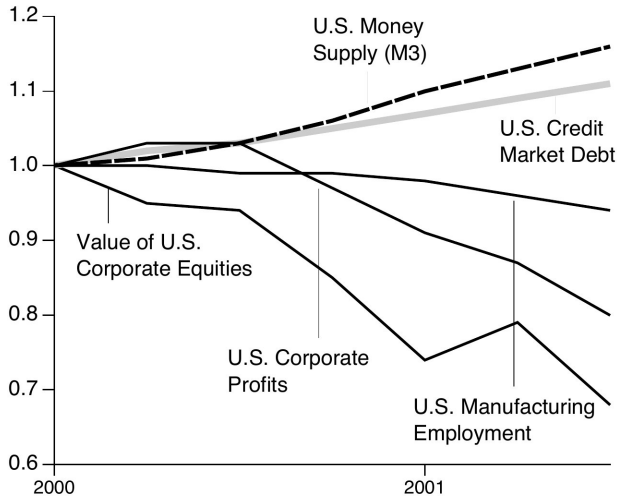
Look briefly at some crucial implications of the first case. The relevant code-word on the lips of the afflicted, for this category of moral perversions, is the term of the language of

magic, "the market." Look at three variants of my "Triple Curve," the pro-forma curve, describing the general trend since 1966, up to about 2000. The second pro-forma curve, reflecting a qualitative shift toward an emergent hyperinflationary spiral, when the rate of growth of monetary and related aggregate stuffed into sick financial markets, gallops ahead of the rate of imperilled, purely nominal amount of financial assets temporarily rolled over one more time by such "John Law" trickery. The third, is a cross-section of an interval of corresponding actual data from the second curve (Figures 2-4).

In each figure, look at the lower of the three curves, that corresponding to the actual performance of the real economy, rather than merely the monetary and financial flows. Think of major bankruptcies, mass layoffs, shrinking of the U.S.A. economy as the world's "importer of last resort." Those latter are the events which typify the currently accelerating, downward plunge of the lower of the three functionally interrelated curves. Look at the 1977-2000 collapse of the share of U.S. national income by the lower eighty percent of U.S. family-income brackets (Figure 5). Look at the relative destitution among the lowest twenty-percentile (Figure 6). Then look at the screaming maniacs among members of the U.S. Congress, and others, who are jumping with "frabjous joy" at each upward twitch in the reports of financial-market indices. What we are witnessing in the latter behavior is a form of mass-psychosis like that of the notorious Netherlands tulip bubble, and the financial bubbles of the early Eighteenth Century. One asks: Might it be the case, then, that the July-November 1983 hyperinflation of the German Reichsmark should have

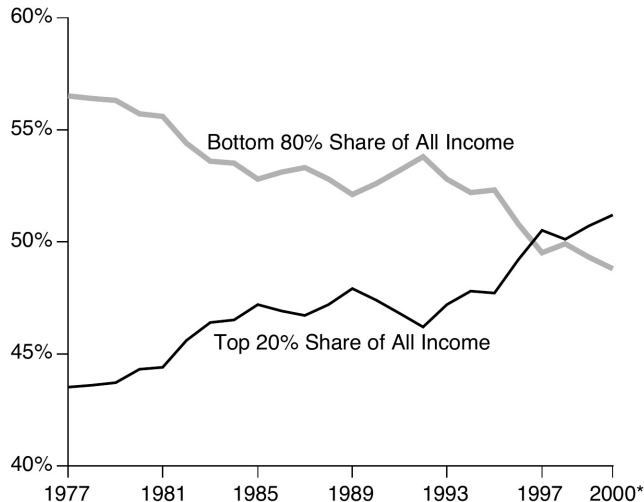
FIGURE 4
U.S. Economy's 'Triple Curve' Collapse
Function, 2000-2001

(Indexed To 2001/1Q = 1.00)



Sources: U.S. Department of Commerce, Federal Reserve.

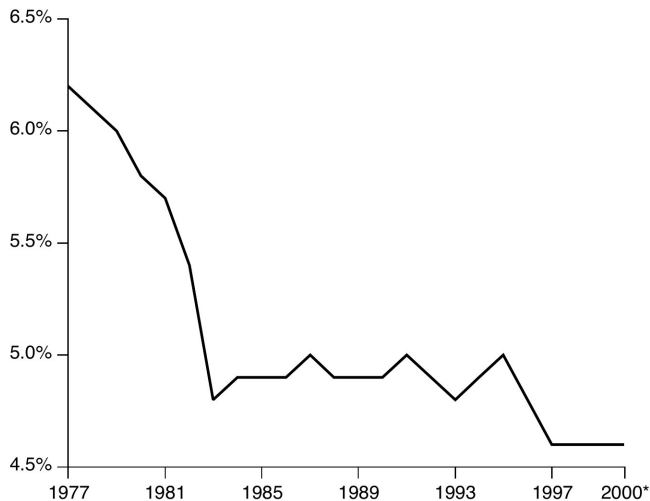
FIGURE 5
Top 20% of Population Have More Than Half
of All After-Tax Income



* = projected

Sources: Congressional Budget Office; EIR

FIGURE 6
Bottom 20% of Population's Share of All
After-Tax Income

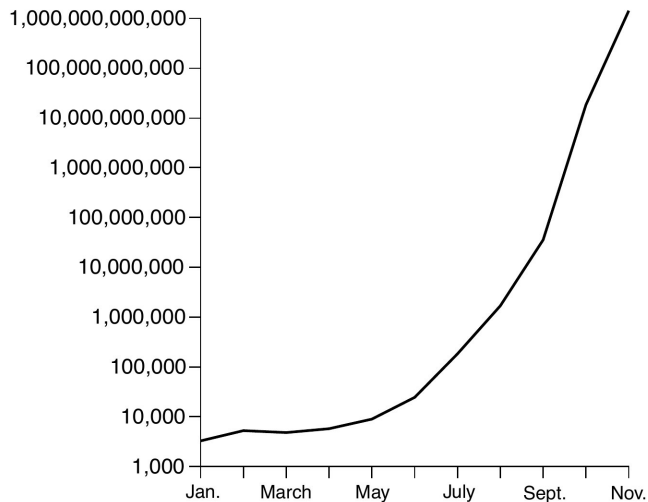


* = projected

Sources: EIR; Congressional Budget Office.

FIGURE 7
Weimar Hyperinflation in 1923: Wholesale
Prices (1913 = 1)

(logarithmic scale)



been greeted by happy Germans with elated expressions of "frabjous joy"? (Figure 7.) Are we not, rather, witnessing the form of mass-insanity associated with a bubble about to pop? Are we not witnessing a mass gambling-hysteria of the type

possible only in a people whose economy and morals have been plunged into that quality of "consumer society," whose decadence has sparked the prevalent gambling hysteria which has risen to such present extremes, over the course of the recent quarter-century? Is that exhibition of gambling psycho-

sis anything but typical of the same satanic quality of belief in magic which the children of such parents express by cultish fantasies of the “Harry Potter” type, or the magic of dwelling in a pro-satanic fantasy-world of Tolkien’s *The Lord of the Rings*?

Now, proceed to the second case, economic processes viewed from the standpoint of a science of physical economy. Consider this matter on two successive levels of approximation. On the first level, look at the way medium- to long-term physical-economic cycles, determine the pathway of development a nation is blessed or doomed to follow during a coming period of approximately a generation, such as the approximate twenty years of recovery of France, the Benelux nations, and Germany from the ruin at the close of World War II. Or, the reverse, the most recent thirty-five-year process of self-destruction of the U.S. internal economy. Much that is true can be discovered by the application of what used to be fairly standard industrial-engineering and related management practices. After that topic, go, next, to the higher, second level, in which my methods become indispensable for assessing the likely course of the economy over the coming one to two generations.

Now, look at both cases from the vantage-point of the overlapping features of Vernadsky’s and my own notion of what he named the Noösphere. First, therefore, view the Noösphere from the standpoint of physical economy. Measure the relevant functional relations in terms of the characteristic potential relative population-density of different qualities of cultures.

I introduce those two topical areas with a definition of the most relevant features of the Noösphere for our economy since the 1933-1945 Franklin Roosevelt recovery from the years of the hysterical, “flapper age” follies of Calvin Coolidge and Andrew Mellon, a foolish time, when the U.S. economy danced “the Charleston.”

The Physical-Economy of the Noösphere

As I have said earlier in this report, the Noösphere, as defined by Vernadsky, presents the methods of experimental physical science with a single universe, composed of three qualitatively distinct, but multiply-connected phase-spaces: 1.) the abiotic; 2.) living processes, other than cognitive processes, and their fossils; 3.) cognitive processes and their “fossils.” Conventionally, the first, the abiotic domain of what are ordinarily classed as non-living processes, is assumed, experimentally, to be intrinsically entropic, were it left to operate by itself. The second, typified by living processes, is characteristically anti-entropic. This is the Biosphere. The third is characterized by those kinds of changes in both abiotic and living processes which could not be generated by living processes other than mankind, changes which are attributable solely to those cognitive processes of the individual mind through which experimentally valid discoveries of universal physical principles are generated. This domain is characteris-

tically anti-entropic, the domain which Vernadsky named the Noösphere.³⁷

In my outstanding writings³⁸ and addresses³⁹ on the work of Vernadsky, I have emphasized the crucial issue of scientific method in Vernadsky’s and my own, respectively somewhat distinct standards of crucial experimental proof for the existence of the Noösphere. I have referenced this proof earlier in this present report; it is important to restate that point in connection with the special topic immediately under consideration here.

All successful modern experimental physical science, as typified by the work of Kepler, Leibniz, Gauss, and Riemann, addresses the challenge posed by Plato’s dialogues, the challenge associated with the parable of the “Cave.” Every valid discovery of a universal physical principle, is brought into being as knowledge through recognition of an intrinsic fallacy of faith in sense-certainty. In every case, the discovered and proven universal principle, is like Kepler’s discovery of universal gravitation, an efficiently acting universal principle which can not be directly observed as existing by means of the mere senses. Therefore, the essential characteristic of modern experimental physical science is the definition of the necessary, efficient existence of universal principles by a unique proof based on the effects of that principle as such. Such principles are identified, after the work of Gauss, Riemann, et al., as “extended magnitudes.” This definition is consistent with Gauss’ 1799 report of his discovery of the complex domain. This is the experimental method by means of which Vernadsky defined the three-phase universe of interacting abiotic domain, Biosphere, and Noösphere. It is the same method which I adopted, from adolescent study of some crucial Leibniz writings, to compose a definitive refutation of the central thesis of Kant’s *Critique of Pure Reason*.

This method served later as the root of my original discoveries in the field of physical economy. This is the method required for identifying the underlying characteristics of eco-

37. A technical note. I have adopted the term “anti-entropic” in order to avoid confusion with Norbert Wiener’s use of “negative entropy,” a definition which Wiener premises on his radical-positivist reading of the work of Ludwig Boltzmann. What Wiener defines as “negative entropy” (or, “negen-tropy”) is, mathematically, nothing other than a subsidiary state fully consistent with the occurrence of such phenomena within the bounds of entropic processes in general. Wiener’s lunacy on this point, his so-called “information theory,” must be understood in terms of the fact that he, like John von Neumann of “artificial intelligence” and “systems analysis” notoriety, was a virtual religious devotee of the Bertrand Russell who produced the *Principia Mathematica* hoax. For Wiener, as for Russell, the principles of Gauss’ fundamental theorem of algebra did not exist. My definition of “anti-entropy” belongs to a qualitatively self-developing universe, one to be represented in terms of a Riemannian manifold.

38. op. cit.

39. Lebedev Institute, Moscow, June 28, 2001 (“V.I. Vernadsky and the Transformation of the Biosphere,” *EIR*, July 27, 2001); Pobisk Kuznetsov Memorial Address, Moscow, Dec. 14, 2001 (“Russia’s Crucial Role in Solving the Global Crisis,” *EIR*, Dec. 28, 2001).

nomic-cyclical behavior.

Simply, by setting standards for experimental methods of inquiry into the effects of a presumably universal abiotic phase-space, we isolate those effects which are consistent with that experimental standard. However, as Vernadsky stressed, following Pasteur, Curie, et al., the appearance of consistent experimental results which defy an abiotic origin, define what he names the Biosphere. His approach to the phenomena of biogeochemistry, within the context of a generalized geology and methods including those of the Mendeleev tradition, qualified him to address the matter of non-abiotic phenomena and their residues according to the unique standards of a universal experiment. Thus, we know the Biosphere through the existence of living processes and their fossils, processes which do not occur within the strictly defined abiotic domain. The existence of the Noösphere is defined by a relevant application of the same method. The cognitive powers of the human mind, which Vernadsky identifies by the Greek *noësis*, produce distinctive activities and residues not possible within the limits of the Biosphere alone.

Contrary to Aristotle and his dupes, there is no known existence of a national economy as a form of society, prior to the Fifteenth-Century, Italy-pivoted Renaissance of Nicholas of Cusa's *Concordancia Catholica* and *De Docta Ignorantia*. Although we may employ the methods of modern economy for study of earlier forms of society, including human paleontology, we are then studying those matters through the eyes of modern society, not of cultures contemporary with those artefacts. In such cases, as in defining a site datable to hundreds of thousands of years ago as a human site, rather than that of a higher ape, we rely upon the conceptions specific to modern physical economy's treatment of the evidence of products of specifically, uniquely human cognition. Pre-Renaissance cultures reflect the existence of human beings and their cognitive activity, of course; but, societies which treat the bulk of the subject human populations as virtually "human cattle," as the doctrines of the Physiocrats and Adam Smith do, are not, in and of themselves, economies in any meaningful sense of the term.

Modern forms of society which reject the principle of the promotion of the general welfare, otherwise termed *agapē*, or the common good, as their supreme constitutional law, are parasites, as the British monarchy's development of its empire attests, or as Spain under Philip II attests. In the latter cases, we examine any society from the historically specific standard of the existence of the modern sovereign nation-state established in the Fifteenth Century. In the case of societies existing later than that date, any competent approach treats exceptions to that specific standard in terms of their reaction to, and other interactions with the idea of a nation-state premised on the principle of the general welfare.

As a consequence of these aforestated considerations, the term "general welfare," as expressed as fundamental law of the U.S. Federal republic, has the connotation of the term

universal, as that term is used in the experimental physical science defined by Cusa, Pacioli, Leonardo da Vinci, Kepler, Leibniz, Gauss, Riemann, et al. It happens to be the case, that this notion of universality coincides functionally with the practical implications of Vernadsky's use of the term Noösphere. It expresses the existence of a discoverable set of universal laws, a quality of law which is necessarily appropriate both for individual nation-state republics and their national economies, and respecting the appropriate form of relations among such nation-states and their economies. Therefore, the general principle of modern experimental physical science, of measuring the action of universal principles by the characteristic effects their application produces, is the foundation of any competent practice of economics as a science.

The included, distinctive characteristic of national economy, is that it must be constituted in a manner consistent with the fact, that the creative power of cognition is a perfectly sovereign quality of the human individual qua individual. Thus, it is the protection and development of that individual, each such individual, which is the pivotal axiom of all lawful constitution of government and economy.

One additional word of caution must be added to that interpolation.

It is conventional to use the term "physical science" as dealing with subjects other than human mind and social relations as such. It is implicit in the evidence to which I have just referred here, that that convention is a mistake. In a proper conception of science, as I have freshly indicated here, "physical" connotes "physical effects," and also the provable causes of those effects. In contemporary, globally extended European culture, the distinction of "mind" from "physical," is a product of the delusions of sense-certainty, as these are carried forward by such aberrations as Cartesianism, Kantianism, positivism, and existentialism, as by Romanticism generally. As my description of the case of Vernadsky's method, above, implies, a physical principle is rightly so defined by its physical effects.

National economies, and their cooperation, must be judged by these, so qualified standards of experimental physical science.

The three, interacting, are characteristically anti-entropic as a whole. As Vernadsky showed, from the standpoint of the field he defined as biogeochemistry, the combined effect, over billions of years of living processes' action on the ostensibly abiotic original Earth, has been a cumulative gain in control of the planet as a whole by the combined effect of living processes and the accumulation of such fossils of living processes as the Earth's atmosphere, oceans, and soils. There has been a similar increase of the cumulative effect of the impact of human cognitive processes upon the planet as a whole, most clearly upon the Biosphere. The willful power of mankind, to change the direction of the development of our planet, for better or worse, has become far, far greater over the course of

the recent seven hundred years of the rise of modern European civilization, than at any known time in the earlier existence of mankind.

Vernadsky did not take into account as part of the Noösphere, certain classes of specifically cognitive forms of principles of social relations as such, such as principles of Classical artistic composition. These are demonstrably as much a part of the physical laws of the universe as what would be usually recognized by competent, non-Aristotelean, non-empiricist scientists, such as Gauss, as universal physical principles.⁴⁰ The latter was the starting-point for my own work. On this, see my argument, below, and in other published locations, on the crucially important subject of the existence and function of cognitive “super-genes.”

Fortunately, and also unfortunately, whether that power of choice will carry the planet to better or worse states, depends upon our choice of policies which reject every axiomatic belief in practice corresponding to the ideology which launched the pro-feudalist religious warfare of the 1511-1648 interval, and the rise of the “buggery” of the empiricists, the Physiocrats, and the Twentieth-Century drive to replace the institution of the sovereign nation-state by a neo-ultramontane system of “world rule of law” echoing the worst characteristics borrowed from memory of the self-doomed Roman Empire.

The result of the interaction of the three, “Vernadskyan” phases of our known universe, is the manifestation of cycles. For example, the Earth is making contributions to the available mineral deposits within the volume of the Earth’s Biosphere, including sub-surface fossil strata of the Biosphere, at a certain rate. As man’s activity progresses, with both population increase and technological change, we must now consider the rate at which mankind is depleting certain of these contributions to the Biosphere, relative to the rate at which the depleted matter is being resupplied anew, as from below. Otherwise, for example, we are obliged to maintain those fossils known as atmosphere and oceans, and even act to expand, as well as refresh and otherwise manage, the Earth’s atmosphere and water-resources.

Mankind must not merely replenish the conditions being depleted, but must increase the rate at which we are able to do this, per capita and per square kilometer of the planet’s surface-area. This can be managed only through applications of scientific and technological progress, thus increasing man’s power over the management of the planet, per capita and per square kilometer. Not only must we replace or substitute for what we deplete, or, more likely, a combination of both measures, but we must also increase our power to do this, again, per capita and per square kilometer. This includes

40. There are certain indications in the writings of Bernhard Riemann, which suggest he might have welcomed my definition of cognitive “super-genes.” See, Riemann, “Fragmente philosophischen Inhalts,” especially “I. Zur Psychologie und Metaphysik,” in *Werke*, pp. 507-538.

measures such as the required increase of the energy-flux-density of sources of energy developed and used.

Also, we must anticipate that our responsibilities on such accounts are in the process of being extended beyond the inhabited levels of our planet’s atmosphere, into active management of ever larger regions of nearby Solar space.

For human reasons, we measure the cycles in increments of generations of human life, in respect to which, the ratios of dependent young, to working-age adults, and adults of reduced work-capacity age-groups, are part of the required yardstick for measuring economically significant cycles within the Noösphere generally, and the subsumed Biosphere.

There are other more or less well-defined economic cycles. For example, we must compare the investment of the initial effort to create a dam and related water-management system, against the economic life of that system. This is generally the case for all basic hard infrastructure. “Soft” infrastructure, such as education and health-care, have similar sorts of internal functionally determined cycles, cycles which are gauged against the general demographic cycles for the population as a whole. And, so on, and so forth.

Among the most crucial cycles, is the cycle defined by the per-capita and per-square-kilometer rates of generation and application of fundamental scientific, and of related technological progress. That means scientific progress as the referenced case of Gauss’ 1797-1799, original discovery of the fundamental theorem of algebra, and Riemann’s carrying Gauss’ ensuing work on the general principles of physical-space-time curvature forward, to define, as I have already indicated here, an axiomatically anti-Euclidean, rather than non-Euclidean geometry.

Now, review the way in which these kinds of cyclical characteristics of human life in a Vernadskyan, three-phase universe are reflected in the kind of evidence which was considered by the industrial engineer or professionals working in relevant state and Federal planning agencies in former decades, when our national economy was managed by relatively saner people.

Tragedy and Profit

During the more than four decades immediately preceding that ancient era of U.S. economic practice known to insiders as B.C. 1 (before President Jimmy Carter), the national-economic accounting practices of our Federal government were, at the worst, relatively sane, despite the influence of Arthur Burns on the Eisenhower Administration. Since then, under the successive U.S. dictatorships of Federal Reserve Chairman Paul Volcker and Alan Greenspan, fewer and fewer official statistics are not arbitrarily faked by the combined efforts of the Federal Reserve System and its principal subsidiary, the U.S. Federal government. As I declared in a nationwide half-hour televised feature in early 1984, by the close of 1983, the extent of sheer fraud in official U.S. Federal Reserve and government statistics, eliminated any significant hope of

competent short-term (e.g., quarterly, annual) forecasting for the U.S. economy as a whole.⁴¹ Nonetheless, the National Income and Product studies from the earlier decades survived, as records; those records, examined through the eyes of the professional industrial engineer who is a veteran of experience from during at least a significant part of the 1945-1975 interval, are still today a valuable object of study for pinpointing certain crucially important corrections in the current practice of our nation.

With reference to those records at hand, examine a handful of selected aspects of the changes to what some called a “post-industrial,” or “technetronic” species of “consumer society.”

The reports from the 1945-1982 interval, reflect both the years when our nation was committed to the policies of practice of a productive economy, and the later changes, beginning approximately 1965-1967, when the disastrous shift into a “consumer society” emerged in the results expressed in our national accounts. This now potentially fatal, tragic shift, from a productive to a “consumer” society, is shown more clearly by comparing this with the disaster wrought in the United Kingdom under the first government of Prime Minister Harold Wilson.

As for U.S. Treasury Secretary Alexander Hamilton, writing his December 1791 Report to the U.S. Congress *On the Subject of Manufactures*, so from the standpoint of the qualified industrial engineer from a few decades past, or that of an economist whose professionalism includes such specific competencies, the most immediate economic cycles to be considered are those bearing upon basic economic infrastructure. The most significant feature of this challenge, is the ironical, often rather contradictory set of relationships among physical, technological, and financial attrition. Dams, power generating and distributing facilities, mass-transit systems, and basic urban infrastructure such as educational facilities, are typical. Against the physical depletion of these investments, we have the physical requirement of repair and maintenance. Under the rubric of technological attrition, we have physical costs of upgrading and replacement.

Continuing within the domain of basic economic infrastructure, we must take into account the usually highly inconsistent relationship between physical and technological attrition, on the one side, and attributed, nominal, financial attrition, on the other.

For example, the grammar school building, where I attended during the interval September 1928-June 1932, was constructed early during the last century, a structure which was still fully functioning in that role when I last visited it, in February 2000. The grammar school to which I transferred in September 1932, had been attended by my father.

On the other side, we must count the folly of the destruc-

tion of railway systems, including the precious right-of-ways, which, with modernization of the systems, including freight-classification methods and procedures, are intrinsically a more efficient, more economical system for certain classes of transport than the intrinsically more costly highway systems. The case of urban/suburban mass-transit systems, is of special noteworthiness. Here, the best Marxist economists, notably Rosa Luxemburg and Russia’s E. Preobrazhensky, had something important to say, on the subject of what they termed “primitive accumulation.” Especially interesting is Preobrazhensky’s treatise on “primitive socialist accumulation.” Look briefly at the outcome of changes in patterns of urban/suburban systems over the course of the 1946-2002 interval to date: sheer physical-economic lunacy reigns!

Even in my youth, one of the leading issues of my quarrels with my parents’ generation, and also my peers, was the frivolous treatment given to what was classed as “free time.” It was a prevalent ideology then, and is worse today. What, for example, is the cost to society of breeding a race of “latch-key children,” rather than one nurtured by 1920s-1930s norms of family and community life? What are the related social costs of the increase of commuting time spent during the week, as a result of post-war trends toward an increased “suburbanization” more driven by the direct and indirect impulses of real-estate speculation, than any other consideration?⁴² What are the costs of downgrading the levels of productive skills of the employed labor-force, from skilled industrial and related production, to burgeoning categories of cheaply paid unskilled services, services which are, either in the nature, or superfluity, or both, of, essentially, “make work,” used more as a method of social control, Roman “bread-and-circuses”-style, than a physical contribution to the economy and general welfare. We used to describe that latter condition as an economy subsisting by “taking in one another’s laundry.” The result is not merely a lowering of the standard of living from “normal” employment, but the condition some of us recall as a retort to President Clinton’s announcement of an increased number of jobs, to which one wit retorted aptly, “And I just took three of them!”

The worst of such changes in the composition of employment and social life by, especially, the lower eighty percentile of family-income brackets, is the effect on the minds of the new generations. Taking all other leading considerations into account, the reason the prosperous, growing U.S. economy of 1945-1965 subsequently devolved into the (actually) bankrupt U.S. national economy of today, is a loss of the ability to

42. The shift from a productive, to a consumer society, is almost invariably associated with an increasingly lunatic surge in ground-rent speculation. This was a rising trend during the post-war period, but became mass-insanity in the aftermath of the 1975 New York City municipal crisis. It is the deflation of the “John Law-style” real-estate mortgage bubble built up under Federal Reserve Chairman Volcker and Greenspan, which is, presently, the most likely way in which a general economic-financial depression would explode from inside the U.S.A. today.

41. Televised Presidential campaign address on ABC-TV, Feb. 4, 1984.

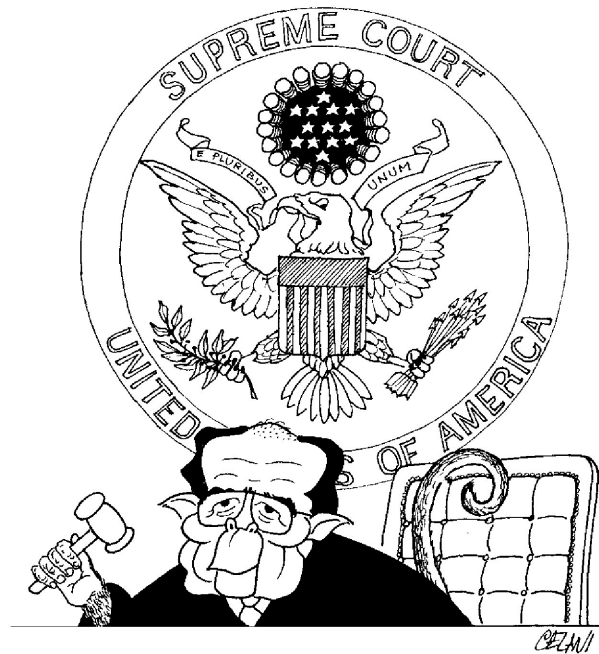
reproduce itself physically, by its own means, as it had been able before the general shift, away from a producer economy, to a consumer society parodying the decadence and ultimate doom of ancient imperial Rome. We have been living through about thirty-five years of what is called fairly, “post-capitalist primitive accumulation,” a practice which the George H.W. Bush Administration, and the International Republican Institute exported, with economically disastrous effects, to post-Soviet Russia.

There are crucially important lessons for the present and future to be learned from that and related experience. The most important of those lessons are to be adduced from President Franklin Roosevelt’s revival of a national economy wrecked by Coolidge and Mellon, to emerge as virtually the only real power in the world in 1945, and as the model which Jean Monnet and others used as a point of reference for the 1945-1965 reconstruction of western continental Europe. The pivotal issues are those of the use of protectionist methods, in conjunction with massive mobilization of public credit, the latter especially for basic economic infrastructure, and a strict emphasis on the role of cycles and their management in a capital-intensive, science-technology-intensive mode of growth. Among the most critical features of a successful economic-recovery program is the use of protectionist methods to bring financial-capital cycles into conformity with the reality of physical-economic cycles. By physical-economic cycles, we should mean both simple physical cycles, and those of technological attrition.

This brings us to the matter of voluntarism: free will.

By “free will,” I mean decisions based upon the characteristically cognitive process of adoption of those experimentally valid universal physical principles which change the axiomatically characteristic behavior of the individual or the society. I reject the attribution of “free will” to arbitrary choices. For discussion of economics, the matter of the role of the inventive entrepreneur in transforming new qualities of technology into a product or service, is to be regarded as related in character to the case of the scientific discoverer. I emphasize the important distinction between the true entrepreneur, as an owner-operator, for example, as distinct from the contrary characteristic of the management of a firm controlled by the opinions of typically capricious, absentee shareholders and the executives they employ, the latter typified by the characteristic opinion of modern “bugger” and U.S. Justice Antonin Scalia.

The class of entrepreneur to which I refer, expresses a strong interest in the survival and, to some degree, at least, the growth of his enterprise, but his primary personal motivation—his intention—is an achievement useful to society; his firm is, to a large degree, essentially a necessary means to the latter end. The shareholder interest today is, predominantly of a financial nature, rather than concern for improving the well-being of society, or even the firm in which the shareholder has made a transient investment.



On the subject of “shareholder value,” a wise man once said: “I don’t care how many law degrees that big monkey has, or on what bench he sits; he is still a monkey.”

This role of the preferable sort of entrepreneur, is an expression of a general principle of the economy considered as, functionally, an integral whole unit. It is that entrepreneur’s contribution to the increase of the net physical productive powers of labor of that society as a whole, which is the standard against which his performance is to be judged. That point is underscored, by considering the relationship between the function of that entrepreneur, including the family farmers wiped out, increasingly, since Zbigniew Brzezinski’s Carter became President, in light of the effects of the destruction of the savings-and-loan sector by the combination of Federal Reserve Chairman Paul Volcker and Garn-St Germain, and the systematic uprooting of the species of true industrial and related types of entrepreneurs. The transfer of the power of these agricultural and other true entrepreneurs, in favor of the financial-market-controlled shareholder interest, has been the characteristic reflection of the accelerating shift from a productive nation to the decadence, and now imminent bankruptcy of a consumer society.

The crucial point here, is that the sole source of true profit of an economy is the impact of the fruits of cognitive discovery of universal physical principles. It is not financial investment which causes net economic growth; it is investment in the realization of the potential generated solely by the development of the Noösphere through the application of these discoveries. This gain is properly measured, ultimately, in terms of increase of the potential relative population-density of the society, the culture, as a whole. It is the preferential

allocation of resources to that form of progress, which is the only policy which could produce net physical-economic growth, and, hence, the only form of true profit of a national economy.

Restated, the source of such profit is the distinctive, cognitive nature of the human species. In other words, the source of such profit is what is sometimes called "the voluntarist principle," a concept which arose from Plato's criticism of a moral shortcoming in the work of the greatest Classical Greek tragedians before him.

Often in the known existence of the human species, a once powerful culture is destroyed as the fruit of its own tragic error, like Cassandra's Troy. Contrary to the Romantics, no great tragedian, whether the ancient Classical Greeks, Shakespeare, or Friedrich Schiller, ever imagined that the tragedy of a nation was caused by a celebrated leading figure; as in the case of President George Bush's U.S. today, the fountain from which a nation's internal catastrophe flows, is the tragic culture pervading its popular opinion and customs. The U.S. shift, during the recent thirty-odd years, from a productive, to a consumer's society, typifies the causes of such tragedy.

Yet, a looming tragedy, such as that looming over our nation today, is sometimes averted. So, the election of President Franklin Roosevelt saved the U.S.A. from the threat of that tragic end inherited from the great folly of the 1920s. In Classical drama and poetry, this happy escape from tragedy is called "the sublime," as in the connotations of the term "sublimation." Such a remedy is produced in the same way an original discovery of a valid universal physical principle occurs, a discovery akin in every way to Kepler's original discovery of universal gravitation. The tragedy which menaces the nation has the same general form as an ontological paradox in the work of science. The discovery, or rediscovery of the universal principle which overcomes that paradox, is of the same nature, whether in history of peoples, or of physical science.

The sublime solution must come from outside the habituated practices of existing institutions and popular opinion, just as an invention based upon a universal physical principle must come from outside the channels of previously customary practice. In the case of a tragic society, it is the tragedy inhering in continued adherence to customary standards of practice which must be thus outflanked, if the society is to survive.

In fact, all societies are always threatened with tragedy, as was ancient Rome, and as was Byzantium under the continuing influence of the implicitly Malthusian Code of Diocletian. Cultural and technological stagnation, such as a policy of "zero technological growth," are inherently tragic cultural forces; in that sense, the most frequent source of tragedy is the force of imprisonment of a society within a hide-bound sort of tradition. A society organized around guilds, is doomed on that account; the attempt to introduce guilds in modern society, has always occurred as an effort to turn back the clock

to feudalism, an effort which must tend to end up within the ranks of a fascist movement or state.

Look at what I have reported above on the subject of cycles. If mankind were to attempt to live within a zero-technological-growth society, there would be an inevitable net depletion of the relevant resources of the Biosphere on which the continuation of that practice depended. Hence, technological change of the type which is derived from the discovery of universal physical principles, is the only course of action which can avert an otherwise inevitable tragic end for that culture. Through such technological progress, we are enabled not only to exploit a broader variety of resources, but to develop the technological power to replenish sources we would otherwise deplete. So, the force of tragedy, as expressed in various ways, always haunts a culture whose impulse is to cling to traditional ways. If postponement is prolonged, the tragic effect becomes imminent.

In that sense, tragedy always lurks. It is scientific-technological and cultural progress, and what that progress requires in political-cultural terms, which is the sole means for averting such tragedies, and even outrunning them by a great distance. On this account, a sane society requires the statesmen who will create better opportunities for the role of certain classes of distinctively creative portions of society, such as scientists, creative Classical artists, and what I have described as the essential form of the entrepreneur. The role of such persons, and their like, is known as the principle of "voluntarism," the relatively exceptional individual, committed to changes for the benefit of mankind, who leads the pack, so to speak, in guiding the rest of society to higher plateaus of cultural development.

Such, for example, was France's Jeanne d'Arc, a prototype of the principle of the sublime, whose stubborn courage, even to death, made possible the subsequent emergence of Louis XI's France as the first modern nation-state. Such are the true heroes of mankind, whom we must hope will not, like the Reverend Martin Luther King, die much too soon. The same is true, specifically, for economic progress in general.

'Super-Genes'

The technological progress and profitability of an economy, and the development of the powers and conditions of life of the typical individual member of that society, are expressed in terms of shifts in the composition of cycles, chiefly long-term cycles. When I say "long term," I have in mind a generation, or two generations. For example, the span from President Franklin Roosevelt's inauguration to the retirement of President Dwight Eisenhower, represents a span of between one and two generations. I would include the administration of President Kennedy in the span of policies which led the U.S. generally upward, were it not the case that Kennedy's Presidency was, like France's President Charles de Gaulle, in deadly peril from the Anglo-American, anti-MacArthur military utopians and their confederates from the moment of

President Eisenhower's retirement.⁴³ Nearly three years after President Kennedy's assassination passed, before a menaced President Lyndon Johnson had capitulated sufficiently to the utopians' perpetual war in Indo-China, to bring about the cultural-paradigm shift, from a producer's economy, to a consumer society. National Security Advisors Henry A. Kissinger, Zbigniew Brzezinski, and others of Professor William Yandell Elliott's Harvard-trained crew, destroyed the U.S. to such a degree, that by the time that President Reagan was inaugurated, only the possibility that Moscow might accept negotiation of Reagan's March 23, 1983 SDI proffer, stood in the way of the degree of internal destruction of the U.S. which has proceeded, almost without interruption, since 1983. The proffer was abruptly rejected by Soviet General Secretary Yuri Andropov; Reagan's effort, which could have changed the course of history for the better, was blunted; and the U.S. slid toward the utopian's Hell.

To understand the present national tragedy which grips the present Bush Administration, in particular, we should compare the cycles of change in the composition of leading categories of employment and investment during the course of the 1933-1965 interval, with the down-shift in those trends during the 1966-2002 interval. To simplify that study for purposes of approximation, focus upon the division of labor among certain categories of employment within the labor-force as a whole. These are typified by basic economic infrastructure, mining and related, industrial production and related, distribution, development of science and technology, and Classical culture. This study should be refined slightly to reflect the technological level of employment in each category, signifying the upgrading of employment in categories of relatively unskilled labor, to skilled labor. These trends in employment should be compared with trends in capital-intensity of investment in each category of activity, as measured both per capita and per area involved in each category of output. These measurements should be made in physical, rather than financial terms. The use of a standard market-basket of physical consumption by households and by activity, serves as a standard for estimating a conversion from financial to physical values.

The result of such estimates, is an indication of certain

43. Eisenhower referred to that utopian faction as "the military-industrial complex." The latter included those behind the attempted assassinations of President de Gaulle, who sought, as did William Yandell Elliott's Samuel P. Huntington, to copy the model of the Nazi Waffen-SS as the model for a new form of global society. In the 1950s, at the time Huntington's *The Soldier and the State* was first printed, it was not politically prudent to advertise one's admiration for Nazi models, but no one who knew military history was fooled by that evasion. The idea of "perpetual war" being pushed by Brzezinski, Huntington, Lewis, et al. today, like the slaughter at Columbine, are products of the utopian military policy. President Kennedy, like President de Gaulle, represented a crucial threat of impediments to the furtherance of such objectives of the utopian doctrine as the U.S. war in Indo-China. All of my relatively powerful personal enemies are members of that same utopian-interest faction, and that not by misunderstanding.

cycles of change in composition of critical categories of employment and investment in the economy as a whole. This points toward a cycle of cycles of change in composition. Even a thoughtful back-of-the-envelope estimation would be sufficient to indicate certain general conclusions respecting the ups and downs of the U.S. economy over the course of the 1933-2002 interval.

The general conclusion which that approach illustrates, is the crucial role of science-driver programs in determining growth. Less obvious, is the crucial importance of the principles of Classical artistic composition in fostering the development of the population in directions needed for sustaining high-gain science-driver efforts. I conclude this report with a broad-brush clarification of those crucial points. To set the stage for this discussion, I pose the following question.

It is not difficult to think of portraying the kinds of cyclical shifts to which I have just referred in terms of "connect the dots" mapping of trends of change. Obviously, straight lines drawn on blackboards or computer screens, are not the efficient cause of those connections; what kind of action actually connects the dots? The apparent connections among the dots are like shadows from Plato's "Cave." What is the reality which causes the shadows? The answer is, the quality of cognitive action which generates experimentally valid discoveries of universal physical principle. This brings us to the subject of "super-genes."

The kinds of cycles which I have roughly described as to type, above, have the added significance of reflecting the essential difference between human society and the representatives of an animal species. The kinds of changes represented are, in their most crucial aspects, reflections of the same kinds of mental processes, cognitive processes, through which valid discoveries of physical principle are generated as experimentally valid hypotheses. However, it is not simply through discovery of such a principle by an isolable individual thinker, that that principle may be brought to application within the processes of design and production. The communication of the act of such discovery, as from an original discoverer to others, is the indispensable mode through which cooperation in use of the principle is brought into the economic process. On this point, the "super-genes" make their presence felt. Animals can learn, but can not communicate such ideas.

The specific topic to which we turn at this point, is, as you will discover, elementary in nature, but also, to echo Khinchin, not simple. Therefore, to assist the reader, I now provide a road-map of the terrain through which we shall proceed. This will summarize my previously published argument on this matter. After that, I conclude by returning to reformulate my opening topic of this report from the fresh standpoint of this argument.

I shall now begin this closing argument, by defining cognition as viewed from the standpoint of what is commonly identified as physical science. I present that from the standpoint of students in a good secondary educational program. I

begin with the notion of a single discovery, and then generalize the principle expressed by a science-educational secondary educational program, to define a conception of history from the standpoint of reenactment of discovery of experimentally valid universal physical principles.

I proceed, then, to the second crucial sub-topic, Classical artistic composition as science. I begin that review with the plastic arts, with the subjects of Classical sculpture and the related methods introduced to painting by Leonardo da Vinci and Raphael Sanzio. From there, I proceed to discuss of the relevant features of the use of irony, of the irony of metaphor, and the subjunctive as the language of Platonic hypothesis. I identify the significance of this for tragedy, poetry, and music. I include the case of J.S. Bach's development of the principles of Classical well-tempered polyphony, as contrasted with irrationalist Romantics such as Rameau and the *Gradus ad Parnassum* of Fux. From that outline of the science of Classical artistic composition, I indicate how this use of Classical modes of plastic and non-plastic artistic composition, when combined with the history of the discovery, transmission, and application of universal physical principles, defines history and the needed approach to political science, including economics.

On this basis, I summarize the evidence for the existence of "super-genes."

From that standpoint, I then summarize the meaning of the term *agapē*, with its connotations of general welfare and common good. I define the appropriate relationship of the true statesman, so defined, to both the U.S.A. and the world in the grip of today's deepening existential crisis.

Classical Humanist Education

A 1963 OECD document on educational policy, issued by the same Dr. Alexander King who was among the key figures in the later founding of the Malthusian Club of Rome cult and the Laxenberg, Austria-based International Institute for Applied Systems Analysis (IIASA), demanded the prompt eradication of those educational policies and programs upon which the greatest progress in modern European civilization had largely depended. These programs, which date from such precedents as the teaching order known as the Brothers of the Common Life and the founding of modern experimental science by Nicholas of Cusa, were emulated in the pre-1688 Massachusetts Bay Colony of the Winthrops and Mathers, and in the German Classical revolution launched by Kästner, Lessing, and Moses Mendelssohn, during the middle of the Eighteenth Century. This Classical Humanist educational policy, as it became known, largely through the seminal influence of the historian and poet Friedrich Schiller and Wilhelm von Humboldt, epitomized the best methods of general education of future citizens which have existed in European civilization to date. King and such accomplices as Lord Solly Zuckermann and McGeorge Bundy collaborated in the effort to eradicate it.

This effort, combined with the matching promotion of

what became known as a "rock-drug-sex youth-counterculture" of the mid-1960s, resulted in changes which, among other effects, made growing portions among the school graduates of recent generations virtually a different species than their predecessors. This and related elements of a general cultural paradigm-shift had the stated intention of ending the role of the U.S. as the world's leading producer society, into becoming an increasingly parasitical consumer society, echoing the precedent of imperial Rome. The pivotal feature of the cultural-paradigm shift authored by the OECD's King, et al., is a zealous effort to uproot from the young every sensibility of the essential difference between themselves, as human, and the beasts. The slaughter at Columbine is typical of the result of this shift.

The only remedy for the doom which the U.S., in particular, is currently bringing upon itself, is a reversal of that cultural paradigm-shift. Do not blame President George W. Bush, when a more witting, Hollywood-linked Democratic Senator Joseph Lieberman, with his streak of diabolical cleverness, represents a far more capable instrument of evil than even such unfortunates as the bumbling, used-up boob, former Vice-President Al Gore. The fault lies "not in our stars, but in ourselves." It is what popular culture, popular opinion has become, which is the principal immediate instrument of our willful self-destruction.

The elementary issue is, whether we educate our young to discover themselves to be human beings, or merely talkative, if not "doped-up," grunting beasts. Columbine's slaughter was merely the warning buzzard which precedes the incoming flock. The shift of our educational policies in the directions proposed by King's OECD report, in the U.S.A. as in France and elsewhere, since approximately 1963, is a crucial and exemplary expression of the way in which successive generations of pupils and university graduates have been cheated of a sense of their human birthright, over approximately three-and-a-half decades to date.

This evil error is what needs, above all, to be put right. That undertaking is implicitly the subject of the concluding words of this report.

As I promised, I begin with the matter of physical-science topics.

A European Classical humanist education starts from the beginning of European civilization, the birth of Egypt's student, Classical Greece. Homer, Solon, the Classical tragedies, and Plato, are the principal figures which must be studied, from no later than about the age of twelve. Against this backdrop, the student must not learn, but re-experience the replicated act of crucial discoveries of physical principle, from ancient Egyptian astronomy from the time of the great Pyramids, and the work of Pythagoras and Ionians such as Thales, through Plato and those associates and followers of Plato to which I made reference earlier in this report. Then, as the mastery of the concept of physical-scientific discoveries falls into place for the students, the students must ask themselves, if there is not some ordering principle in history in general,

which makes history comprehensible in the same way a good mathematical physics makes our relationship to the physical universe understandable. At that point, a crucial problem is posed for educational policy, where is that connection to be found? Can it be learned, as through the senses, or must we not attack the matter from a higher standpoint, that of cognition?

Consequently, it is urgent that education in mathematics be governed by the cognitive principle, rather than learning formulas, or deductive proofs. Therefore, from the beginning the educational experience in mathematics and physical science must be premised on experiencing the replication of the original cognitive act of effecting a valid, original discovery of universal principle, as the case of Gauss' 1799 presentation of his fundamental theorem of algebra and the preceding secondary educational program of Kästner typifies this. The function of the classroom, preferably never more than a dozen to score pupils at a time, is to provide the setting for a dialogue among teacher and students on the subject of this task and the experience it invokes.

Repeated successes in mastering a series of principles arranged in order of their accessibility to the student, produces two effects which are of crucial importance. First, the fact that the cognitive processes of the individual human mind are perfectly sovereign; that mental activity as such can not be seen by the senses of an observer. Second, however, the experience of making the discovery, cognitively, can be replicated, and the experience of having replicated it shared. The accumulation of knowledge of a significance number of principles, in this way, evokes a sense of the cognitive meaning of the term "science" and "scientific practice," in the minds of the pupils. This sense of such repeated, and repeatedly shared experiences, represents what is rightly recognized as the meaning of "reason," as distinct from merely observing, mere deduction, or merely learning.

Through a succession of such classes over a few years, this sense of the meaning of physical science, becomes a growing sense of the appropriate meaning of "history." The student knows the names of many discoverers from the past, has replicated the cognitive act of discovery each made, has discovered when and where they lived, the circumstances of their lives, their opponents, and the impact of their discoveries on society over successive generations to date. Just as the student should have learned to normalize observations of the starlight sky, for a living sense of astronomy, the students learn how navigation of the Earth was done by ancient methods, how the discovery of the Sun's central position in our Solar System was discovered by Aristarchus and others, how Eratosthenes measured the size of the Earth from his place in Egypt, and how Nicholas of Cusa's circles, including Toscanelli, produced the maps and plans for the rediscovery of the continent across the Atlantic. The student develops, thus, a knowledgeable sense of his, or her time and place in which he, or she sits or stands in the universe around us.

Nothing is to be learned, as by "looking it up on the Internet," or other exercises in blind faith. It must be known, as



"Nothing is to be learned, as by 'looking it up on the Internet,' or other exercises in blind faith. It must be known, as an act of generating knowledge within oneself." Here, Schiller Institute instructor Laurence Hecht teaches Ampère's work on electromagnetism.

an act of generating knowledge within oneself.

Against that background, the student is now situated to undertake reconsidering the studies of Homer, et al., from this standpoint in practical, experimentally, cognitively oriented scientific knowledge. This study should begin with emphasis on the subject of principles of Classical artistic composition, as a preparation for meeting the challenge of discovering a certain lawfulness in the all-sidedness of the history of mankind.

Plastic and Non-Plastic Art

With help, the student can be prompted to reconsider the Classical Greek sculpture before him. What is really the difference between that kind of sculpture and the tombstone-like Archaic sculptures attributed to earlier periods of work? The teacher guides the students, with aid of what they have mastered of geometry, into recognizing a certain "off-balance" aspect of the Classical sculpture, a quality which, isolated, appears to account for the sense of a living body captured by the eye in mid-motion. This lesson from the best of Classical Greek sculpture is compared with the achievements of such Renaissance composers as Brunelleschi, Leonardo da Vinci, and Raphael Sanzio. For the mathematically more advanced pupil, the role of Brunelleschi's use of the catenary ("hanging chain") to construct the cupola of the Cathedral of Florence, and other matters, are relevant. The revolution in perspective effected by Leonardo da Vinci, and the impact of this on Raphael, and later Rembrandt, are crucial. The student may

acquire thus, a cognitive sense of such achievements in plastic artistic composition, creativity free of “representationism” and of the expressions of frustrated rage of the arbitrary dauber.

Then, turn to non-plastic art: Classical tragedy, Classical poetry, Classical forms of prose composition based on principles of irony, on the form, not of symbolism, but of the irony called metaphor, and the language of hypothesis, the subjunctive. Then, Classical musical composition, and the scientific revolution, called well-tempered polyphony, by J.S. Bach, upon which all great musical composition since has been premised.

The principled challenge of the non-plastic Classical art forms, is the need to find ways to provoke the replication of cognitive conceptions through the use of a language whose literal usages are chiefly imprisoned within the brutish perception of sense-certainties. The case of Galileo’s student, the horrible Hobbes, who attempted to ban irony, metaphor in particular, and the true subjunctive from English-language usage, typifies both the problem, and the characteristic, cognition-free imbecility which is rooted axiomatically in empiricism and related dogmas.

Knowledge, as expressed for communication by speech, as in mathematical physics, is expressed by apparent or actual ontological paradoxes. Something has been accepted as true, but something contrary is also apparently true. It is the cognitive act of peering into the cracks between the two, which is the essence of what is called, more or less interchangeably, the poetic, or noetic principle of Classical poetic composition. The task of Classical artistic composition, is to provoke the cognitive mind’s recognition of a reality which is not yet susceptible of literal identification, but which exists, and whose existence is recognizable in the ironical features of the communication. Even more important than what is communicated, is the exercise of exercising one’s cognitive muscles through the experiencing of valid expressions of Classical methods of artistic composition.

The case of the discoveries of J.S. Bach, are the most stunning accomplishment in Classical artistic composition thus far. I summarize the most crucial points of relevance as briefly as possible.

Bach’s well-tempered polyphony is rooted in what the Florentine bel canto tradition identified as the only natural tuning and registral characteristics of the human singing/speaking voice. In Classical performance, all musical instruments are designed, adjusted, and performed as if they were actual human, bel canto singing voices. In true Classical musical composition and performance, there is no purely instrumental music. That this was Bach’s method, and Bach’s tuning, is, contrary to the hoaxes perpetrated by Helmholtz and Ellis, strictly adducible from a bel canto reading of his polyphonic scores. What might appear to be a simple instrumental reading of the printed score of a Bach fugue, has no correspondence to Bach’s intention. Only when the score is read for a

chorus of bel canto voices, does the richness of the unifying idea of the composition as a whole come as if visibly to the fore. All leading Classical composition, from Josef Haydn and Wolfgang Mozart, through the last work composed by Johannes Brahms, is a strictly Classical, intrinsically polyphonic work, rooted in the direct, or indirect influence of Bach. This music has a quality like no other, once the composer’s clear intention is actually heard in the mind of the performers.

The outcome of such composition and performance of Classical well-tempered polyphony is a neighboring tone of Classical poetry, as the greatest German Classical song repertoire and the work of Giuseppe Verdi attests. If this were understood, ostensibly educated people would speak more intelligibly than they do today, and would be capable of communicating ideas beyond the manifest capacity of most among those considered our best speakers and writers today. The lack of a sense of bel canto art in the vocal expression of ideas, typifies a degeneration in the use of the English language by the ostensibly best educated representatives of the “Baby Boomer” generation and its progeny today. Their attempted recitations of Classical poetry and dramatic compositions give me stomach-pains, as did the style of mouthings often affected by the late Sir Lawrence Olivier. He seemed to demand that the audiences look at his narcissistic self, rather than, as all true Classical actors do, perform his part not upon the visible stage itself, but rather on the stage of the cognitive imagination within the mind of the member of the audience. The notion of the ideas embedded in composition of great Classical works, not merely escapes them, they appear to abhor the very idea of their existence; they prefer to interpret the mouthings of the words and phrases, and wish to be personally admired for that.

Classical tragedy has a special place in all this. In its best examples, it captures something of all the powers of Classical artistic composition. All Classical tragedy addresses the fallacies of popular opinion, against either the historical specificity of the actual point of history portrayed, or a legend, as Shakespeare, of course, does both, from one case to another. The function of Classical tragedy is education of a people in the lessons of the experience of history. Its most consistent objective, is to truthfully convey to the mind of the audience, that no culture destroys itself, except by the dictate of a flawed, ruling popular opinion.

Thus, here, in Classical tragedy, the bridge between the principles of Classical artistic composition and the science of history, is proffered. The effective historian does not interpret history in the sense that the word “interpretation” is generally understood today. The historian must get at the truth of the matter, often with a certain underlying ruthless disregard for the popular opinion of the audiences he addresses. He is ruthless as truth requires this of him. Thus, whether as a Shakespeare or a Schiller, his dramas are the most truthful insight into the specific page of history addressed. He brings all that

he knows, or could discover, to that undertaking, approaching the task with the rigor which is in accord with the cognitive principle of reason.

Thus, by educating our populations, especially our young, in Classical science and art, and that by Classical humanist methods, we are not choosing a peculiar taste; we are exercising nothing other than simple sanity. The alternative to Classical humanist education, is Columbine.

Again, 'Super-Genes'

The effect of the accumulated mastery of knowledge of valid universal principles of what is usually called science, and of what we call Classical art, is to cause the human species to alter its characteristic behavior to an effect comparable to the upward evolution of a biological species, within the ranks of the lower forms of life. Resaid, the effect is comparable to a genetic change in the character of the human individual so developed, as if it were a genetic improvement in the biological qualities of the nation which have benefitted from such a cultural development.

As the planet has been made smaller, in effect, by technological change, we have been helped to discover richer proofs of the equality of biological-cognitive potential of all branches of humanity. Crucial evidence shows that there are no naturally inferior races or varieties of people. The differences in quality of achievement, are always attributable to some combination of three environmental factors. Circumstances, discriminatory social relations, and inferior cultural development, are always the adducible sources of any general form of distinction in quality of performance of sections of a population.

Since, the evidences belonging to the domain of a science of physical economy, show, that all of mankind's increase in power to exist, in and over nature at large, is the effect of improvements made possible by the accumulation of discoveries of valid universal physical and Classical-cultural forms of principles, it is these ideas which are the implicitly "genetic" changes in human behavior which make human progress possible.

From the standpoint of the scientific method to which I have referred, the method I have pinpointed as that of Vernadsky, we must conclude that there are indeed some physiological changes, with behavioral effects akin to those of genetic modifications of species and varieties, within the bio-mental processes of the relevant individuals. These are therefore to be treated functionally as if they must be named "super-genes."

The conclusion follows from such considerations, that our principal long-range concern, as statesmen, for example, must be to promote that kind of "super-genetic" improvement, through science, Classical humanist modes of education, and changes of circumstances of life, through which the natural moral and intellectual potential of humanity is elevated to such a degree, that the "littleness" of mind and soul, through

which so many of our people degrade themselves, might be overcome, as by a rich influx of "super-genes" gained through aid of a universal emphasis upon Classical humanist methods of education.

Typical of "littleness" to which I have referred, is the quality of most of the U.S. Presidents since the time that President Lyndon Johnson pushed through the Voting Rights Act. Since that time, with the single notable exception of President Reagan's proffer of the Strategic Defense Initiative, no U.S. President has shown the quality of a man who acts, in office, according to a true sense of the national interest. They act, instead, according to perception of personal interest, or of partisan interest, not the interest of the nation. Since that has been the record of the Presidency, and, for the most part, the Congress, too, since 1964, why should anyone be surprised by the awesome shortcomings of the incumbent President? We may not be able to educate him as a truly qualified self-starter on the job, but, perhaps, if we could separate him from the clowns who gather all too abundantly around him, and simply provide him, before his eyes, advisors who afford him always a clear vision of what the true national interest is, and of the pride he should take in intending to leave office having performed that function, we just might make it through the coming three years.

It is, in the end, a matter of "super-genes."

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